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# JOURNAL OF THE

## Northeastern Agricultural Economics Council

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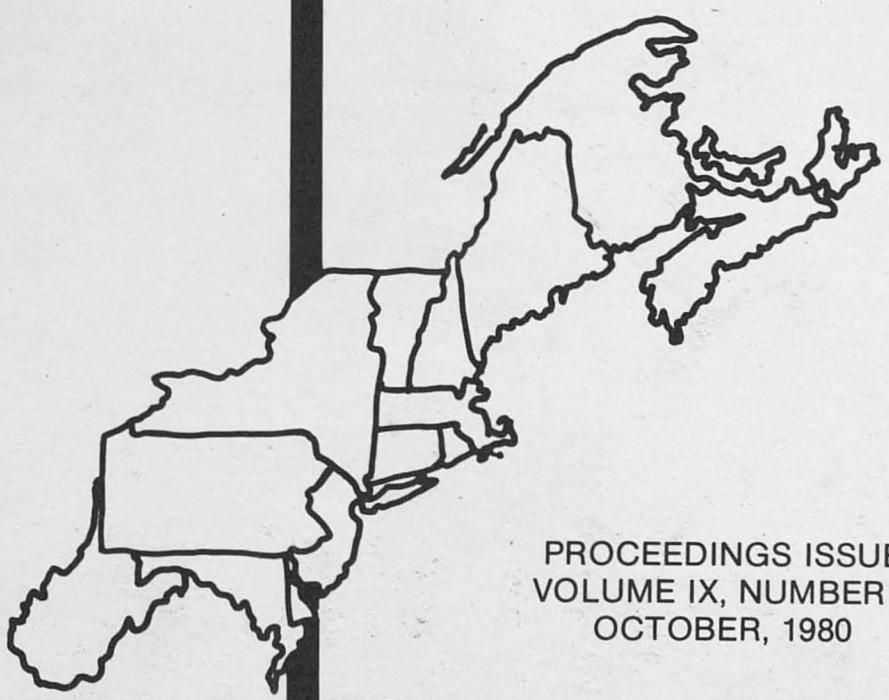

PROCEEDINGS ISSUE
VOLUME IX, NUMBER 2
OCTOBER, 1980

# EXPORT PROMOTION AND TRADE ADJUSTMENT ASSISTANCE PRIORITIES IN THE NORTHEAST

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## INTRODUCTION

During the past decade, the significance of international trade for the United States' economy has changed dramatically. In 1970, merchandise exports were $43 billion and accounted for five percent of the Gross National Product (GNP); merchandise imports amounted to $40 billion (U.S. Department of Commerce, Bureau of Economic Analysis). By 1977, such exports had increased to almost $120 billion and imports to $150 billion, in both cases a rate of increase almost double that for GNP over the same period.

The deficit of just over $2 billion in 1971 ended a period of over 27 years of uninterrupted favorable materials trade balances for the United States (U.S. Government). With the exception of 1973 and 1975, when small trade surpluses were registered, the 1970's have seen the balance of trade deteriorate, despite a growing trade surplus in agricultural commodities. Much of the deterioration is explained by the country's increased dependence on foreign oil.

The deterioration in the U.S. balance of trade has been accompanied by increased protectionist pressures from a number of domestic industries. Although the Carter Administration has acted in response to some of these pressures, the U.S. will have to live with higher levels of imports for some commodities. Too great a protectionist attitude could invite retaliation and threaten U.S. exports. Furthermore, foreign competition may help reduce domestic inflation.

Trade Adjustment Assistance, first introduced in the Trade Expansion Act of 1962 [P.L. 87-794] and expanded in the 1974 Trade Act [P.L. 93-618], attempts to deal with the problems created by increased import competition. Assistance is available to help businesses remain competitive or invest in related production alternatives and is also available to workers who lose their jobs as a result of import competition. Between 1962 and 1974, adjustment assistance expenditures totaled $45 million. The 1974 Trade Act expanded the benefit package, simplified the procedures for obtaining assistance, and liberalized eligibility criteria (Neumann). As a result, between 1975, the Trade Act's initial year of operation, and July of 1977, adjustment assistance payments were more than six times as large as during the prior 13 years under the Trade Expansion Act (New York Times).

The Administration's National Export Policy, announced in September 1978, is designed to assist U.S. industries to compete in foreign markets. An important characteristic of the program is its emphasis on assistance to small businesses, both in terms of financial aid and loan guarantees and an expansion of the international trade services offered by various government agencies. The Small Business Administration (SBA) is to channel up to $100 million of its loan guarantees to small export businesses and $20 million of the Commerce and State Departments' budgets are earmarked to assist small and medium-sized businesses in their marketing efforts abroad (U.S. Government, p. 62).

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The strategy recognizes the significance of small businesses in the U.S. economy. It is estimated, for example, that in 1975, over 95 percent of the more then 4.1 million manufacturing establishments in the country had fewer than 250 employees. These firms, which account for over two-thirds of all manufacturing employment, fall within the SBA classification of small businesses (U.S. Department of Commerce, 1978a; Office of the Federal Register).[1] According to MIT economist David Birch, small companies are currently the country's most important source of new jobs. He estimates that two-thirds of all the new jobs being created are in companies with fewer than 20 employees.

