

esri TECHNICAL SERIES

THE COMPUTERISED DATABANK OF
THE CII/ESRI MONTHLY BUSINESS
SURVEY DATA¹

Ide Kearney

Technical Series No.6 July 1991

¹ N.B. In any publication quoting information held in this databank the author must include the reference "CII-ESRI Survey undertaken on behalf of the EC"

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Introduction

The Confederation of Irish Industry (CII) and the Economic and Social Research Institute (ESRI) have been jointly conducting a survey of businessmen's attitudes in the manufacturing sector since the fourth quarter of 1961. On the Republic of Ireland's accession to the EC in 1973, this survey was revised to ensure compatibility with the harmonised monthly survey conducted in all EC Member States. The survey provides a rich source of information on current conditions in individual industrial sectors and for the manufacturing sector as a whole, and also on expectations about future trends.

The simple qualitative questions asked in the survey permit rapid collation of the data, giving it a substantial information lead over equivalent quantitative statistics. Because of the potential usefulness of these data for economic analysis and forecasting, both at the individual firm level and for the manufacturing sector as a whole, the monthly survey data from September 1984 onwards have been computerised at the ESRI and are included in a time-series databank with provision for continual updating.

This paper describes the structure of, and the mnemonics used in, this CII/ESRI databank. The CII/ESRI survey is conducted on a monthly basis on a sample of firms in the Irish manufacturing sector. A questionnaire (see Appendix 1) is sent out each month to participating firms, the questions ask management's opinions on production trends, employment trends, stocks, etc. The form of response required is mainly qualitative - "higher", "same", "lower" - thus minimising the time required to complete the questionnaire. Individual firm responses are then aggregated to industry sub-sector level using weights derived from turnover, exports and employment data supplied by the firms themselves. (Responses related to exports are weighted by exports, responses related to employment are weighted by employment, all other responses are weighted using turnover data.) Subsequent aggregation to industry sectoral level and to total manufacturing industries is done using weights from published sources - e.g. net output weights are taken from the Census of Industrial Production. The responses are expressed in percentage terms, i.e. the percentage responding "higher", "same", "lower" and "net balance" (i.e. higher minus lower) to each question, except questions 5 and 15 where the (weighted) actual response is given and question 18 where the (weighted) percentage respondents identifying a specific constraint is reported.

In the databank, monthly responses are compiled for 33 industrial sub-sector classifications, 10 industrial sector classifications, consumer, capital and intermediate goods classifications, total manufacturing, and total manufacturing excluding food. There are 2,024 time-series in total included in the databank.

The next section gives a brief user access guide to the databank. The reader just wanting to access the databank need only read this section. The methodology followed in constructing the databank is described in Section 2. Section 3 details the mnemonic system devised to identify the different sectors. Section 4 describes the mnemonics used for the question variables. Section 5 gives some examples of the mnemonic system.

1. Accessing The Databank

The data from September 1984 are archived under ESRI in USERLIB, and are available to users of TROLL who have access to the CITS computer in Kilmainham. Use of the data is free of charge to Kilmainham users, but not for re-transmission. The series are updated on a monthly basis using a computer macro. The examples listed in the following pages illustrate

- (i) how to access the databank,
ACCESS USERLIB; SEARCH USERLIB_DATA_ESRI;
- (ii) how to print a specific named file,
PRTDATA SEARCH USERLIB *filename*;
- (iii) how to print a named file over a specified time period,
PERIOD 12; DORANGE date TO date;
DO PRINT *filename*;
- (iv) how to list all file names for a particular sector,
LISTF SEARCH USERLIB DATA xx*****;
where xx is the two-code mnemonic for the sector.
- (v) how to plot a named file over a specific time period
(in the range -150 to 150).
PERIOD 12; OUTOPT NOGRID NOMARKS;

PLOT;

SETPOPT RANGE 1986 TO 1991;
TIM *filename*: -150 150; (for horizontal plot)
QUIT;

For a vertical plot:

PLTIME > -150 150 *filename*;

Replace PLTIME by OPLTIME for a printout.

