Ireland's Manufactured Exports to the EEC and the Common External Tariff[1]

DERMOT McALEESE
JOHN MARTIN

ONE of the most remarkable features of Ireland's post-war trade structure has been the rapid increase of manufactured exports, both in absolute terms and relative to total exports. The average annual growth rate of manufactured exports during the last two decades has exceeded 19 per cent in current value terms, more than twice the growth rate of total Irish exports.[2] The share of manufactured exports in total merchandise exports has increased from 6 per cent in 1950, to 19 per cent in 1959 and has risen still further, to 37 per cent, in 1971.[3]

The growth in exports has been accompanied and facilitated by the reduction in trade restrictions in all our major markets. Although Ireland became a contracting party to GATT only in 1967, bilateral rights to most-favoured-nation treatment were extended to this country by our principal trading partners for some time previously. Thus Irish exporters benefited from the tariff concessions organised under the auspices of GATT in the fifties and early sixties.[4] Furthermore, since the signing of the Anglo-Irish Free Trade Agreement (AIFTA) in 1966, Ireland has enjoyed virtually unrestricted access to the United Kingdom market in industrial goods. Despite the reduction in trade restrictions, however, Irish manufactured exporters continue to face substantial tariff barriers in non-UK markets. The Kennedy Round has indeed brought these tariffs down by about 35 per cent from the 1967 level, but this still leaves an estimated average tariff on

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2. See K. A. Kennedy and B. R. Dowling, *Domestic Demand, Exports and Economic Growth in Ireland*, (forthcoming) for a detailed discussion of this growth.

3. Manufactured goods are hereinafter defined as all goods belonging to Sections 5 to 8 inclusive of the United Nations' SITC. Due to data limitations, it was not possible to follow the conventional practice of excluding unwrought metals in Section 6 from our definition. The sums involved are, fortunately, quite small. Exports from Shannon are excluded.

4. *Accession of the Government of Ireland to the General Agreement on Tariffs and Trade*, 1967, Government Stationery Office (Pr. 9694), p. 32.

TABLE 1: *Irish Manufactured Exports by Area of Destination, 1959–1971*

Area of Destination	£m. (current)					Percentage Distribution				
	1959	1963	1966	1970	1971	1959	1963	1966	1970	1971
United Kingdom	19·7	29·6	43·1	95·4	115·9	83·3	71·4	63·9	63·0	63·1
Other Member Countries of EFTA	0·4	0·7	1·5	4·5	4·7	1·7	1·9	2·2	3·0	2·6
Member Countries of the EEC	0·8	4·0	7·7	18·9	22·8	3·5	9·6	11·4	12·5	12·4
Other OECD (excl. Japan)	1·2	3·8	6·3	20·7	25·5	5·0	9·4	9·4	13·7	13·8
All Other Areas	1·6	3·2	8·8	11·8	14·7	6·5	7·7	13·1	7·8	8·1
Total	23·7	41·3	67·4	151·3	183·6	100·0	100·0	100·0	100·0	100·0

Source: Computed from *External Trade Statistics* 1966 and 1970, *Trade and Shipping Statistics* 1959 and 1963.

Notes: (1) Manufactured Exports are defined as SITC Sections 5–8. Exports from Shannon are not included.

(2) Since 1968 Finland has been associated with EFTA and has been included in that trading area for the earlier dates.

(3) 1971 figures, kindly supplied by the CSO, are provisional.

non-agricultural goods of roughly 8·5 per cent in the EEC and over 9 per cent in the United States.[5]

In this article, we consider the incidence and consequences of only one set of tariffs, namely the Common External Tariff (CET) of the EEC, on Irish manufactured exports. This subject is made especially important by the fact that, with Ireland's membership of the European Community, the CET on Irish exports will be gradually reduced and abolished altogether in 1978. Our study is divided into three sections. First, we sketch the development of Ireland's trade in manufactured goods with the EEC. Second, we estimate the rate of duty payable on Irish manufactured goods and attempt to match CET tariffs with corresponding export data. Finally, we consider the possible consequences of the removal of the CET for Irish exporters.

Manufactured Exports to the EEC 1959–71

In 1959, Ireland's exports of manufactured goods to the EEC (excluding exports from Shannon) did not exceed £1 million (see Table 1). At that time, in fact, the entire market of Western Europe absorbed only slightly more than 5 per cent of Ireland's total manufactured exports. The data in Table 1 clearly portray the

5. Estimates of the average tariff differ. We refer here to the figures cited in R. E. Baldwin, *Non-Tariff Distortions of International Trade*, The Brookings Institution, 1971. Alternative estimates vary by no more than one percentage point above or below Baldwin's.

evolution of a larger and more diversified manufacturing export sector during the sixties. Manufactured exports to the EEC increased in value terms to £23 million and their share in total Irish manufactured exports rose from 3·5 per cent in 1959 to 12·4 per cent in 1971.[6]

The EEC's increased share of our total manufactured exports has been accompanied by a decline in the share of the United Kingdom, from 83 per cent in 1959 to 63 per cent in 1971. Although the UK share decreased, exports to Britain grew at a rapid rate during the last decade and, as Kennedy and Dowling show, Ireland's share in total UK manufactured imports moved upward quite significantly.[7] Hence the behaviour of the UK share merely reflects the exceptionally large proportionate increase in Irish manufactured exports to the EEC and also to Other OECD countries (mainly the United States and Canada). As Table 1 shows, Other OECD exports expanded from £1 million in 1957 to £25 million in 1971. This diversification of our export markets is closely linked to the influx of European and United States manufacturing enterprises into Ireland during the last decade. As is well known, these enterprises are heavily export-oriented and in many cases, the foreign subsidiary acts as a mere production unit, selling its output to the parent or associated companies elsewhere in the world.[8] Exports to non-UK markets must also have received a fillip from the devaluation of sterling in 1967.[9] On the other hand, the removal of British tariffs on Irish exports of certain textiles and articles of clothing under the terms of AIFTA has tended to raise the UK share of the relevant export sections since 1966.