While this evidence supports a small business focus in trade policy, there are potentially a large number of individual firms that may wish to participate in trade promotion or assistance programs, and it may be difficult to meet their demands for financial and technical assistance. Thus, it is important to develop criteria for allocating program resources among industries. Three criteria seem to be particularly important: a) the industry's contribution to national or regional employment; b) the industry's trade prospects, in terms of its ability to supply foreign markets or adjust to increased foreign competition; and c) the importance of small businesses in the overall size structure of the industry.

The remainder of this paper develops empirical measures for these three criteria and applies them to the Northeast.[2] Its purpose is to identify a number of "priority" industries upon which limited available program resources may be concentrated. Implicit in the procedure is the assumption that the SBA and other federal agencies will allocate these funds largely on a regional basis. The degree of correspondence between regional and national priorities is also evaluated.

## CRITERIA FOR TRADE PROGRAM PRIORITIES

The use of the three criteria suggested above to establish trade program priorities depends on the availability of detailed information on industrial structure, trade patterns, and the size distribution of firms. When this study was initiated the most recent information available on industrial structure and size distribution was for 1975, and for trade patterns was for 1976. Use of the 1976 trade data is desirable since they do not relate to a year of economic recession. The 1975 employment data may suffer from this limitation but the degree of bias introduced is probably not significant.

[1]The data on size distribution are based on establishments rather than firms. To the extent that some firms may have a number of small establishments whose combined employment exceeds the limit set by SBA for classification as a "small" business, these figures probably overstate slightly the importance of small businesses in the nation or a particular region. In spite of this limitation, it is necessary to equate firms and establishments throughout the paper.

[2]Because much of the funding for export promotion is through SBA, the Northeast is defined to include SBA Regions I and II, with the exception of Puerto Rico and the Virgin Islands. The states included are New York, New Jersey, Massachusetts, New Hampshire, Rhode Island, Maine, Vermont, and Connecticut. Puerto Rico and the Virgin Islands were excluded because the bulk of their exports are typically destined for markets in the continental United States. See Blandford and Boisvert.

**Industrial Structure and Employment**

There are three dominant trends in U.S. international trade that influence the choice of industries for analysis. These are: an increasingly strong agricultural export sector, rapidly expanding oil imports and a rising demand for manufactured exports, combined with increased import competition for a number of manufacturing industries. Increasing oil imports are perhaps more important for the Northeast than for the rest of the nation. Higher priced energy affects the costs of production in every sector. Furthermore, in all coastal states, the possibility of future employment in expanded refinery capacity for imported oil cannot be discounted; nor can employment and trade expansion resulting from the development of alternative energy sources. Forecasting such future developments is, however, beyond the scope of this paper.

Although agricultural exports are extremely important from a national perspective, they constitute only a small fraction of the exports of the Northeast. In 1977, for example, the region's agricultural exports were estimated at $215 million. New York ranked highest among all states in the Northeast, but was only 35th among all the states in the nation in terms of value of agricultural exports. In contrast, total exports of the manufactured products in the region in 1976 reached nearly $13.5 billion. New York ranked 5th among all states in the nation in terms of value of exports of manufactured goods, while four of the eight Northeastern states (New York, New Jersey, Massachusetts, and Connecticut) were among the top 15 nationally (U.S. Department of Commerce, 1978b, 1978c). The overwhelming importance of manufactured goods in the Northeast's exports suggests that any export promotion program designed to complement its existing economic structure must focus primarily on manufacturing.

Table 1 contains a summary of industrial structure on the basis of the 1972 Standard Industrial Classification (SIC) at the 2-digit level in both the United States and the Northeast. In 1975 nearly 19 percent of U.S. manufacturing employment was in the Northeast region. Manufacturing accounted for 30 percent of total nonagricultural employment in the region, the same proportion as in the nation as a whole. More importantly, regional employment in three sectors at the 2-digit level (SIC 31, 38, and 39), accounted for more than 35 percent of national employment; 6 additional 2-digit sectors include more than 20 percent of national employment. From a regional perspective, 48 percent of manufacturing employment is found in five of the 2-digit sectors (SIC 23, 27, 34, 35, 36). Because none of these sectors accounts for over 30 percent of their respective national employment, and only three account for more than 20 percent of national employment, trade policies directed at any of these aggregate sectors would have differential significance at the regional and national level.

Even if the national and regional significance of 2-digit sectors coincided exactly, two factors make if difficult to examine international trade opportunities based on sector aggregates. First, unless the variety of items produced by the individual industries within an aggregate is explicitly recognized, export promotion programs are likely to be too general to be effective. Second, within each of the 2-digit sectors, some particular industries may be relatively unimportant. On the other hand, a seemingly unimportant aggregate sector may include an industry that is extremely important in terms of employment and export potential.

Table 2 contains employment data for 45 industries at the 4-digit level. Each of these industries employed at least 12,000 persons in 1975. This is an arbitrary cut-off point, but it represents an attempt to define industries whose contribution to the Northeast's economy is great enough for them to be potential targets for trade-related federal programs.