2. Methodology and Structure

The approach adopted in compiling the data for the databank was as follows:

(i) The data were initially loaded into the databank as a series of cross-sectional files giving details of an individual sector's responses to each of the questions for each month.

(ii) The "higher" and "net balance" responses to each question only were included, as the "lower" and "same" responses can be inferred from these as follows: "lower" = "higher" - "net balance" and "same" = 100 - ("higher" + "lower").

(iii) Four additional variables were included for each sector for each month - number of firms responding, turnover of the respondents, exports of the respondents and total employment of the respondents.

(iv) These cross-sectional files were generated for each month from September 1984. This latter date was used as the start date because a revised (enlarged) sample was introduced in that month.

(v) A computer programme (TROLL macro) was then used to transform the cross-sectional data into a time-series format. Initially this programme "stacks" the cross-sectional files by month into a matrix format, then each individual sector's monthly response to each question is split out to generate a time series of monthly observations on each sector's response to the different questions.

(vi) The mnemonic system devised allocates the eight-letter maximum available for each variable name as follows:

(i) The first two letters define the industrial sector/sub-sector (see Section 3 below).

(ii) The next five letters define the economic variable/question (see Section 4 below).

(iii) The last letter identifies the variable type (see Section 4 below)

3. Sectoral Mnemonics

In this section the two letter mnemonic used to describe each individual industrial sector/sub-sector is defined. These are the first two letters of the variable name. There are 46 sectors identified in all.

3.1 The EC sub-sectoral classifications.

The EC defines some 40 sub-sector industrial classifications for use in the EC Harmonised Business Survey (see Appendix 2). For the CII/ESRI business survey 33 of these sub-sector classifications are used and correspond closely to the EC classification. These 33 industrial sub-sectors are listed below together with the two letter mnemonic assigned to them in the databank and their correspondence to the NACE classification system.

MNEMONIC	DESCRIPTION	NACE CODE
WL	Wool	431
CN	Cotton	432
KN	Knitting	436
OT	Other Textiles	433-435, 437-439, 455
FT	Footwear	451-452
CL	Clothing	453-456 excl 455
WC	Wood & Cork	461-466
WF	Wooden Furniture	467
PA	Paper	471, 472
PR	Printing	473, 474
LG	Leather	44
PL	Plastics	483
PE	Petrol	14
PM	Production and Processing of Metals	22
BM	Building Materials	241-246
CG	Ceramics and Hollow Glass	247, 248
BC	Basic Chemicals	251
AC	Agricultural and Industrial Chemicals	255-257
CC	Consumer Chemicals	258
MF	Manmade Fibres	259, 26
MA	Metal Articles	31
AM	Agricultural Machines	321
OM	Other Mechanical Engineering	322-328
DP	Office Machinery and Data Processing	33
OE	Other Electrical	341-344, 347, 348
DE	Domestic Electrical	345, 346
MV	Motor Vehicles	35
SH	Ships	361
TR	Other Transport	362-365
RB	Rubber Products	481, 482
IE	Instrument Engineering	37
FD	Food	411-423
DT	Drink and Tobacco	424-429

3.2 The Industrial Sector Classifications

There are 10 industrial sector classifications which correspond to the sectors given in the CSO releases on the Industrial Production Index and Industrial Turnover Index. The NACE classification is as follows:²

MNEMONIC	DESCRIPTION	NACE CODE
NM	Non-metallic minerals	241-248
CH	Chemicals	251, 255-259, 26
ME	Metals and Engineering	22, 31, 321-328, 33, 341-348, 35, 361-365, 37
DT	Drink & Tobacco	424-429
TX	Textiles	43
CF	Clothing, Footwear and Leather	44, 451-456
TW	Timber & Wooden Furniture	461-467
PP	Paper & Printing	471-474
MS	Misc. Oil, Rubber and Plastics	14, 481-483,
FD	Food	411-423

3.3 Other Sectoral Mnemonics

MNEMONIC	DESCRIPTION	
CO	Consumer	247, 248, 258, 345, 346, 35, 362-365, 436, 451-456, 467, 473, 474
CA	Capital	314-319, 321-328, 33, 341-344, 347, 348, 361, 37
IN	Intermediate	14, 22, 241-246, 251, 255-257, 259, 26, 311-313, 431-435, 437-439, 44, 461-466, 471, 472, 481-483
ST	Sub-total (excluding Food, Drink & Tobacco)	Sum of the above
TT	Total	The sum of the above plus 411-429

² The Food and Drink and Tobacco sectors defined here correspond to the FD and DT categories in 3.1 above.