In view of the small absolute magnitudes involved, a detailed statistical analysis of our exports to the EEC, employing market share or regression techniques for instance, would be unlikely to prove fruitful. Accordingly, we confine ourselves to drawing attention to the most significant features of Table 2. In the first place, we note that exports to the EEC in absolute values are spread fairly evenly between all four SITC manufactured goods sections. By 1971, however, Section 8 exports had acquired a certain predominance, accounting for nearly 40 per cent of our total manufactured exports to the EEC. Second, despite the similarity in absolute values the share of the EEC in the total for each SITC section varies. Thus, the EEC absorbs 23 per cent of our chemical exports, but only 8 per cent of our intermediate goods exports. Third, the change in the section shares since 1959 has not been uniform. Appreciable increases in the EEC's share have occurred in the case of Section 8 exports (from 2 per cent in 1959 to 14 per cent

6. Viewed from the EEC, however, Ireland still remains a highly marginal source of supply of manufactured goods—the Irish share of total EEC manufactured imports came to less than one-third of one per cent even in 1971.

7. Kennedy and Dowling, *op. cit.*

8. See Pádraig O hUiginn, *Regional Development and Industrial Location in Ireland*, Vol. 1, An Foras Forbartha, April 1972, pp. 15–16.

9. Other parity changes—such as those of the German mark and the French franc in 1969—would also have affected the pattern of exports, but it is impossible to say precisely how relevant they were to the diversification of Irish export markets during the period.

TABLE 2: *Breakdown of Irish Manufactured Exports to the EEC by SITC Section*

SITC	£000's (current)					EEC Share of Total Section				
	1959	*1963*	*1966*	*1970*	*1971*	*1959*	*1963*	*1966*	*1970*	*1971*
5. Chemicals	98	256	1,200	3,746	4,842	19·8	21·0	17·4	20·4	23·0
6. Manufactured Goods Classified by Material	424	1,628	2,042	5,404	5,629	3·5	8·6	7·2	9·3	7·9
7. Machinery and Transport Equipment	203	1,637	2,878	3,158	3,764	3·7	18·1	22·7	11·0	11·6
8. Manufactured Articles n.e.s.	111	456	1,558	6,608	8,515	1·9	3·8	8·0	14·3	14·5
Total Sections 5–8	836	3,977	7,678	18,916	22,750	3·5	9·6	11·4	12·5	12·4

Source: 1959 figures are authors' own estimates computed from *Trade and Shipping Statistics* for that year. The remaining figures were computed from *External Trade Statistics* 1970, and successive issues of *Trade and Shipping Statistics*. The data for 1971 are provisional.

in 1971) and Section 6 exports (from 3 per cent to 8 per cent between 1959 and 1971). At the same time, the share of the EEC in chemical exports has not expanded significantly, since 1959. Interestingly, exports of these products to the UK market (especially medicinal and pharmaceutical products and toilet preparations) have done exceedingly well in relation to total UK imports during the sixties.[10]

A fourth feature of Table 2 is the relatively poor performance of machinery and transport equipment (Section 7) exports to the EEC since 1963. Over the period 1963–71, they increased twofold in value terms compared with a nearly sixfold increase in our total manufactured exports to the EEC. More significantly, the share of the EEC in Ireland's Section 7 exports has fallen dramatically from 18 per cent in 1963 and 23 per cent in 1966, to 12 per cent in 1971. On closer investigation, one finds that a significant part of the cause of this share decline can be attributed to the closure after 1966 of two factories, one manufacturing sewing machines, the other transistors and parts thereof, which had carved out large markets in the EEC before going into liquidation. Combined with this, one can merely note that the EEC share declined between 1966 and 1970 in all three Section 7 divisions, reflecting the fact that the new firms established in the machinery and transport equipment sector during this time did not, for one reason or another, find fast-growing market outlets in the EEC for their production. Most of the increase in Section 7 exports during this period, in fact, went to the USA and Canada, as witnessed by the increase in the share of "Other OECD" markets in total Section 7 exports from 6 per cent in 1966 to 23 per cent in 1970.[11]

10. Kennedy and Dowling, *op. cit.*

11. Dermot McAleese, *Import Demand, Protection and the Effects of Trade Liberalisation on the Irish Economy*, doctoral dissertation for The John Hopkins University, 1971, Table 2.9.

The final impression one gains is that exports to the EEC have progressed satisfactorily despite the existence of the Common External Tariff.[12] Expansion has taken place in all four SITC export sections. The largest increase since 1959 both in absolute and percentage terms has occurred in Section 8 exports and, as it happens, the average nominal CET has been estimated to be highest on the products of this section.[13] One must be careful, however, not to draw over-hasty inferences from this fact. It is, after all, possible that exports *within* each section might be heavily concentrated in certain commodities which have a low tariff. The next step, therefore, is to discuss the height of the CET and its incidence on Irish exports.

Incidence of the CET on Irish Exports

Perhaps the most common and pervasive problem in tariff studies is that of matching tariff data with the corresponding trade flows. Tariffs must necessarily be specified in great detail. More often than not, their purpose is to protect highly specific products and every effort has to be made to ensure that they are clearly indicated while at the same time excluding non-competitive items. As a result the number of tariff headings or sub-headings invariably exceeds the number of classified trade items. In Ireland's case, for example, the Official Import List contains 1,900 items compared with a 3,000 item tariff list. The EEC's basic trade statistics classification, the *Classification Statistique et Tarifaire* (CST), consists of 1,338 items—much the same as the five-digit United Nations SITC—compared with 3,800 items in the CET.

In this study, we start with the four-digit SITC classification. Exports to the EEC in 1970 (the latest year for which sufficiently detailed data were available at the time of writing) are then calculated for each SITC heading, as shown in Table 3 in the Appendix. Although there is little difficulty in matching each SITC heading with the corresponding Brussels Tariff Nomenclature (BTN) heading in the EEC's list of tariffs, the identification of the correct tariff *sub*-heading (often there are four or five under each BTN heading) is a much more exacting task. For example, it is not sufficient to know how much woollen yarns are exported to the EEC; since the CET varies according to the weight of pure wool contained in the yarn, some indication of the wool content must also be obtained.