**Table 1.**
1975 Manufacturing Employment

| 1972 SIC Code | Sector Name | *United States* Rank | 1975 Employment | 2-Digit as Percent of Total | *Northeast* Rank | 1975 Employment | 2-Digit as Percent of Total | 2-Digit as Percent of Same Sector of U |
|---|---|---|---|---|---|---|---|---|
| 20 | Food and Kindred Products | 4 | 1,452,444 | 8.4 | 8 | 177,432 | 5.5 | 12.2 |
| 21 | Tobacco Manufacturers | 20 | 66,119 | 0.4 | 20 | 758 | a | 1.1 |
| 22 | Textile Mill Products | 10 | 812,259 | 4.7 | 14 | 119,336 | 3.7 | 14.7 |
| 23 | Apparel and Other Textiles | 6 | 1,185,550 | 6.9 | 3 | 300,580 | 9.2 | 25.4 |
| 24 | Lumber and Wood Products | 14 | 568,116 | 3.3 | 18 | 43,053 | 1.3 | 7.6 |
| 25 | Furniture and Fixtures | 17 | 395,184 | 2.3 | 17 | 51,151 | 1.6 | 12.9 |
| 26 | Paper and Allied Products | 12 | 585,344 | 3.4 | 12 | 129,646 | 4.0 | 22.1 |
| 27 | Printing and Publishing | 8 | 1,081,730 | 6.3 | 4 | 268,506 | 8.3 | 24.8 |
| 28 | Chemicals and Allied Products | 9 | 839,116 | 4.9 | 9 | 176,745 | 5.4 | 21.1 |
| 29 | Petroleum and Allied Products | 19 | 145,291 | 0.8 | 19 | 10,258 | 0.3 | 7.1 |
| 30 | Rubber and Plastic Products | 11 | 587,951 | 3.4 | 13 | 120,050 | 3.7 | 20.4 |
| 31 | Leather and Leather Products | 18 | 225,870 | 1.3 | 16 | 84,405 | 2.6 | 37.4 |
| 32 | Stone, Clay and Glass Products | 13 | 576,648 | 3.3 | 15 | 91,396 | 2.8 | 15.8 |
| 33 | Primary Metals | 7 | 1,156,257 | 6.7 | 11 | 136,293 | 4.2 | 11.8 |
| 34 | Fabricated Metal Products | 5 | 1,400,876 | 8.1 | 5 | 245,175 | 7.5 | 17.5 |
| 35 | Machinery, Except Electrical | 1 | 2,076,434 | 12.0 | 1 | 375,132 | 11.5 | 18.1 |
| 36 | Electric and Electronic Equipment | 3 | 1,572,884 | 9.1 | 2 | 371,226 | 11.4 | 23.6 |
| 37 | Transportation Equipment | 2 | 1,588,215 | 9.2 | 7 | 195,268 | 6.0 | 12.3 |
| 38 | Instruments and Related Products | 15 | 517,752 | 3.0 | 6 | 206,478 | 6.4 | 39.9 |
| 39 | Miscellaneous Manufacturing | 16 | 405,116 | 2.3 | 10 | 148,224 | 4.6 | 36.6 |
| | Totals | NA | 17,239,196 | 100 | NA | 3,251,112 | 100 | 18.9 |

Sources: U.S. Department of Commerce, 1977 a-h, 1978a.