4. Variable/Questionnaire Mnemonics

These are the third to eighth letters in the variable name. Two of the four possible responses to each question have been included in the databank - the "higher" responses, and the "net balance" responses. In addition, certain of the questions require just one possible answer (e.g. question 5). To differentiate between these three types of variable the mnemonics have a suffix system. The eighth letter can be one of three types:

P "higher" responses (Plus)
 B "net balance" responses (Balance)
 D not a qualitative variable (Dummy)

The following list details the five letter mnemonic used to identify each of the questions (see Appendix 1 for the questionnaires), along with the mnemonics used for the additional variables on employment, turnover etc. There are 44 different variables in all.

QUESTION NO.	MNEMONIC	SUFFIX TYPE	DESCRIPTION
1	PRODL	P/B	Production last month
2	PRODE	P/B	Production in next three months
3a	ORTOT	P/B	Total Orders for the time of year
3b	OREXP	P/B	Export Orders for time of year
4	ORNEW	P/B	Total New Orders this month
5	PRODM	D	Months Production covered by Order Book
6	HSLEL	P/B	Home Sales last month
7	HSLEE	P/B	Home Sales in future months
8	XPTSL	P/B	Exports last month
9	XPTSE	P/B	Exports in future months
10	ADQFP	P/B	Adequacy ³ of Stocks of Finished Products
11	ADQRM	P/B	Adequacy ³ of Stocks of Raw Materials
12	EMPLL	P/B	Number Employed last month
13	EMPLE	P/B	Employment in next three months
14	ADCAP	P/B	Adequacy ³ of Capacity for coming year
15	CAPYM	D	% Capacity operating in month
16	PRICE	P/B	Selling Prices in next 3-4 months
17	CONST	P	Production Constrained?
18a	RDEMD	D	Insufficient Demand
18b(i)	RCAPY	D	Insufficient Capacity

³ A positive number indicates excessive capacity.

18b(ii)	RLBSK	D	Insufficient Skilled Labour
18b(iii)	RLBUK	D	Insufficient Unskilled Labour
18b(iv)	RMATS	D	Insufficient Raw Material Supply
18b(v)	RCASH	D	Insufficient Cash and/or Credit
18b(vi)	ROTHR	D	Any other reason

Other Variables:

NFIRM	D	Number of respondents in sector
TOVER	D	Turnover of respondents in sector
EXPTS	D	Exports of respondents in sector
LABFC	D	Employment of respondents in sector

5. Examples of the Mnemonic System

The following list gives examples of how the mnemonic system described in this paper works. The first 2 letters of the filename are the subsectoral or industrial classifications, explained in Section 3, the next 6 letters classify the question variables, explained in Section 4.

MNEMONIC	DESCRIPTION
WLHSLELB	The weighted net (i.e. "net balance") percentage of respondents in the Wool sector who consider Home Sales to have been higher "in the past month compared with the previous month" i.e. question 6 in each month.
WLRDEMDD	The weighted percentage of firms in the Wool sector identifying insufficient demand as a constraint on production (question 18a) in each month.
PALABFCD	The numbers employed by respondent firms in the Paper industries in each month.
PAOREXPP	The weighted percentage of firms in the Paper industry who consider Export Orders as "above normal", in each month.
TTTOVERD	The turnover of all of the firms responding in each month.
TTADQFPB	The weighted net percentage of all firms who consider stocks of Finished Products "excessive" in each month.

General References

The Harmonised Business Surveys in the Community, Principles and Methods EC. Nov, 1967

Baker, T. (1968) "FII-ESRI Joint Industrial Survey, A Preliminary Analysis", *Quarterly Economic Commentary*, ESRI, September.