To deal with this problem recourse was had to the EEC's *Tariff Statistics* for the year 1970. This document contains the value of imports under each CET tariff heading and sub-heading on a country-by-country basis. Imports into the EEC from Ireland cannot be expected to be recorded in exactly the same way as

12. Doubtless the reductions in the CET during the last decade would have accounted for part, but by no means all, of this growth in EEC exports.

13. Post-Kennedy Round average tariffs in the EEC have been estimated as follows: chemicals 7·3 per cent, semi-manufactures 8·0 per cent, machinery and transport equipment 8·5 per cent, miscellaneous manufactures 10·2 per cent. As later explained, Kennedy Round reductions in chemicals CET have not yet been effected. (Source: *Inflation: The Present Problem:* OECD, December 1970, Annex C, Table 10.)

our exports data (the EEC data include Shannon, for example, and Irish exports would be valued c.i.f.). Nevertheless, the tariff statistics served as a very useful guide in finding the appropriate tariff for each SITC item.

Before making a final decision on the tariff, product groups in Table 3 with over £50,000 exports were separated out and examined in detail. With the aid of trade journals and with the assistance of Córas Tráchtála, we found it possible to identify the requisite tariffs and counterchecked the results where possible against the EEC statistics. The larger product groups (in value terms) accounted for over 94 per cent of Ireland's total manufactured exports to the EEC. In the case of the remaining 6 per cent, we relied primarily on the *Tariff Statistics* to indicate the relevant tariff.

Our results are presented in Table 3. Two CET tariffs are given for each item; first, the rate of duty charged in 1970 and second, the rate of duty chargeable in 1972 when the Kennedy Round tariff reductions have been implemented. In some instances, the two rates are the same. For example, owing to the reluctance of the United States' authorities to abandon the American Selling Price (ASP) tariff system on imported chemicals,[14] the CET has not been reduced on most Section 5 products. From the detailed information contained in Table 3, the main features of the CET can be summarised as follows.

The first concerns the average incidence of the tariff. Using export values as weights, the weighted average CET on our manufactured exports amounted to 10·3 per cent at 1970 tariff levels or 9·1 per cent at 1972 tariff levels.[15]

Second, the bulk of Irish exports are subject to duties in the 8–12 per cent range. Only 20 per cent of Irish exports to the EEC in 1970 were liable to a duty of less than 8 per cent; and 21 per cent of our exports were liable to a CET equal to or greater than 12 per cent. After the Kennedy Round reductions have been completed, the average incidence, of course, falls. The proportion of Irish exports liable to a duty of less than 8 per cent rises from 20 per cent at 1970 tariff levels to 34 per cent at 1972 tariff levels and the proportion subject to a CET of 12 per cent or greater falls from 21 per cent to 16 per cent. The point to stress, however, is that despite the benefits of the Kennedy Round, no less than 66 per cent of Ireland's manufactured exports to the EEC would still be penalised by a duty equal to or greater than 8 per cent.

Third, by setting the average tariff of 10·3 per cent against total manufactured exports of £18·9 million we obtain an estimate of the tariff revenue collected

14. Under the ASP system, the United States' *ad valorem* tariff is levied not on import c.i.f. price but on the corresponding domestic wholesale price (i.e. the American selling price). This method of valuation is applied to US imports of benzenoid chemicals, rubber footwear and certain other products and has provoked considerable resentment elsewhere in the world. It has resulted in duties of up to 170 per cent *ad valorem* in certain cases. A good summary of the present situation is contained in Baldwin's book on nontariff distortions of trade (*op. cit.* pp. 134–6).

15. Although the use of single-year weights is always hazardous, there is no reason to suppose that these weights are unrepresentative. Tariff averages calculated in the same way on the basis of 1968 trade data yielded broadly similar conclusions.

by the EEC in 1970 equal to almost £2 million. This can be compared with our estimate of the EEC's customs receipts from all Irish exports (i.e. including agricultural exports and exports from Shannon) equal to about £4 million in 1970.[16]

Implications of the CET

The removal of the CET on Irish exports will have significant implications for existing export firms. It also has a bearing on the attractiveness of Ireland as a location for future export firms. In this section, we discuss and attempt to evaluate these two effects separately.

Considering first the prospects for existing export firms, one is struck by the paucity of information at an institutional level on the impact of the CET on our manufacturing exports and the likely consequences of its removal. Some light is thrown on the subject by the reports published during the last year or so by the Committee on Industrial Progress (COIP). Thus, commenting on the decline in footwear exports to Germany in 1970, the COIP report on the footwear industry notes that "the principal cause of this slide has been the difficulty of surmounting the EEC tariff barriers".[17] Firms manufacturing sophisticated technical products, claims the Metal Trades report, are at present "unable to compete in EEC countries because of the Common External Tariff".[18] Similar complaints have been expressed in the shirtmaking, hosiery and knitting, and leather industry reports. On the other hand, some COIP reports—the electrical machinery and appliances, men's and boys' outerwear, woollen and worsted for example—give the impression that the presence or absence of the CET makes little difference to Ireland's export prospects in the Common Market. Of course, one would not on *a priori* grounds expect all manufactured goods to be equally sensitive to changes in tariffs. Some products, particularly those at the lower quality end of the market, are more price-sensitive than others.

Clearly what is needed is a reliable estimate of the average price elasticity of demand for Irish manufactured exports to the EEC. Unfortunately, no such estimate exists. However, studies of other countries' manufactured exports have succeeded in isolating significant price effects. In this regard one could cite Houthakker and Magee's estimate of price elasticity of demand of −4 for US manufactured goods imports,[19] Kreinin's derived price elasticity of demand of

16. The figure for total tariff revenue in *Tariff Statistics* is based on 1972 rather than 1970 rates of duty. Hence in order to obtain 1970 figures we raised the total provided in *Tariff Statistics* by one-tenth. This estimate serves only as a rough indicator of the order of magnitude of the true amounts levied. Thus, the EEC figures on duties collected include notional sums levied on temporary imports or reimports; at the same time, the amount of special levies obtained from agricultural imports are not included in the *Tariff Statistics*. The authors are indebted to M. Silvio Ronchetti of the Statistical Office of the European Communities for clarification on this point.

