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ESRI Demand Responsiveness Enquiry

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ESRI Demand Responsiveness Enquiry

Introduction

Irish manufacturing industry suffered a fall in its sales volume in 1975 over its 1974 level. In an effort to clarify the relative importance of price competitiveness vis a vis other factors, the authors conducted a survey amongst firms in Irish manufacturing industry in December 1975. The results indicate what managers of firms perceived as the reasons for their poor sales performance. The questions put, of their very nature require subjective answers. Thus, managers, when faced with a leftward shift in their firms demand curve, were asked to distinguish the separate effects of a fall in consumer demand, and of any loss of price competitiveness. An effort was also made to assess the degree of price responsiveness of demand amongst sectors in both domestic and export markets. The normal caveats about this type of subjective enquiry of course apply.

The survey covered those firms which participate in the monthly CII/ESRI Business Opinion Survey. Of a total of 320 questionnaires despatched, 218 usable replies were received, a response rate of just over 68%. For the purposes of the survey the firms were classified in accordance with the ten sector classification used by the CSO in the Quarterly Industrial Enquiry. The actual processing and calculation of the results was carried out by computer, each firm's replies being weighed by that firm's turnover weight as used in the CII/ESRI survey. Sectoral output weights were derived from the finer sectoral classification of the same survey.

The response rates for individual sectors were generally satisfactory, with the exception of the textiles' sector, as the table below shows. The number of firms replying in each sector is shown in the third column. In the analysis which follows it must be borne in mind that in some cases all questions were not relevant to a particular firm - some firms concentrated solely on the domestic market, others solely on the export market. Thus, the existence of 36 completed questionnaires from firms in the food sector does not necessarily imply 36 responses to each question in this sector.

ESRI DEMAND RESPONSIVENESS ENQUIRY

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Firm No.

Output Weight

Sector No.

Please Circle Correct Box

1. Has the quantity of your exports in the current year compared to last year been

- Higher
- The Same
- Lower

2. If lower, was this due to

- (a) Reduced purchasing power abroad
- (b) Loss of price competitiveness
- (c) Failure to meet delivery dates
- (d) Other reasons, please specify

3. If, as from now, you increased your export prices by 10% faster than those of your competitors, would your export quantity

- (a) Rise
- Fall
- Stay the same
- (b) Would export quantity change by
- By 0 - 10 per cent
- By 10 - 20 per cent
- By more than 20 per cent

4. Has the quantity of your Home Sales in the current year compared to last year been

- Higher
- The same
- Lower

5. If lower, was this due to

- (a) Reduced purchasing power at home
- (b) Loss of price competitiveness
- (c) Failure to meet delivery dates
- (d) Other reasons, please specify

6. If, as from now, you increased your home market prices by 10% faster than those of your foreign competitors, would the quantity of your sales on the home market

- (a) Rise
- Fall
- Stay the same
- (b) Would the quantity of your home sales change by
- By 0 - 10 per cent
- By 10 - 20 per cent
- By more than 20 per cent

Table 1 Sectoral Response Rates and Number of Replies

Sector	Rate %	Number
1. Food	75	36
2. Drink and Tobacco	66	8
3. Textiles	52	16
4. Clothing and Footwear	69	41
5. Wood and Furniture Brushes and Brooms	59	10
6. Paper and Printing	65	17
7. Chemicals	82	23
8. Structural Clay Glass and Cement	70	14
9. Metals and Engineering	65	45
10. Other Manufacturing	62	8
Total	68.1	218

The Results

As can be seen from the attached questionnaire, home and export markets were separately distinguished in the enquiry, although similar questions were asked in respect of both markets.

1. Quantity of Exports

Firms' replies were coded as follows:

Risen +1

The Same 0

Fallen -1

Each firm's score was then weighted by its turnover weight, and the resulting values aggregated by sector. Each sectoral sum was then expressed as a percentage of the sum of the turnover weights of the firms in that sector who replied to the question. This gives a measure of the export experience of firms in each sector. A similar weighting scheme was applied to the replies

to question 4 on the quantity of Home Sales. This weighting scheme accords the same importance to a 2% rise in export volume as to a 20% rise. However, the results may be interpreted broadly as follows. In the case of the food sector, for example, the net export experience in 1975 was as follows: exports rose in firms accounting for 22.5% of the turnover weight of respondents in this sector.