Conniffe, D (1984), "Analysis of the Irish Business Survey Data", Report commissioned by the Directorate for Economic and Financial Affairs, Brussels.

Conniffe, D. (1985), "Seasonality in the Business Survey", *Quarterly Economic Commentary*, ESRI, July.

Neary, P. (1975), "The CII-ESRI Quarterly and Monthly Surveys of Business Attitudes: Methods and Uses", *Quarterly Economic Commentary*, ESRI, March.

Scott, S. (1985), "The Revised CII-ESRI Survey - A Note", *Quarterly Economic Commentary*, ESRI, July.

Appendix 1

Questionnaires

There are two questionnaires. The first questionnaire was in use up to and including July 1991.

The next questionnaire is in use from August 1991 onwards. This questionnaire asks respondents, where relevant, to reply in volume terms.

Industrial Classification

Industry survey¹

- 0 Industry as a whole²
- I Consumer goods
- II Investment goods
- III Intermediate goods
- 1 Textile industry (43)
 - a Wool industry B (431)
 - b Cotton industry B (432)
 - c Knitting industry B (436)
- 2 Footwear and clothing industry (45)
 - a Manufacture of footwear C (451/452)
 - b Clothing C (453/454)
- 3 Timber and wooden furniture industries (46)
 - a Wood B (461-466)
 - b Wooden furniture C (467)
- 4 Manufacture of paper and paper products; printing and publishing (47)
 - a Manufacture of paper B (471)
 - b Processing of paper B (472)
 - c Printing and publishing C (473/474)
- 5 Leather and leather goods industry (44)
- 6 Processing of plastics B (483)
- 7 Mineral oil refining B (14)
- 8 Production and preliminary processing of metals B (22 : 221-224)
- 9 Manufacture of non-metallic mineral products (24)
 - a Products for construction purposes, ceramic products for the building sector and for industry, flat glass B (241-246; except 247.2-4/247.7; 248 except 248.6/248.7)
 - b Fine ceramic products and hollow glass C (247.2-247.7 248.6-7)
- 10 Chemical industry (25)
 - a Basic industrial chemicals B (251)
 - b Chemical products for industrial and agricultural purposes B (256)
 - c Other chemical products C (255/257-259)
- 11 Man-made fibres industry B (26)
- 12 Manufacture of metal articles (31)
 - I (314/315/316.6)
 - C (316.5)
 - B (311/313/319/remainder of 316)
- 13 Mechanical engineering I (32)
 - a Agricultural machinery and tractors (321)
 - b Machine-tools (322)
 - c Textile machinery and accessories (323)
 - d Engines, compressors, pumps (328)
- 14 Manufacture of office machinery and data-processing machinery I (33)
- 15 Electrical engineering I (34)
 - a Manufacture of electrical machinery I (341-344)
 - b Household electrical appliances, radio and television receivers C (345/346)
 - c Electric lamps and other electric lighting equipment, assembly and installation of electrical equipment and apparatus I (347/348)
- 16 Manufacture of motor vehicles, motor-vehicle parts and accessories (35)
 - a Manufacture and assembly of motor vehicles (including road tractors) and manufacture of motor-vehicle engines C + I (351)
 - b Manufacture of bodies for motor vehicles and of motor-drawn trailers and caravans I (352)
 - c Manufacture of parts and accessories for motor vehicles B (353)
- 17 Manufacture of other means of transport (36)
 - a Shipbuilding I (361)
 - b Manufacture of cycles, motor-cycles and parts and accessories thereof C (362-365)
- 18 Manufacture of rubber products B (481/482)
- 19 Precision engineering, optics and the like (37)
- 20 Food, drink and tobacco industry (41/42)

Investment survey

Basic materials industries

- Chemical industry
- Petroleum
- Construction materials, ceramics, glass
- Manufacture of man-made fibres
- Rubber

Metallurgical industries

- Iron and steel industry
- Initial processing of ferrous metals (excluding foundry operations)
- Non-ferrous metals industry