a = less than 0.1 percent
NA = not applicable

**Table 2.**
Employment in Selected Manufacturing Industries in the Northeast and their National Trade Performance

| 1972 SIC Code | Industry Name | Northeast[1] 1975 Employment | Rank | US Rank | Δ(I/S)[2] 1976/72 | Δ(E/S)[3] 1976/72 | Relative Trade[4] Performance | Size Structure[5] |
|---|---|---|---|---|---|---|---|---|
| 35 | Machinery, Except Electrical | 375,132 | (44)[6] | | | | | |
| 3511 | Turbines, turbine generator sets | 18,765 | 41 | 106 | 1.4 | 2.8 | Positive+ | 58 |
| 3541 | Machine tools, metal cutting types | 19,716 | 36 | 66 | 1.6 | 1.1 | Negative+ | 86 |
| 3559 | Special industry machinery, nec. | 21,972 | 27 | 53 | 0.8 | 1.5 | Positive | 88 |
| 3562 | Ball and roller bearings | 22,219 | 26 | 97 | 0.9 | 1.3 | Positive | 46 |
| 3573 | Electronic computing equipment | 48,170 | 7 | 11 | NA | 1.2 | Positive | 63 |
| 3579 | Office machinery, nec. | 14,618 | 58 | 140 | 1.2 | 1.2 | NA | 72 |
| 3585 | Refrigeration and heating equipment | 20,080 | 32 | 22 | NA | 1.8 | Positive | 79 |
| 36 | Electric and Electronic Equipment | 371,226 | (56) | | | | | |
| 3613 | Switchgear and Switchboard Apparatus | 12,421 | 66 | 69 | NA | 2.0 | Positive | 76 |
| 3621 | Motors and generators | 14,834 | 57 | 48 | 1.2 | 1.8 | Positive+ | 69 |
| 3643 | Current carrying wiring devices | 16,344 | 50 | 121 | 1.5 | 1.4 | Negative+ | 74 |
| 3662 | Radio and T.V. communication equipment | 102,642 | 1 | 5 | 4.0 | 1.7 | Negative+ | 74 |
| 3674 | Semiconductors and related devices | 28,847 | 17 | 38 | 1.9 | 1.7 | Negative+ | 75 |
| 3679 | Electronic components, nec. | 34,025 | 11 | 43 | 2.1 | 1.5 | Negative+ | 89 |
| 23 | Apparel and Other Textiles | 300,580 | (23) | | | | | |
| 2311 | Men's and boy's suits and coats | 26,999 | 21 | 40 | 1.9 | NA | Negative | 76 |
| 2331 | Women's and misses' blouses and waists | 12,293 | 69 | 80 | 1.3 | NA | Negative | 95 |
| 2337 | Women's and misses' suits and coats | 30,024 | 15 | 83 | 1.4 | NA | Negative | 95 |
| 27 | Printing and Publishing | 268,506 | (10) | | | | | |
| 2731 | Book publishing | 26,785 | 22 | 85 | 0.8 | 1.2 | Positive | 89 |
| 34 | Fabricated Metal Products | 245,175 | (19) | | | | | |
| 3443 | Fabricated plate work (boiler shops) | 12,850 | 64 | 27 | NA | 1.4 | Positive | 92 |
| 3484 | Small arms | 16,275 | 52 | 244 | 0.5 | 1.0 | Positive+ | 39 |
| 3494 | Valves and pipe fittings | 17,830 | 42 | 39 | 1.6 | 1.5 | Negative+ | 75 |
| 38 | Instruments and Related Products | 206,478 | (88) | | | | | |
| 3811 | Engineering and scientific instruments | 16,726 | 46 | 100 | 1.0 | 1.2 | Positive | 84 |
| 3823 | Process control instruments | 12,398 | 67 | 139 | NA | 1.2 | Positive | 78 |
| 3825 | Instruments to measure electricity | 14,984 | 56 | 72 | NA | 1.2 | Positive | 80 |
| 3841 | Surgical and medical instruments | 17,692 | 44 | 108 | 1.5 | 1.4 | Negative+ | 77 |
| 3842 | Surgical appliances and supplies | 13,875 | 60 | 99 | 1.4 | 1.3 | Negative+ | 88 |
| 3851 | Ophthalmic goods | 16,346 | 49 | 183 | 1.6 | 1.6 | NA | 83 |
| 3861 | Photographic equipment and supplies | 72,716 | 3 | 35 | 1.3 | 1.2 | Negative+ | 84 |
| 3873 | Watches, clocks and watchcases | 16,489 | 47 | 147 | 1.7 | 10.0 | Positive+ | 77 |
| 37 | Transportation Equipment | 195,268 | (81) | | | | | |
| 3711 | Motor vehicles and car bodies | 16,286 | 51 | 6 | 1.1 | 1.8 | Positive+ | 66 |
| 3714 | Motor vehicle parts and accessories | 27,914 | 18 | 3 | 1.1 | 1.2 | Positive+ | 83 |
| 3721 | Aircraft | 39,349 | 10 | 7 | 1.0 | 1.3 | Positive | 54 |
| 3724 | Aircraft engines and engine parts | 54,178 | 6 | 29 | 0.6 | 1.1 | Positive | 55 |
| 3728 | Aircraft equipment, nec. | 19,717 | 35 | 25 | 0.6 | 1.4 | Positive | 82 |
| 28 | Chemicals and Allied Products | 176,745 | (12) | | | | | |
| 2869 | Industrial organic chemicals, nec. | 20,735 | 30 | 42 | 1.2 | 1.1 | Negative+ | 68 |
| 39 | Miscellaneous Manufacturing | 148,224 | (51) | | | | | |
| 3911 | Jewelry, precious metal | 21,362 | 28 | 146 | 2.2 | 1.4 | Negative+ | 96 |
| 3944 | Games, toys and children's vehicles | 15,248 | 54 | 116 | 1.3 | 1.8 | Positive+ | 87 |
| 3961 | Costume jewelry | 18,902 | 40 | 213 | 1.5 | 2.5 | Positive+ | 93 |

*Table continues next page*

Sources: U.S. Department of Commerce, 1972a,b, 1976a,b, 1977a-h, 1978a.

NA = not applicable

[1]Estimates of employment were derived using size distribution at the 4-digit level and average employment in each size category for all manufacturing. Estimates were adjusted to ensure consistency with 2-digit totals. The industries included in this table are those in which employment is 12,000 persons or greater, and for which the values of imports or exports in either 1972 or 1976 were greater than 5 percent of the value of domestic production (shipments). Industries which do not meet these criteria were excluded either because of their limited significance in terms of employment or in terms of their contribution to foreign trade. Listed industries are ranked from high to low on the basis of manufacturing employment in the Northeast and the nation.

[2]This is the 1976 ratio of imports to domestic shipments divided by the 1972 ratio of imports to domestic shipments.

[3]This is the 1976 ratio of exports to domestic shipments divided by the 1972 ratio of exports to domestic shipments.

[4]Relative trade performance is:
positive if $\Delta(I/S) \leq 1$ and $\Delta(E/S) > 1$, the ratios indicate an improvement in the trade balance; negative if $\Delta(I/S) > 1$ and $\Delta(E/S) \leq 1$, the ratios indicate a worsening of the trade balance; and positive*[negative*] if $\Delta(I/S)$ and $\Delta(E/S)$ are both greater than 1 or less than 1 and $\Delta(E/S) > \Delta(I/S)$ [$\Delta(E/S) < \Delta(I/S)$]. These cases are ambiguous because exports and imports as a fraction of shipments are moving in the same direction. These changes have opposite effects on the trade balance, but because of the valuation problem one can only infer whether the relative shift is favorable [unfavorable].