Table 2 Export and Home Sales Performance

Sector	Export	No.	Home	No.
1. Food	22.5	33	-21.21	35
2. Drink and Tobacco	-87.0	6	8.9	8
3. Textiles	13.3	15	-38.3	16
4. Clothing and Footwear	-17.6	37	54.5	39
5. Wood and Furniture Brushes and Brooms	43.4	9	-11.0	10
6. Paper and Printing	46.2	15	-61.5	17
7. Chemicals	-14.9	19	-22.4	23
8. Structural Clay Glass and Cement	-8.2	8	-27.5	14
9. Metals and Engineering	-45.8	37	-37.8	39
10. Other Manufacturing	-7.0	7	-59.7	8
Total Manufacturing	-9.9	186	-20.42	209

This does not necessarily imply a rise in the volume of exports of the food industry as a whole. It is quite possible that the net rise in exports in firms accounting for 22.5% of the sector's output was outweighed by the experience of firms represented amongst the remaining 77.5% of output whose export volume stagnated or fell. The results simply state that when weighted by turnover, on balance, firms in the food industry had a favourable export experience in 1975. More clearcut and adverse results emerge in the case of two other sectors, Drink and Tobacco, and, Metals and Engineering.

In general most sectors fared worse on the home compared to the export market. The exceptions are Drink and Tobacco, Clothing and Footwear and, Metals and Engineering. The overall results for Total Manufacturing

suggest that a greater proportion of industry suffered from the downturn in domestic demand than were affected by developments in export markets.

Reasons for Lower Sales

Those firms reporting reduced volumes of home or export sales were asked to indicate what they believed the explanation for this to be. In practice most firms who answered this question specified either option (a) Reduced Purchasing Power, or (b) Loss of Price Competitiveness, although they were invited to specify other factors where these were considered relevant. Seven firms mentioned increased competition from imports as a factor, these firms, however, being in diverse sectors. In view of the small number of replies and their dispersion, this factor was ignored. In analysing questions 2 and 4, the sum of the firm's weights specifying each factor was expressed as a proportion of the sum of the firm weights of all firms answering that question. This analysis was carried out for each sector and the results are shown in Tables 3 and 4.

Table 3 Export Volume

Sector	Reduced Purchasing Power	No.(1)	Mean(2) wt.	Loss of Competitiveness	No.(1)	Mean(2) wt.
1. Food	36.6	5	4.965	71.09	9	5.35
2. Drink & Tobacco	100.0	4	32.675	0.54	2	0.35
3. Textiles	31.7	4	1.075	94.10	5	2.55
4. Clothing & Footwear	40.2	6	1.046	76.6	14	0.854
5. Wood & Furniture	95.9	1	1.750	100.0	2	0.912
6. Paper & Printing	42.0	5	3.200	40.4	4	2.031
7. Chemicals	82.7	3	10.500	71.4	5	5.440
8. Structural Clay Glass & Cement	74.2	2	12.25	25.8	3	2.833
9. Metals & Engineering	79.3	11	3.575	22.8	10	1.130
10. Other Manufacturing	100.0	2	8.125	76.9	1	12.500
Total	69.5	43	6.87	40.8	55	2.600

Table 4 Home Sales Volume

Sector	Reduced Purchasing Power	No.(1)	Mean(2) Weight	Loss of Competitiveness	No.(1)	Mean(2) Weight
1. Food	83.6	10	9.975	29.8	6	5.917
2. Drink & Tobacco	89.9	1	62.50	10.1	1	7.000
3. Textiles	47.7	3	3.050	60.2	6	1.925
4. Clothing & Footwear	66.1	13	0.871	65.5	10	1.122
5. Wood & Furniture	70.7	3	1.408	100.0	4	1.494
6. Paper & Printing	99.3	7	8.982	6.0	2	1.912
7. Chemicals	100.0	9	3.078	9.5	2	1.313
8. Structural Clay Glass & Cement	100.0	7	5.911	4.2	1	1.750
9. Metals & Engineering	89.7	14	3.921	21.5	10	1.317
10. Other Manufacturing	100.0	2	12.500	50.00	1	12.50
All Manufacturing	87.3	69	5.7797	24.1	43	2.448