17. *Report on Footwear Industry*, Committee on Industrial Progress, 1971, (Prl. 2153), p. 88.

18. *Report on Metal Trades Industry*, Committee on Industrial Progress, 1970, (Prl. 1355), p. 54.

19. H. Houthakker and S. Magee, "Income and Price Elasticities in World Trade", *Review of Economics and Statistics*, May 1969 and references cited therein.

$-3{\cdot}1$ for manufactured imports into the EEC,[20] the substitution elasticities of -3 and greater estimated by Junz and Rhomberg[21] and the many *ex-post* studies of the integration effect of the EEC which point to large and highly significant increases in intra-area trade flows following the removal of national tariff barriers.[22] While in no way minimising the inevitable element of uncertainty attached to this question, the authors adhere to the view that on balance the evidence points to price elasticities in the range $-1{\cdot}5$ to $-3{\cdot}0$ for manufactured goods exports to the main European markets (EFTA, EEC and the UK). Given the fact that Ireland is only one exporter out of many, possessing a minute share of the total market, the export demand elasticity for Irish manufactured goods may well exceed the total market elasticity. Another factor to bear in mind is that the complete removal of the tariff is likely to stimulate exports considerably more than an identical percentage decline in price, since the presence of tariff barriers involves delays at port, uncertainty and inconvenience, and raises psychological barriers to trade in addition to their mere price effect. For all these reasons, therefore, we decided to assume an export demand elasticity of between -3 and -5 for Irish sales to the EEC.

With this elasticity assumption and knowing the average CET on Irish exports, it is possible to obtain a quantitative estimate of the effects of eliminating the CET (1972 level) on our export sales. To do this, we utilise the conventional comparative static formula, taking 1971 exports as our base.[23] The results of this exercise indicate that EEC demand for Irish manufactured exports could be expected to increase by between 25 and 42 per cent, i.e., in 1971 prices, by between £6 million and £10 million. While this sum may appear small, the continued expansion of our export base each year would raise the significance in absolute terms of the percentage change over time. Before coming to a final conclusion on the comparative static effects of the CET's removal, however, the following qualifications must be made.

In the first place, the average tariff estimate, being based on actual export

20. M. E. Kreinin, "Price Elasticities in International Trade", *Review of Economics and Statistics*, November 1967.

21. H. B. Junz and R. R. Rhomberg, "Prices and Export Performance of Industrial Countries 1953–1963," *IMF Staff Papers*, July 1965.

22. For example, Williamson and Bottrill suggest that intra-EEC trade in 1966 was something like 50 per cent greater than it would have been if the EEC had not been created. J. Williamson and A. Bottrill, "The Impact of Customs Unions on Trade in Manufactures", *Oxford Economic Papers*, November 1971, p. 342.

23. The formula is as follows:

$$\frac{\Delta x}{x} = \frac{t}{(1+t)} \cdot \eta$$

where x = volume of Irish exports to the EEC
t = the CET 1972
η = elasticity of demand for Irish exports

weights, gives zero weight to tariffs which are prohibitive and hence, gives systematically greater weight to lower tariffs.[24] Various techniques can be employed to offset this downward bias but none are particularly satisfactory. Han and Liesner, for example, used the arithmetic average of tariffs under each heading of the CET in their study of UK exports but, however defensible in the British context, this method would obviously have little appeal in Ireland's case where the range of goods exported is extremely narrow and where consequently only one of the several duties under each heading may have any real significance (actual or potential).[25] However, the degree of uniformity in the various CET rates has increased noticeably up to 1972[26] and as a result the extent of the bias has correspondingly lessened.

A second source of bias relates to our neglect of tariffs on industrial inputs. In other words, the gain to Irish exporters through duty-free access to European markets could, to some extent, be offset by increased material inputs cost due to the imposition of the CET on goods hitherto imported freely into Ireland from non-member countries. Losses of this nature would certainly be felt; previously non-protected commodities such as cocoa, aluminium, certain textile fabrics, newsprint, etc. will be liable to duty in the EEC. The exact magnitude of the cost increase is impossible to assess. Much will depend on the availability of substitutes within the enlarged EEC;[27] other factors to be taken into account will be the progress towards trade liberalisation made between the European Community and the less developed countries and the final outcome of the trade negotiations between non-applicant EFTA countries and the enlarged EEC. Only a limited number of industrial inputs are likely to be affected in this way by the CET and while the effect on particular industries could be substantial the adverse effects on manufactured exports as a whole will be insignificant.

A third possible source of error in our estimates arises on account of nontariff barriers to trade. EEC membership will not involve the elimination of all obstacles to trade. The Europeans will continue to have different tastes in consumer products and require different standards of styling and colour than their Irish or British counterparts. A frequent *leitmotif* of the COIP reports is the "unsuitability" of many of our products from the design point of view for the European market. Our estimates presuppose a willingness on the part of Irish exporters to alter their products where necessary so as to conform with European standards. Furthermore, we also assume that recourse to nontariff barriers—Government procurement policies, national regulations regarding the measurement and constituents of

24. The tariffs in Table 3 were designed primarily to show the incidence of the CET on Irish exports, not its protective impact.

25. S. S. Han and H. H. Liesner, *Britain and the Common Market*; Cambridge University Press; 1971, Appendix A.

26. *Ibid.*, p. 15.

