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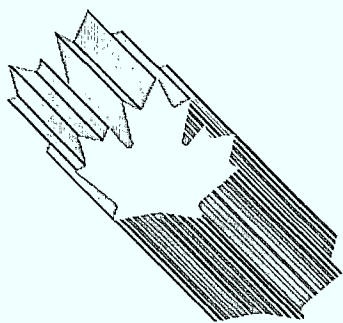


Industry, Science and
Technology Canada

Industrie, Sciences et
Technologie Canada

Electrical Lighting and Wiring Products

Canada



INDUSTRY PROFILE

ELECTRICAL LIGHTING AND WIRING PRODUCTS

1988

FOREWORD

In a rapidly changing global trade environment, the international competitiveness of Canadian industry is the key to survival and growth. This Industry Profile is one of a series of papers which assess, in a summary form, the current competitiveness of Canada's industrial sectors, taking into account technological and other key factors, and changes anticipated under the Canada-U.S. Free Trade Agreement. Industry participants were consulted in the preparation of the papers.

The series is being published as steps are being taken to create the new Department of Industry, Science and Technology from the consolidation of the Department of Regional Industrial Expansion and the Ministry of State for Science and Technology. It is my intention that the series will be updated on a regular basis and continue to be a product of the new department. I sincerely hope that these profiles will be informative to those interested in Canadian industrial development and serve as a basis for discussion of industrial trends, prospects and strategic directions.

Minister

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Canada

1. Structure and Performance

Structure

The electrical lighting and wiring products industry comprises manufacturers of lighting fixtures, light bulbs, wiring devices, and conduits and fittings. Some of these products are sold to both industrial and consumer markets.

The Canadian industry consists of approximately 240 establishments, located mostly in Ontario and Quebec, which employ some 11 500 people. It is dominated by subsidiaries of foreign multinationals (mainly U.S.-owned) established in Canada to service the domestic market, which at that time was protected from imports by high tariffs. Canadian-owned companies are involved in all product areas, but they are usually small compared to the foreign-owned subsidiaries, and were established to serve particular market niches.

In general, products tend to be mass-produced and low-cost, with little differentiation between manufacturers. Price is the major competitive factor, so the industry is continually seeking ways to reduce production costs. Some companies have installed semi-automated equipment to make their existing operations more efficient. Others have increased the volume output of some of their existing lines by rationalizing production between their Canadian and U.S. plants. This increased volume has justified the installation of more fully automated equipment and has reduced the unit cost of production even more.

In 1987, the value of factory shipments of electrical lighting and wiring products was \$1089 million, of which \$204 million (19 percent) was exported, mostly to the United States. The same year, the volume of imports, mostly from the United States, totalled \$328 million and represented 27 percent of the Canadian market.

This industry can be divided into four sub-sectors: *lighting fixtures, light bulbs, wiring devices, and conduits and fittings.*

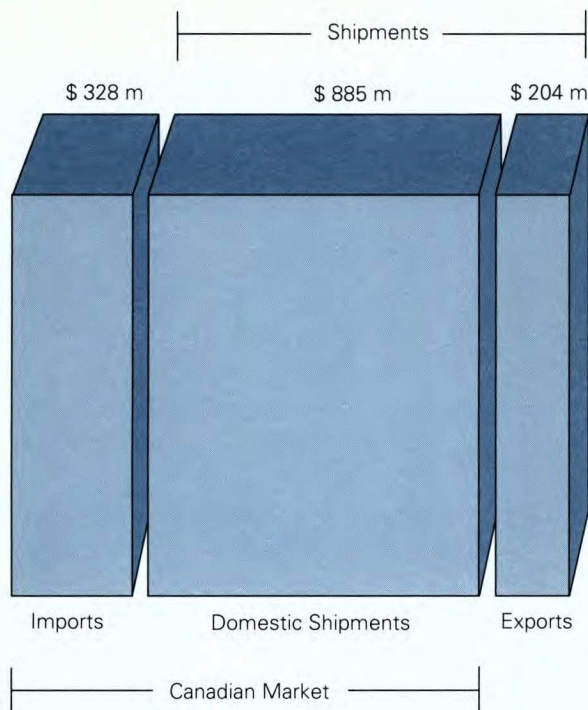
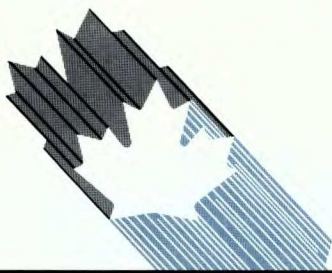
SELECTED TRADE STATISTICS BY SUB-SECTOR, 1987