[5]Percentage of firms with fewer than 100 employees.

[6]Number in parentheses is the percent of 2-digit employment represented by listed 4-digit industries.

**Table 2 (continued).**
Employment in Selected Manufacturing Industries in the Northeast and their National Trade Performance

| 1972 SIC Code | Industry Name | Northeast[1] 1975 Employment | Rank | US Rank | Δ(I/S)[2] 1976/72 | Δ(E/S)[3] 1976/72 | Relative Trade[4] Performance | Size Structure[5] |
|---|---|---|---|---|---|---|---|---|
| 3999 | Manufacturing industries, nec. | 19,819 | 33 | 71 | 0.9 | 1.3 | Positive | 96 |
| 33 | Primary Metals | 136,293 | (14) | | | | | |
| 3312 | Blast furnaces and steel mills | 19,720 | 34 | 1 | 0.9 | 1.3 | Positive | 61 |
| 26 | Paper and Allied Products | 129,646 | (25) | | | | | |
| 2621 | Paper mills, except building paper | 32,096 | 14 | 24 | 0.9 | 1.4 | Positive | 46 |
| 30 | Rubber and Plastic Products | 120,050 | (15) | | | | | |
| 3069 | Fabricated rubber products | 17,734 | 43 | 45 | NA | 1.4 | Positive | 80 |
| 32 | Stone, Clay and Glass Products | 91,396 | (14) | | | | | |
| 3291 | Abrasive products | 13,089 | 62 | 190 | 1.1 | 1.2 | Positive+ | 80 |
| 31 | Leather and Leather Products | 84,405 | (41) | | | | | |
| 3143 | Men's footwear, except athletic | 13,933 | 59 | 98 | 1.2 | NA | Negative | 33 |
| 3144 | Women's footwear, except athletic | 20,470 | 31 | 87 | 1.5 | NA | Negative | 53 |
| 24 | Lumber and Wood Products | 43,053 | (31) | | | | | |
| 2499 | Wood products, nec. | 13,482 | 61 | 82 | 1.1 | 1.7 | Positive+ | 96 |

Sources: U.S. Department of Commerce, 1972a,b, 1976a,b, 1977a-h, 1978a.

NA = not applicable

[1]Estimates of employment were derived using size distribution at the 4-digit level and average employment in each size category for all manufacturing. Estimates were adjusted to ensure consistency with 2-digit totals. The industries included in this table are those in which employment is 12,000 persons or greater, and for which the values of imports or exports in either 1972 or 1976 were greater than 5 percent of the value of domestic production (shipments). Industries which do not meet these criteria were excluded either because of their limited significance in terms of employment or in terms of their contribution to foreign trade. Listed industries are ranked from high to low on the basis of manufacturing employment in the Northeast and the nation.

[2]This is the 1976 ratio of imports to domestic shipments divided by the 1972 ratio of imports to domestic shipments.

[3]This is the 1976 ratio of exports to domestic shipments divided by the 1972 ratio of exports to domestic shipments.

[4]Relative trade performance is:
positive if $\Delta(I/S) \leq 1$ and $\Delta(E/S) > 1$, the ratios indicate an improvement in the trade balance; negative if $\Delta(I/S) > 1$ and $\Delta(E/S) \leq 1$, the ratios indicate a worsening of the trade balance; and positive$^+$ [negative$^+$] if $\Delta(I/S)$ and $\Delta(E/S)$ are both greater than 1 or less than 1 and $\Delta(E/S) > \Delta(I/S)$ [$\Delta(E/S) < \Delta(I/S)$]. These cases are ambiguous because exports and imports as a fraction of shipments are moving in the same direction. These changes have opposite effects on the trade balance, but because of the valuation problem one can only infer whether the relative shift is favorable [unfavorable].

[5]Percentage of firms with fewer than 100 employees.

[6]Number in parentheses is the percent of 2-digit employment represented by listed 4-digit industries.

**Trade Prospects**

The 45 industries listed in Table 2 are also those in the Northeast for which foreign trade is potentially important. Because regional import/export data do not exist, potential importance was identified on the basis of national information. International trade was defined to be unimportant for an industry if the ratios of both imports and exports to domestic shipments in 1972 and 1976 were less than 0.05.[3]

The next step is to evaluate future trade prospects for these industries. Theoretically, this could be done by utilizing trade information at the state, regional, national or world level. While trade statistics at the state or regional level indicate historical participation, they do not necessarily reflect current or future trade potential. Simply because a particular industry in a region has not been active in international markets, does not imply that the potential for doing so does not exist. It seems preferable to use national information to evaluate future trade prospects.

It is tempting to use current values of imports and exports as an indicator of trade potential, but a one year "snapshot" of trade patterns cannot distinguish among those products whose trade has grown in the past and then stabilized, and those that are expanding at the present time. Trends in the values of imports and exports are equally misleading, in the sense that they are too sensitive to general inflation and do not account for changes in relative prices of commodities.