27. It has recently been suggested that input costs in the EEC may well be considerably less than free trade price multiplied by the nominal tariff as is assumed in discussing this aspect of protection. See Thomas Horst, "The Industrial Composition of U.S. Exports and Subsidiary Sales to the Canadian Market", *American Economic Review*, March 1972, p. 43.

certain products, etc.—will be kept in check by the European Commission and will not be permitted to counteract the trade expanding effects of the CET's removal.[28] To the extent that the Commission succeeds in actually reducing nontariff barriers, however, this will tend to expand exports further than our estimates suggest. Another factor not explicitly taken into account is the possibility that some of our multinational exporting firms may be inhibited from exploiting to the full the new opportunities in the EEC market by the presence of other subsidiaries of the parent firm in that market.

The number of qualifications could be multiplied.[29] It is obviously impossible to incorporate every factor affecting export behaviour into any single and easily applied formula; more research into the determinants of export behaviour is clearly required. Our estimate of the effects of EEC membership on the demand for Irish exports therefore, is to be taken as indicating the order of magnitude of these effects rather than their precise amount. Finally, we may note that the extent to which the increase in the demand for Irish goods is converted into export receipts depends on the supply responses of Irish exporters.[30] Only if constant costs are assumed over the relevant range of output, will the percentage increase in export demand be exactly translated into an equal percentage increase in export receipts. Otherwise we may generally expect a higher percentage increase in export receipts (i.e. expenditure on exports minus tariff revenue).

So far we have confined our attention to existing exporters, i.e. a given export supply function has been assumed. In the remainder of this section we extend the discussion to take into account the possibility of shifts in the export supply function occurring as a direct response to the removal of the CET. It is this effect which may well exercise the dominant influence in the long run.

The extent of the incentive to investment brought about by a tariff reduction can easily be underestimated. This is because tariffs are expressed as a percentage

28. In a revealing passage, *European Community* (April 1972) notes that nontariff barriers "often aim at safeguarding special interests" and hence are extremely difficult to overcome at a community level. Further details on this increasingly topical issue are contained in D. Swann, *The Economics of the Common Market*, Penguin Modern Economics, 1972.

29. For example, the reactions to small changes in price may not be the same as to large changes. Another point to be noted is that the nominal rate of protection on Irish goods entering the EEC market is higher than the nominal tariff owing to the superimposition of the value added tax on the CET. This is a typical border tax adjustment problem. Thus, suppose a French manufacturer and an Irish exporter could supply the same commodity to the French market at a price of £100 under free trade. Now introduce a tariff of 20 per cent. This raises the Irish exporter's price to £120. Assuming a VAT of 20 per cent, the VAT-inclusive price of the French-made commodity will rise to £120, that of the Irish producer to £144. The absolute price difference between the Irish and the French product therefore increases as a result of the VAT's imposition from £20 to £24.

30. The relationship between export receipts and price elasticities of demand and supply is well described by M. J. Harrison, "The Elasticity of Demand for Irish Exports," in A. A. Tait and J. A Bristow (eds.), *Ireland: Some Problems of a Developing Economy*, Gill and Macmillan, 1972. In this particular instance, however, the formula described by Harrison would have to be adjusted to take account of tariffs.

of final output instead of as a percentage of profits. Thus the revenue collected from a low *ad valorem* tariff on final output could constitute a surprisingly high percentage of profits. For example, assuming a profit/final output ratio of 10 per cent, a 5 per cent tariff on exports and export sales worth £200, tariff receipts (£10) would amount to 50 per cent of the manufacturer's profit on exports (£20).

The profit/final output ratio assumed in the above example is not chosen at random. Henry's study based on the 1968 input-output table indicates a net profit/final output ratio in manufacturing industries (excluding food, drink and tobacco) of between 5 and 11 per cent.[31] These figures, however, do not differentiate between profitability ratios on home market sales and exports. An alternative approach is to estimate export profit ratios directly from data on export tax relief in conjunction with export trade statistics. While details of our calculations can safely be relegated to a footnote, it is reassuring to find a high degree of compatability between our estimates and Henry's figures.[32] Export profit/final output ratios are estimated by us to lie in the 6–8 per cent range.

Given a profit/final output ratio on EEC exports of between 6 and 8 per cent, therefore, it is evident that the elimination of an average CET of 9 per cent could increase the profitability of exports by anything from 110 to 150 per cent. This point is unlikely to be lost on foreign industrialists planning to establish subsidiaries in Ireland for the purpose of exporting to the EEC.[33] It also has implications for

31. The source of these figures is E. W. Henry, *Input-Output Studies of the Irish Economy and their Application to Model-building in the Medium Term*, Vol. 2, doctoral dissertation, University College, Dublin, 1971. Although profit ratios can be highly unstable, it is worth noting that Henry's 1968 profit/final output ratio is broadly similar to that of the previous (1964) IO table. The average profit/final output ratio in manufacturing was 5·8 per cent on the basis of the former, 5·6 per cent on the basis of the 1964 table.

32. Data on export tax relief not collected ("lost") are taken from McAleese, "Capital Inflows and Direct Foreign Investment in Ireland 1947–70", *Journal of the Statistical and Social Inquiry Society*, 1971–2 issue (forthcoming). According to official estimates, the average amount of tax "lost" 1969–71 (excluding Shannon) amounts to £9 million. This implies roughly £20 million of total pre-tax profits on exports, assuming a 45 per cent incidence of taxation on profits. The next problem is to calculate the value of tax-relief-eligible exports. Our best estimate was the value of exports of transportable goods industries. This figure slightly underestimates the amount of eligible exports by excluding certain activities which are classified as manufacturing by the Revenue Commissioners for tax purposes. On the other hand, a degree of overestimation is involved since tax relief is extended only to the *increase* in exports over their 1955–56 level, and not to total exports. Average value of tax-eligible exports 1969–71 amounted to £326 million, yielding a profit/final output-ratio of 6·1 per cent. If profits are expressed as a percentage of the increase in average 1969–71 exports since 1956, the profit/final output ratio rises to 7·8 per cent. As a final reservation, we note that profit ratios may differ between export markets—the rate for exports to the EEC may not be the same as those for the UK etc.—but no information on this question could be obtained for this study.