Mechanical and electrical engineering industries

- Foundry operations
- Manufacture of metal consumer goods
- Plant and heavy machinery
- Manufacturing of machinery other than electrical
- Household electrical appliances, radio and television receivers
- Manufacture of heavy electrical equipment
- Motor vehicle industry
- Shipbuilding, aircraft construction and railway equipment
- Precision engineering, optics, clock and watch manufacture

Processing industries

- Textile industry
- Clothing and hosiery
- Leather and footwear
- Wood and cork
- Furniture
- Paper and board manufacture
- Paper and board processing
- Printing
- Plastics processing

Mining and quarrying

- Mining and preparation of solid fuels
- Metal mining
- Crude petroleum and natural gas
- Stone quarrying, clay and sand

Food industries

Industry as a whole²

Building survey

Construction as a whole

- Building:
 - housing
 - other building
- Public works (civil engineering).

¹ The classification of the industrial sectors in terms of the three major groups is indicated by C = consumer goods, I = investment goods, B = intermediate goods. N.A.C.E. (general industrial classification of the European Community) references are given in brackets.

² Food, drink and tobacco are not included in "industry as a whole" figures in the industry survey, but are so included in the investment survey.



Confederation of Irish Industry

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Member of UNICE - the voice of European Industry

Dear Sir/Madam,

Please find on the reverse side of this letter the questionnaire for the CII/ESRI Joint Monthly Industrial Survey for the month specified at the top of the questionnaire.

As always, the questionnaire has been coded for confidentiality and no information about individual firms will be revealed.

The questionnaire is designed to be filled in, in a matter of minutes. I would appreciate your returning the completed form to me, marking your envelope "INDUSTRIAL SURVEY" by return of post if possible, but to arrive not later than the latest return date specified at the top of the questionnaire.

Thank you for your co-operation.

Yours Sincerely,

David Croughan
Chief Economist.

CII/ESRI MONTHLY INDUSTRIAL SURVEY

CONFIDENTIAL

1 - 4

5 - 8

LATEST RETURN DATE:

MONTH

PRODUCTION

1. For the time of year (i.e. allowing for seasonal variation) the value of Production by your firm in the past month compared with the previous month was:
- Higher 9
Same
Lower
2. Again excluding seasonal variation, do you think that over the next three months your firm's Production will be:
- Higher 10
Same
Lower

ORDER BOOKS

- 3a. Do you think that your present Total Order Book is for the time of year:
- Above normal 11
Normal
Below normal
- 3b. Thinking now of exports only, are your Export Orders for the time of year:
- Above normal 12
Normal
Below normal
4. Do you consider that, compared with the preceding month, taking into account seasonal variation, Total New Orders (domestic and export) were:
- Higher 13
Same
Lower

MONTHS OF PRODUCTION

5. At your present rate of output, and assuming normal conditions, approximately how many months' production is accounted for by your order book on your production schedule?
- Months
14-17

HOME SALES

6. For the time of year, the value of Home Sales by your firm in the past month compared with the previous month was:
- Higher 18
Same
Lower
7. Again excluding seasonal variation, do you think that in the future months your firm's Home Sales will be:
- Higher 19
Same
Lower

EXPORTS

8. For the time of year, the value of Exports by your firm in the past month compared with the previous month was:
- Higher 20
Same
Lower
9. Again excluding seasonal variation, do you think that in the future months your firm's Exports will be:
- Higher 21
Same
Lower

STOCKS

10. Do you consider that your present stocks of Finished Products are, for the time of year:
- Excessive 22
Adequate
Insufficient
11. Do you consider that your present stocks of Raw Materials are, for the time of year:
- Excessive 23
Adequate
Insufficient

EMPLOYMENT

12. For the time of year, the Number Employed by your firm in the past month compared with previous month was:
- Higher 24
Same
Lower
13. Do you think that over the next three months your firm's Employment will be:
- Higher 25
Same
Lower