To circumvent the valuation problem, changes in the value of exports and imports between 1972 and 1976 have been compared to changes in the value of manufacturing production (domestic shipments) over the same period. To illustrate, consider special industrial machinery (SIC 3559) in Table 2. In this case, the ratio of imports to shipments in 1976 was lower than in 1972, thus, the value of imports increased more slowly during this period than the value of production. This information is summarized in the table by the indicator $\Delta(I/S)$, which is the 1976 ratio of imports to domestic shipments divided by the corresponding ratio for 1972. Since $\Delta(I/S)$ is less than unity (0.8) it is reasonable to infer that the U.S. was importing relatively less special industrial machinery in 1976 than in 1972. Import competition decreased. The relative position of the industry in terms of imports improved.

Exports may be analyzed in an analogous fashion. Because the 1972 ratio of exports to shipments is less than the 1976 ratio of exports to shipments, the indicator $\Delta(E/S)$ for SIC 3559 is greater than unity. The value of exports rose faster than the value of shipments; it is reasonable to infer that the U.S. was exporting relatively more special industrial machinery in 1976 than in 1972. Exports had expanded in relative terms.

[3]Manufacturing industries in the Northeast employing at least 12,000 persons in 1975 accounted for 56 percent of all manufacturing employment. The 45 industries in table 2 account for 33 percent of total manufacturing employment.

These ratios form the basis for an overall evaluation of trade prospects at the 4-digit SIC level. If $\Delta(I/S)$ is less than unity and $\Delta(E/S)$ exceeds unity, then imports relative to domestic shipments have fallen and exports relative to domestic shipments have increased. The change in the overall trade position is therefore "positive." If $\Delta(I/S)$ is greater than unity and $\Delta(E/S)$ is less than unity, the situation is reversed and the change in the trade position is "negative." When both indicators are either greater than *or* less than unity, the net change in the trade position is ambiguous. For example, if both indicators exceed unity, both exports and imports have increased relative to shipments. The former implies an improvement in the trade position while the latter suggests deterioration. The ambiguity is compounded by yet another valuation problem. The absolute values of exports and imports in available sources of statistics are not strictly comparable. Exports are valued at U.S. ports while imports are valued in foreign ports of origin. To ensure comparability, an estimate of transport costs to the United States would have to be derived for imports.

Despite these difficulties, a tentative judgment on changes in the overall trade position is made. For example, in the case of motors and generators (SIC 3621) both indicators are greater than one but $\Delta(E/S)$ exceeds $\Delta(I/S)$. This has been interpreted as a "positive" change in the trade position.

**Size Structure**

A final factor is the prevalence of small businesses in the industries. The choice of an employment criterion to define small businesses is not a simple matter. For different purposes (e.g., loans or government procurement) the SBA itself often uses different size criteria for the same industry. Because the President's proposed export promotion program concentrates on loans and loan guarantees, one relevant classification would seem to be the equivalent size standards currently used for determining the eligibility of manufacturing firms for SBA loans and other forms of financial assistance (Office of the Federal Register, pp. 283-86). These standards range from 250 to 1,500 employees, reflecting the fact that a firm which may be considered large in one industry may be relatively small in another industry.

In the context of trade-related programs, there may be some justification for an absolute rather than a relative indicator of smallness. Regardless of the type of industry, there is probably some minimum firm size, as measured by employment, necessary for the effective development of export markets without public assistance. The ability to adjust to import competition may also be more directly related to absolute size than to type of industry. Because program resources are likely to be limited, effective use of available finance requires that industries with the greatest "degree of smallness" be identified. Although the choice of any criterion is arbitrary, a standard of fewer than 100 employees is used as the primary indicator of the importance of small businesses. This standard seems to differentiate effectively on the basis of size structure, and was among those recommended for use in studying business problems at a Small Business Data Needs Workshop sponsored by SBA, November 8, 1978. The percentage of firms with fewer than 100 employees is given in Table 2.[4]

[4]This criterion does not necessarily guarantee that employment in these firms accounts for the majority of total employment in the industry. The proportion of industry employment in small business could be adopted as an additional criterion for allocating program resources. Because data are unavailable in many cases, this would require extensive estimation.

## FOREIGN TRADE PRIORITY INDUSTRIES

By combining the three criteria outlined above: contribution to employment, trade prospects, and prevalence of small businesses, foreign trade "priority" industries can be identified for the Northeast. According to the criteria adopted, an industry should be given priority in the development of export promotion programs if: a) total employment in the industry is over 12,000 persons; b) trade performance (prospects) is "positive;" and c) the proportion of firms (establishments) with less than 100 employees is at least 75 percent. The identification of an import priority industry is also based on (a) and (c) but involves "negative" trade performance (prospects).

On the basis of these criteria, 11 export priority industries and three import priority industries are identified. Details on employment and size structure in these industries are given in Table 3. Total employment in the industries in 1975 was almost 265 thousand persons or roughly eight percent of total regional manufacturing employment. The industries were made up of just over 4,600 firms, 90 percent of which had less than 100 employees in 1975.

Employment in the 11 export priority industries in 1975 was approximately 195,000, or roughly six percent of all manufacturing employment in the Northeast and 18 percent of the employment in the industries where trade is a non-negligible proportion of domestic shipments (Table 2). Of the 3,068 firms involved, 88 percent have fewer than 100 employees. Over 64 percent of the firms have fewer than 20 employees. Seven of the eleven industries are involved in the manufacture of relatively high technology items such as machinery or scientific instruments. Three of the industries represented are in SIC 2-digit sectors for which the Northeast accounts for over 35 percent of employment nationally.