33. Admittedly the simultaneous granting of these market concessions to the UK might intensify competition between that country's development areas and Ireland for the increased supply of foreign investment. Some British commentators anticipate considerable gains in this regard. Yassukovich, for example, claims that "further US investment in Europe will be located to a large extent in the United Kingdom in preference to Continental countries" (John Pinder (ed.), *The Economics of Europe*, Charles Knight, 1971, p. 160).

existing exporters. Thus an Irish manufacturer could in certain circumstances escalate his price to the EEC importer *pari passu* with the fall in the CET and thereby, without in any way endangering the level of his sales, earn a substantially greater profit margin on his exports. Consequently, even if an individual firm's export volume was totally insensitive to the fall in the CET, this would not necessarily diminish the considerable importance from a profitability point of view of the change in tariff levels.

Of course in practice not all of the benefits of the tariff reduction will accrue in the form of increased profits to the manufacturer. Some of the gain could be absorbed by the foreign importer, some in the form of lower prices to the final consumer in the EEC, another part of the gain may be utilised to increase marketing outlay. As already pointed out in theoretical discussions of the distribution of the burden of indirect taxation between consumers and producers, the precise outcome depends very much on the export supply and demand elasticities together with the competitiveness or otherwise of the markets concerned. What we hope to have shown, however, is that the incentive to expand exports whether by price reductions or increased marketing outlay will be more pronounced than would be expected merely by considering the height of the CET in isolation.

One final point may be made before completing the discussion. It is not implied in this article that membership of the EEC was the only conceivable means of achieving tariff-free access to the Common Market. A free trade agreement would also have achieved the same effect. Moreover the US-EEC trade negotiations scheduled for next year may well bring about further reductions in world tariff levels. The adverse effects of the CET on Irish exports could also have been avoided by a realignment of our exchange rate or by a reduction in the rate of inflation in Ireland relative to the EEC countries.[34] By the same token, the advantage gained from the removal of the CET could quite easily be eroded by a higher rate of inflation here than elsewhere.

SUMMARY AND CONCLUSION

Irish manufactured exports to the EEC have increased substantially over the last decade. Their share in total manufactured exports has risen from 3 per cent in 1959 to 12 per cent in 1971. This expansion has occurred in spite of the CET. In fact, the largest absolute and proportionate expansion has occurred in miscellaneous manufactured goods exports on which the CET is highest. It is thought that much of this expansion can be attributed to a relatively small number of firms established during the last decade under the auspices of the IDA.

The average CET on Irish manufactured goods in 1970 was 10·3 per cent. By 1972, when the Kennedy Round tariff reductions are completed, the average CET will have fallen to 9·1 per cent. These figures emerge as slightly higher than those

34. Given a less than infinite elasticity of demand for Irish exports, the welfare significance of the two ways of achieving increased competitiveness—though a reduction in the CET or a reduction in Ireland's terms of trade with the EEC—are quite different. On optimum tariff grounds, the former is preferable to the latter.

cited in the first Government White Paper on the EEC.[35] The results are affected by the assumptions one makes about the US government's willingness to abandon the ASP system of protection, the abolition of which has been made a precondition for any further (CET) tariff reductions in chemicals by the EEC. So far the American authorities have shown little desire to comply with this requirement.

An implication of our results is that roughly £2 million in duties were levied on Irish manufactured exports in 1970. The EEC's total customs receipts in respect of all Irish merchandise exports (agricultural and industrial) for that year probably amounted to £4 million. Extrapolating the growth of manufactured exports and taking account of the CET reductions, one can estimate the amount of duty payable on Irish manufactured exports to the EEC in 1972 as roughly £2·5 million.

Obviously, the mere fact that exports to the EEC have progressed rapidly in the last decade does not imply that the CET is unimportant. Still less does it preclude the possibility that exports would have grown appreciably faster if the CET had not been levied on our products. Had free access to the EEC market been available, foreign investors might have found Ireland a more attractive location; and Irish exporters might have found it easier to make the initial breakthrough into the highly competitive European market. Circumstantial evidence in the COIP reports suggests that the CET did indeed act as a deterrent.

From a macroeconomic view, the effects of the removal of the CET are conventionally calculated in terms of elasticities of demand and supply for exports. On an *a priori* basis one could expect reasonably high elasticities of supply and demand for Irish manufactured exports and hence anticipate a large proportionate increase in exports to the EEC. However, given the low initial base (£23 million), the resultant increases are not large in absolute terms. Clearly there is a need to set one's sights on a longer-term horizon and consider possible changes in the supply function. In particular one would have to examine the likely effect of the CET's removal on foreign investment in export-oriented industries.

To this end, we looked at the CET in relation to profits rather than final output. Viewed in this light, a relatively modest tariff (by Irish standards) of 9 per cent emerges as a very significant percentage of profits. The abolition of the tariff would make the sale of Irish goods in the EEC a vastly more profitable activity than before. Perhaps initially part of the benefit will accrue to the EEC distributor. This will encourage him to intensify his sales campaign for Irish products either by lowering price or by increasing advertising expenditure. Eventually the benefit will percolate back to the Irish exporter. In the case of a foreign subsidiary exporting from Ireland to its parent company or its affiliated companies in the EEC, the profitability of the Irish enterprise increases immediately without any intervention on the part of third-party distributors. It is this increased profitability which would constitute the major drawing force for new investors and new products.

The Economic and Social Research Institute, Dublin.

35. The figure given there is 8 per cent. *Membership of the European Communities*, Government Publications Office (Prl. 1110), 1970, p. 16.