Notes to Tables 3 + 4

1. No. refers to the number of firms specifying this factor
2. Mean Weight refers to the mean output weight of firms specifying this factor

The most striking factor about the results is the poor showing of the competitiveness factor in comparison with reduced purchasing power on both home and export markets, though the contrast is most striking on the home market. Here, 69 firms, who accounted for 87.3% of the output of firms responding to this question, gave reduced purchasing power as the reason for a decline in home sales volume. By contrast, loss of price competitiveness was mentioned by 43 firms, but these only accounted for 24.1% of respondents' output. It would appear, therefore, that it is the smaller firms who feel that their competitive position has been eroded. This is further confirmed by the evidence of the mean weight columns, where the mean output weight of firms specifying loss of competitiveness is less than half that of those specifying reduced purchasing power. A similar broad picture emerges from the export table.

More specifically, loss of price competitiveness emerges as the dominant factor in the case of three sectors on both home and export markets, viz.,

Textiles, Clothing and Footwear, Wood and Furniture, and in the case of the Food sector on the home market alone. However, in none of these cases is reduced purchasing power considered insignificant, many firms indicating that both factors were at work. Where home and export markets are compared, loss of price competitiveness emerges as more important on export than on home markets, but is still a poor second to reduced purchasing power in both cases.

Price Responsiveness

In a further attempt to test the competitiveness hypothesis, firms were asked whether their sales volume would rise, fall, or stay the same if they increased their prices by 10% faster than those of their competitors. The responses of those who answered rise were disregarded, since such firms were acting irrationally in holding prices down. Firms who responded with the answer fall, were asked to indicate on an ordinal scale the magnitude of the expected fall. The mid-points of the indicated brackets were then weighted by the firm weights, and the sum for each sector expressed as a proportion of the sum of the weights of the firms who answered the question for that sector. The results are as follows:

Table 5 Demand Responsiveness Coefficients

Sector	Home Sales	Export Sales
1. Food	- 17.1	- 22.98
2. Drink & Tobacco	- 2.8	- 3.3
3. Textiles	- 20.8	- 20.9
4. Clothing & Footwear	- 16.68	- 21.81
5. Wood & Furniture	- 19.46	- 23.03
6. Paper & Printing	- 9.44	- 22.12
7. Chemicals	- 16.28	- 17.55
8. Structural Clay Glass & Cement	- 6.5	- 22.59
9. Metals & Engineering	- 17.35	- 18.63
10. Other Manufacturing	- 18.1	- 23.7
All Manufacturing	- 14.1	- 18.8

In all sectors firms perceived demand to be more price sensitive in the export than in the home market. In general, the results are consistent with the answers which were given to questions 2 and 5. Sectors reporting very low responsiveness, viz., Drink and Tobacco in both markets, and Structural Clay Glass and Cement and Paper and Printing in the home market, were those which gave the lowest weighting to price competitiveness in the earlier questions. Similarly, those sectors which accorded a high weighting loss of price competitiveness are in general characterised by numerically high demand responsiveness coefficients.

Conclusions

The aim of the survey was to establish the relative importance, as perceived by managers, of various factors in exacerbating the fall in manufacturing industry sales over the last year. Respondents to the survey accorded a low weighting to loss of price competitiveness. The role of competitiveness is further undermined by virtue of the dominance of the fall in Home Sales - where competitiveness was not considered important - over export sales where this factor was accorded greater importance. It may be concluded that the primary reason for shortfalls in sales in 1975 was related to reduced purchasing power as anti-inflation programmes reduced aggregate real personal disposable income. The consequences of any loss of price competitiveness appear a poor second by comparison.