Employment in the three import priority industries is only 35 percent of that in the export priority group. Just over 91 percent of all businesses in the group have fewer than 100 employees; roughly 47 percent have fewer than 20 employees. All firms in the import priority group are in the garment industry. Although the Northeast's share of total national employment in this industry has been declining; it is still over 25 percent. Thus as import competition, particularly from developing countries, continues to intensify the Northeast still faces significant adjustment problems.

Although it is realistic to assume that federal trade-related assistance would be administered on a regional basis and would recognize regional priorities, it is important to consider the extent to which these priorities would contribute to maximizing the net gain from trade at the national level e.g., benefits from trade expansion less the costs of import adjustment. It is difficult to evaluate fully this issue but a first approximation is to compare export/import priorities in the Northeast with these at the national level, based on similar criteria. Table 4 contains national trade priority industries. The criteria on which they were selected differ in only one respect from those employed for the Northeast. Because manufacturing employment in the Northeast is approximately one-fifth that of the nation, the employment criterion was set at 60,000 employees. On this basis 10 export priority and 2 import priority industries were identified. Both of the import priority industries are included in the Northeast list and 7 of the export industries are also included in the list. This significant degree of correspondence illustrates that at least in industries dominated by small businesses, national and regional interests can be accommodated simultaneously.

**Table 3.**
Export and Import Priority Industries in the Northeast

| 1972 SIC Code | Industry Name | Employment | Total # of Firms | # of Firms by Employment Size Class 1-4 | 5-19 | 20-99 | 100-249 | 250-499 | Over 500 |
|---|---|---|---|---|---|---|---|---|---|
| | *Export Priority Industries*[1] | | | | | | | | |
| 2731 | Book Publishing | 26,785 | 489 | 186 | 153 | 96 | 28 | 12 | 14 |
| 3559 | Special Industry Machinery, nec. | 21,972 | 324 | 87 | 113 | 85 | 20 | 9 | 10 |
| 3585 | Refrigeration and Heating Equipment | 20,080 | 122 | 19 | 37 | 40 | 12 | 8 | 6 |
| 3999 | Manufacturing Industries, nec. | 19,819 | 968 | 400 | 360 | 174 | 26 | 6 | 2 |
| 3728 | Aircraft Equipment, nec. | 19,717 | 109 | 19 | 43 | 27 | 12 | 6 | 2 |
| 3069 | Fabricated Rubber Products | 17,734 | 244 | 51 | 71 | 74 | 31 | 12 | 5 |
| 3811 | Engineering and Scientific Instruments | 16,726 | 204 | 49 | 63 | 60 | 20 | 8 | 4 |
| 3825 | Instruments to Measure Electricity | 14,984 | 168 | 40 | 41 | 53 | 23 | 4 | 7 |
| 3443 | Fabricated Plate Work (Boiler Shops) | 12,850 | 240 | 45 | 85 | 90 | 11 | 5 | 4 |
| 3613 | Switchgear and Switchboard Apparatus | 12,421 | 123 | 26 | 26 | 42 | 16 | 7 | 6 |
| 3823 | Process Control Instruments | 12,398 | 77 | 14 | 21 | 25 | 10 | 3 | 4 |
| | Sub-total | 195,486 | 3,068 | 936 | 1,013 | 766 | 209 | 80 | 64 |
| | *Import Priority Industries*[1] | | | | | | | | |
| 2337 | Women's and Misses' Suits and Coats | 30,024 | 890 | 160 | 264 | 424 | 34 | 6 | 2 |
| 2311 | Men's and Boys' Suits and Coats | 26,999 | 293 | 59 | 77 | 88 | 38 | 21 | 10 |
| 2331 | Women's and Misses' Blouses and Waists | 12,293 | 354 | 40 | 122 | 173 | 16 | 3 | 0 |
| | Sub-total | 69,316 | 1,537 | 259 | 463 | 685 | 88 | 30 | 12 |
| | Grand Total | 264,802 | 4,605 | 1,195 | 1,476 | 1,451 | 297 | 110 | 76 |

Source: Based on Table 2 and U.S. Department of Commerce. 1977a-h; Employment and Size Structure for 1975.

[1]Selection based on: (a) total employment greater than 12,000; (b) unambiguous positive (export) or negative (import) trade performance; and (c) proportion of firms with fewer than 100 employees at least 75 percent.