APPENDIX

TABLE 3: *Manufactured Exports to the EEC in 1970 and the Common External Tariff (CET), 1970 and 1972.*

Description	*SITC*	*BTN*	*Exports (£)*	*CET*	
				1970	*1972*
Chemicals	5	—	3,746,097	11·0*	11·0*
Organic Chemicals	5122–4	29.16 IV 29.17	131,575	14·8	14·8
Inorganic Chemicals	5129	28.08 28.13 F	158,067	5·6	5·6
Synthetic Dyestuffs	5310	32.05 A	3,010	12·0	10·0
Dyeing and Tanning Extracts	5321–2	32.04 B	1,773	8·0	8·0
Antibiotics	5413	29.44 D II E	253,590	11·2	11·2
Hormones	5415	29.39 DE	2,016,485	10·4	10·4
Vaccines etc.	5416	29.41	4,287	11·0	11·0
Medicaments	5417	30.03 B II (b)	80,753	11·2	10·4
Essential Vegetable Oils	5511	33.04	121,063	8·0	8·0
Perfumery, Cosmetics	5530	33.06 B	157,701	12·0	12·0
Plastic Materials	5812	39.02 CI (b)	3,128	18·4	18·4
Starches and Glues	5995–6	35.06 A II 35.06 B	471,024	14·0	14·0
Other Chemical Materials (Vitamins etc.)	5999	29.38 29.45	340,400	11·7	11·7
Manufactured Goods Classified by Material	6	—	5,404,113	8·5*	7·5*
Dressed Leather (Bovine)	6114	41.02 B	143,983	8·6	8·0
Other Leather	6119	41.06 41.07	18,310	7·0	5·0
Uppers and Other Parts of Footwear	6123	64.05	98,784	10·8	7·7
Manufactures of Leather	6122–9	42.01	41,824	12·6	9·0
Furskins	6130	43.01 43.02	1,796	2·7	2·2
Materials of Rubber	6210	40.08 A II	24,759	9·8	7·0
Rubber Tyres and Tubes	6291	40.11	351,821	12·6	9·0
Other Articles of Rubber	6299	40.14 II	1,815	9·2	6·0
Veneer Sheets	6311	44.14 B	138,028	7·4	7·0
Plywood	6312	44.15	15,535	13·6	13·0
Wallpaper	6419	48.11 A	149,308	15·4	13·0
Other Paper and Paperboard	6429	48.21 B	6,978	16·0	14·0
Woollen Yarns	6512	53.06 53.07	739,370	5·0	5·0
Cotton Yarns	6513	55.05	7,749	7·5	7·5
Yarns of Flax or Ramie	6515	54.03 B I (a)	438,494	7·9	6·5
Synthetic Yarns	6516	51.01	18,163	10·2	9·0
Regenerated Yarns	6517	56.04	8,623	9·8	9·2

Description	SITC	BTN	Exports (£)	CET	
				1970	1972
Cotton Fabrics n.e.s.	6522	55.09	5,424	15·0	15·0
Woollen Fabrics	6532	53.11	104,284	15·5	15·5
Synthetic Fabrics Woven	6535	51.04	21,385	13·8	13·0
Regenerated Fabrics Woven	6536	51.04	1,756	15·2	15·0
Knitted Fabrics	6537	60.01 B	218,262	13·0	13·0
Embroidery etc.	6540	58.10 B II	12,800	13·0	13·0
Rubberised Textile Fabrics	6554	59.11 A I	5,157	7·8	6·5
Cordage, Ropes etc.	6556	59.04	2,444	13·0	13·0
Bags and Sacks	6561	62.03 A	2,669	8·6	8·0
Blankets, Travelling Rugs	6566	62.01 B	7,892	15·0	14·0
Other Made-up Textiles (Bed Linen)	6569	62.02	28,591	19·0	19·0
Carpeting	6576	58.02 A	139,271	22·1	21·5
Construction Materials	6623	38.19 L ¾ 38.19 T¼	1,194,871	7·0	7·0
Mineral Manufactures n.e.s.	6636	68.16 B	31,355	7·7	5·5
Glass Tablewear	6652	70.13	39,943	18·9	15·5
Articles Made of Glass	6658	70.09 ¾ 70.21 ¼	111,866	14·5	10·4
Household Ware (Ceramic etc.)	6665	69.11 69.12	37,115	17·6	17·6
Ingots and other Primary Forms	6721–9	73.06	12,578	3·8	3·0
Angles, Shapes and Sections	6734–5	73.21	70,000	7·7	5·5
Rails of Iron and Steel	6761	73.16 F	5,580	8·4	7·0
Tubes and Pipes of Cast Iron	6781	73.20 A	2,100	10·0	10·0
Tubes and Pipes of Iron Other than Cast Iron	6782	73.18 C	11,035	11·6	10·0
Copper and Alloys	6821	74.01	381,963	—	—
Wrought Copper	6822	74.07	2,955	8·8	8·0
Aluminium Alloys (wrought and unwrought)	6841	76.01 A B II	25,710	4·5	4·5
Bars, Rods, Angles etc.	6842	76.02	18,055	13·2	12·0
Lead unwrought	6851–2	78.01 A	260,505	3·9	3·4
Finished Structural Products of Iron or Steel	6911	73.32 B II	70,042	12·2	11·0
Finished Structural Products of Aluminium	6912	76.08	293,248	10·5	7·5
Tanks, Vats etc.	6921	73.23	2,196	9·1	6·5
Gauze Netting etc.	6933	73.27	1,149	12·0	10·0
Nuts and Bolts	6941–2	73.32 A	2,553	9·0	8·5
Hand Tools for Agricultural Use	6951	82.01	1,283	8·4	6·0
Safety Razor-blades etc.	6960	82.11	12,970	9·8	7·0
Domestic Stoves, Boilers (non-electric) etc.	6971	73.36 73.37	14,361	10·8	7·7
Domestic Utensils	6972	76.16 C	1,563	13·3	9·5
Articles of Base Metal n.e.s.	6989	73.40	4,543	10·4	8·0