CAPACITY

14. For the coming year do you consider your present Capacity is:
- Excessive 26
Adequate
Insufficient
15. During the month you were operating on average at about what Percentage of Capacity — please indicate to nearest 10%, e.g. 50% 60%, 70% etc.
- %
27-29

PRICES

16. Do you think that over the next three or four months your Selling Prices will be:
- Higher 30
Same
Lower

PRODUCTION CONSTRAINTS

17. Is Production by your firm being held up at present?
- Yes 31
No
18. Causes responsible:
- a) Demand
Insufficient Demand
- b) Supply
Insufficient Capacity
Insufficient Skilled Labour
Insufficient Unskilled Labour
Insufficient Raw Material Supply
Insufficient Cash and/or Credit
Any Other Reason

This questionnaire is designed to be filled in in a matter of minutes. Please return completed questionnaire by return of post if possible or not later than the latest return date. Thank you for your co-operation.

Return to: David Croughan, CII, Confederation House, Kildare Street, Dublin 2.

Questionnaire in use from August 1991
CII/ESRI MONTHLY INDUSTRIAL SURVEY

CONFIDENTIAL

In replying, please think in real or volume terms, ie after allowing for the effects of price changes.

LATEST RETURN DATE:

MONTH

PRODUCTION

1. For the time of year (ie allowing for seasonal variation) the volume of Production by your firm in the past month compared with the previous month was:
- Higher 1-4
Same 9
Lower 5-8
2. Again excluding seasonal variation, do you think that over the next three months your firm's Production will be:
- Higher
Same 10
Lower

ORDER BOOKS

- 3a. Do you think that your present Total Order Book is for the time of year:
- Above normal
Normal 11
Below normal
- 3b. Thinking now of exports only, are your Export Orders for the time of year:
- Above normal
Normal 12
Below normal
4. Do you consider that, compared with the preceding month, taking into account seasonal variation, Total New Orders (domestic and export) were:
- Higher
Same 13
Lower

MONTHS OF PRODUCTION

5. At your present rate of output, and assuming normal conditions, approximately how many months' production is accounted for by your order book on your production schedule?
- Months
14-17

HOME SALES

6. For the time of year, the volume of Home Sales by your firm in the past month compared with the previous month was:
- Higher
Same 18
Lower
7. Again excluding seasonal variation, do you think that in the future months your firm's Home Sales will be:
- Higher
Same 19
Lower

EXPORTS

8. For the time of year, the volume of Exports by your firm in the past month compared with the previous month was:
- Higher
Same 20
Lower
9. Again excluding seasonal variation, do you think that in the future months your firm's Exports will be:
- Higher
Same 21
Lower

STOCKS

10. Do you consider that your present stocks of Finished Products are, for the time of year:
- Excessive
Adequate 22
Insufficient

11. Do you consider that your present stocks of Raw Materials are, for the time of year:
- Excessive
Adequate 23
Insufficient

EMPLOYMENT

12. For the time of year, the Number Employed by your firm in the past month compared with previous month was:
- Higher
Same 24
Lower

13. Do you think that over the next three months your firm's Employment will be:
- Higher
Same 25
Lower

CAPACITY

14. For the coming year do you consider your present Capacity is:
- Excessive
Adequate 26
Insufficient

15. During the month you were operating on average at about what Percentage of Capacity - please indicate to nearest 10%, eg 50%, 60%, 70% etc.
- %
27-29

PRICES

16. Do you think that over the next three or four months your Selling Prices will be:
- Higher
Same 30
Lower

PRODUCTION CONSTRAINTS

17. Is Production by your firm being held up at present?
- Yes 31
No

18. Causes responsible:
- a) Demand
- Insufficient demand 1
- b) Supply
- Insufficient Capacity 2
Insufficient Skilled Labour 3
Insufficient Unskilled Labour 4
Insufficient Raw Material Supply 5
Insufficient Cash and/or Credit 6
Any Other Reason 7

This questionnaire is designed to be filled in in a matter of minutes. Please return completed questionnaire by return of post if possible or not later than the latest return date. Thank you for your co-operation.

Return to: David Croughan, CII, Confederation House, Kildare Street, Dublin 2