**Table 4.**
Export and Import Priority Industries in the United States

| 1972 SIC Code | Industry Name | Employment | Total # of Firms | # of Firms by Employment Size Class 1-4 | 5-19 | 20-99 | 100-249 | 250-499 | Over 500 |
|---|---|---|---|---|---|---|---|---|---|
| | *Export Priority Industries*[1] | | | | | | | | |
| 2011 | Meat Packing Plants | 160,145 | 2,299 | 651 | 777 | 553 | 178 | 79 | 61 |
| 2421 | Sawmills and Planing Mills, General | 149,154 | 6,874 | 2,831 | 2,517 | 1,268 | 197 | 42 | 19 |
| 3728 | Aircraft Equipment nec. | 116,914 | 624 | 111 | 182 | 185 | 72 | 34 | 40 |
| 3443 | Fabricated Plate Work (Boiler Shops) | 114,022 | 1,492 | 225 | 432 | 587 | 169 | 42 | 37 |
| 3069 | Fabricated Rubber Products, nec. | 91,399 | 1,108 | 214 | 289 | 367 | 155 | 54 | 29 |
| 3559 | Special Industry Machinery, nec. | 79,692 | 1,250 | 289 | 427 | 362 | 105 | 33 | 34 |
| 2411 | Logging Camps and Logging Contractors | 74,199 | 11,134 | 7,648 | 3,026 | 401 | 35 | 15 | 9 |
| 3613 | Switchgear and Switchboard Apparatus | 65,781 | 559 | 126 | 141 | 165 | 67 | 30 | 30 |
| 3999 | Manufacturing Industries, nec. | 64,806 | 2,749 | 1,196 | 977 | 455 | 85 | 25 | 11 |
| 3825 | Instruments to Measure Electricity | 64,161 | 598 | 146 | 157 | 177 | 68 | 24 | 26 |
| | Sub-total | 980,273 | 28,687 | 13,437 | 8,925 | 4,520 | 1,131 | 378 | 296 |
| | *Import Priority Industries*[1] | | | | | | | | |
| 2331 | Women's and Misses' Blouses and Waists | 60,812 | 944 | 100 | 203 | 462 | 145 | 31 | 3 |
| 2337 | Women's and Misses' Suits and Coats | 60,460 | 1,315 | 233 | 335 | 617 | 95 | 33 | 2 |
| | Sub-total | 121,272 | 2,259 | 333 | 538 | 1,079 | 240 | 64 | 5 |
| | Grand Total | 1,101,545 | 30,946 | 13,770 | 9,463 | 5,599 | 1,371 | 442 | 301 |

Source: U.S. Department of Commerce, 1978a; Employment and Size Structure for 1975.

[1]Selection based on: (a) total employment greater than 60,000; (b) unambiguous positive (export) or negative (import) trade performance cf. Table 2; and (c) proportion of firms with fewer than 100 employees at least 75 percent.

## POLICY IMPLICATIONS

This analysis suggests that small businesses in the Northeast face both opportunities and problems as the result of international trade. As international markets expand, government programs to help industry capitalize on the opportunities become increasingly important. The central assumption of this paper is that criteria must be established to determine inter-industry priorities for the allocation of scarce public financial resources to promote exports and facilitate adjustment to increased imports. In the Northeast, the necessity for such criteria is readily illustrated.

The Administration's export promotion policy provides for the channeling of up to $100 million of the SBA's loan guarantees to small export businesses and an earmarking of $20 million of Commerce and State Departments' budgets to assist small business export promotion. If it is assumed that such finance will be allocated regionally on the basis of population then the Northeast could expect to receive roughly 18 percent of the total or $18 million in loan guarantees and $3.6 million in program funds. If the total amount of $21.6 million were to be allocated across all firms (in manufacturing sectors with more than 12,000 employees) which meet current SBA small business criteria and for whose products exports were recorded in 1976, the amount available per firm for both loan guarantees and program delivery would be approximately $792. Even if one were to assume that only 25 percent of these firms were interested in securing loans or participating in the promotion programs, the funds available per firm would still be less than $3,168. Given these small amounts, it would be difficult to prepare educational materials, provide market analysis, promote industry specific markets or products, or hold industry workshops for the large number and variety of eligible firms. Thus, unless funding is increased significantly, it is clear that "priority" industries for export promotion expenditure must be identified in order to make the most effective use of available finance.

This paper demonstrates the use of three important criteria, contribution to employment, trade prospects, and a more restrictive definition of small business, to determine priorities. On the basis of these criteria, 11 export priority industries are identified. In terms of the example given above, the amount available per firm is increased to $7,956. If only 25 percent of these firms expressed an interest in these programs, nearly $31,823 would be available per firm. By using the more restricted definition of "small business" than the one currently adopted by the SBA for its loan programs, a reasonable level of financial assistance could be targeted to those firms facing an absolute size disadvantage in international markets. These criteria could also be used to set priorities for aid to small businesses facing increased import competition. Specifically, the SBA could consider import competition as an additional factor in the administration of its existing programs.

The methodology adopted in this paper to establish priorities is suggested as a first approximation. Other socio-economic and political factors could be brought to bear in determining the final priority list; it could also be expanded simply by relaxing the three criteria discussed above. However, this brief analysis does demonstrate the value and feasibility of substantial disaggregation in the identification and selection of target industries.[5]

The fact that the "export priority" industries identified are primarily in high technology fields is significant. Since the 1950's, the Northeast's share of all manufacturing employment has been declining, however in relative terms its share of high-wage durable manufacturing employment has increased. These changes have led to effective utilization of the relatively high-skilled labor pool in the Northeast; both rural and urban areas in the region have benefited (cf. Boisvert, 1976). They have also contributed to a reduction in the number of families below the poverty level in the region (cf. Boisvert, 1975). Export promotion assistance will contribute to these favorable trends.

The "import priority" industries identified are textile-related. These industries have been at a comparative disadvantage in the Northeast for many years. Increasing competition from imports has merely accelerated their decline. Funds provided through the trade adjustment assistance program can potentially facilitate regional employment shifts, that would probably occur anyway due to domestic regional competition.

[5]A more extensive discussion of the methodology, its advantages and disadvantages, and ways in which it might be further refined is contained in Blandford and Boisvert.

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