Description	SITC	BTN	Exports (£)	CET 1970	CET 1972
Machinery and Transport Equipment	7	—	3,157,924	9·9*	7·6*
Internal Combustion Engines	7114–5	84.06 C I 2	6,075	12·4	12·0
Agricultural Machinery (incl. parts)	7121	84.24	8,354	6·3	4·5
"	7122	84.25	1,901	6·3	4·5
Office Machinery	7141–9	84.52 A I	56,849	14·0	14·0
Metal Working Machinery	7151–2	84.45	5,250	6·3	4·5
Textile Machinery	7171–2	84.42 B	5,798	7·7	5·5
Sewing Machines	7173	84.41 A II	10,849	8·4	6·0
Paper and Printing Machinery	7182–3	84.32 84.33	72,315	6·6	4·7
Pumps and Centrifuges	7192	84.10 B II	21,325	8·4	6·0
Lifting and Loading Machinery	7193	84.22	346,973	8·7	7·2
Scales and Weights	7194–6	84.20	468,414	8·4	6·0
Ball-bearings etc.	7197	84.62	1,519	12·6	9·0
Machinery, Appliances n.e.s.	7198	85.59 84.61	82,384	8·8	6·5
Parts n.e.s.	7199	84.63	8,001		
Electric Power Machinery	7221	85.01 B II	89,716	8·0	5·7
Parts for TV Sets	7241	85.15	2,073	16·1	13·5
Radio Sets	7242	85.15	49,654	16·1	13·5
Other Telecommunications Apparatus	7249	85.15	39,653	16·1	13·5
Domestic Electric Equipment	7250	85.06	1,119,059	10·5	7·5
Electro-Medical Apparatus	7261–2	90.17	55,378	10·0	8·0
Thermionic Valves and Tubes	7293	85.21 C	88,741	17·0	17·0
Other Apparatus and Parts	7299	85.22 C	292,781	8·8	8·0
Railway Vehicles and Parts	7317	86.10 B	5,230	8·0	6·0
Other Road Motor Vehicles	7322–3	87.04	45,520	18·7	16·5
Other Vehicles n.e.s.	7333	87.1	70,338	9·8	7·0
Second-hand Aircraft	7341	88.02	160,000	7·0	5·0
Aircraft Parts	7349	88.03	22,478	7·0	5·0
Ships and Boats	7353	89.01 B	8,435	7·0	5·0
Manufactured Articles n.e.s.	8		6,608,373	11·6*	9·9*
Central Heating Apparatus	8121	73.37	33,141	11·9	8·5
Furniture	8210	94.03	19,603	11·9	8·5
Clothing, not knitted	8411	61.01	184,294	17·0	17·0
Clothing Accessories	8412	61.05	9,148	14·0	14·0
Clothing Accessories (Leather)	8413	42.03 A C	3,625	10·8	7·7
Clothing Knitted	8414	60.04 A 65.05	1,013,302	17·8	17·0
Headgear	8415	65.05	98,861	13·3	9·5
Footwear	8510	64.02	9,367	11·2	8·0
Medical Instruments	8617	90.17	4,334,483	10·0	8·0
Measuring Instruments n.e.s.	8619	90.25	475,418	11·2	10·0

Description	*SITC*	*BTN*	*Exports (£)*	*CET*	
				1970	*1972*
Watches and Clocks	8641–2	91.11	1,928	7·5	7·5
Gramophones, Records	8911–2	92.11 A III	64,510	10·3	8·5
Pianos, Other Musical Instruments	8914–8	92·01 A I	2,197	12·6	9·0
Books and Pamphlets	8921	49·01	8,336	—	—
Picture Postcards	8924	49·09	30,634	12·6	11·0
Printed Matter n.e.s.	8929	49.11 B	12,401	10·6	9·0
Articles of Plastic Materials n.e.s.	8930	39.07	33,820	17·6	17·6
Children's Toys	8942	97.02 B	5,492	19·2	16·0
Sports Goods	8943–4	97·06 97·07	5,610	13·6	10·7
Pens, Pencils, Fountain Pens	8952	98.05 A	27,030	10·8	7·7
Antiques	8960	99.04–6	26,571	—	—
Jewellery	8971	71.12	6,817	6·3	4·5
Basket-work etc.	8992	96.01	1,976	9·0	9·0
Smoking-pipes, Mechanical Lighters	8993	98.11 B $\frac{1}{3}$ 98.10 B $\frac{2}{3}$	167,026	12·1	10·5
Small Wares n.e.s.	8995	98.12	1,109	9·8	7·0
Other Manufactured Articles n.e.s.	8999	98·12	1,810	12·6	9·0
Total Manufactured Exports	5–8	—	18,916,507	10·3*	9·1*

Source: Computed from *Tarif Douanier des Communautés Européennes, External Trade Statistics,* 1970, *Statistiques Tarifaires,* Table 3 (Office Statistique des Communautés Européennes) 1970.

*Average tariffs, marked by an asterisk, are calculated as weighted averages, the weights for each product's tariff being proportional to the product's share in total exports.

Notes:

1. Reductions in EEC duties on chemicals are conditional on the suspension of the ASP system by the United States government. Up to now the United States has steadfastly refused to abandon this system and hence no reduction in the 1972 CET is recorded for the relevant chemicals and chemical products.

2. The sum of the exports of individual items to the EEC and the section totals are not identical because small export values to individual countries are not recorded separately in the published trade statistics but are included in the omnibus "other countries" category and hence do not appear in our totals of disaggregated items. The discrepancy involved here is extremely small however. Total export to the EEC exceeded the sum of the disaggregated items by only £65,000, i.e., we were able to allocate 99·7 per cent of exports to the EEC.

3. Where specific duties apply, the *ad valorem* incidence of the duty is taken from *Statistiques Tarifaires.* In all cases, the result was compared with our own estimates based on export unit values as a counter check. Only minor discrepancies were found on this basis. For example, we estimated a 2·2 per cent duty on lead (6851-2) compared with the ST's 3·9 per cent.

4. The inclusion of more than one BTN heading for an SITC item means that an unweighted arithmetical average of the BTN duties is taken. If, on the other hand, trade data are sufficiently detailed to permit weighting, the weights ascribed to each BTN heading are indicated in parentheses, weights being proportional to value of Irish exports to the EEC.