	Lighting fixtures	Light bulbs	Wiring devices	Conduits & fittings	Total
Shipments (\$ millions)	517	275	129	168	1089
Exports (\$ millions)	42	66	82	14	204
Imports (\$ millions)	149	38	128	13	328
Canadian market (\$ millions)	624	247	175	167	1213
Exports as % of shipments	8	24	64	8	19
Imports as % of domestic market	24	15	73	8	27



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**Imports, Exports and Domestic Shipments
1987**

Lighting fixtures are manufactured for industrial, commercial and residential use by a large number of subsidiaries of foreign-owned (mostly American) multinationals, and by some smaller Canadian-owned companies. About 25 percent of fixtures are specialty items for residential and commercial markets, and are manufactured by smaller Canadian-owned firms. The value of total Canadian shipments of lighting fixtures in 1987 amounted to \$517 million, or about 47 percent of the industry's total. Of this amount, \$42 million, or eight percent was exported.

Light bulbs are produced principally by three large subsidiaries of foreign-owned multinationals for consumer and commercial markets. In 1987, Canadian light bulb shipments were valued at \$275 million, or some 25 percent of the industry's shipments. Of this amount, \$66 million, or 24 percent was exported.

Wiring devices are manufactured for the construction industry by a large number of companies, of which the major ones are U.S.-owned. In 1987, the value of wiring device shipments stood at \$129 million, of which \$82 million, or 64 percent was exported. Wiring devices enjoy the greatest amount of international trade, mainly because of the advanced degree of rationalization between Canadian subsidiaries and foreign parent operations.

Conduits and fittings are produced by small Canadian companies for the local construction industry market. They tend to be manufactured near their final market destinations, as they are heavy products which are relatively low in value. Therefore, little international trade exists in conduits and fittings. In 1987, total Canadian shipments amounted to \$168 million, or 15 percent of the industry's total. Exports of these products were worth \$14 million and represented eight percent of total shipments.

Performance

The economic performance of this industry is directly related to the level of activity in the residential, commercial and industrial construction industry. Over the past five years, the construction industry boom has boosted the value of shipments from \$680 million in 1982 to \$1089 million in 1987, an average annual increase of more than 10 percent.

Over the years, international trade activity has increased significantly. Imports as a percentage of the domestic market have increased from 22 percent in 1982 to 27 percent in 1987. At the same time, exports have risen from 13 to 19 percent of total industry shipments. This growth, however, has not been shared equally by all sub-sectors.

Wiring devices exports have increased from 18 percent of shipments in 1973 to 64 percent of shipments in 1987. At the same time, imports have risen from 41 percent to 73 percent of the domestic market. These changes reflect the ongoing production rationalization of wire devices between Canadian subsidiaries and their U.S. parents.

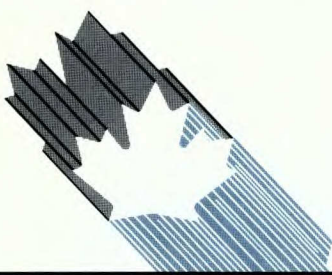
In the light bulb sub-sector, imports have risen from 10 percent of the domestic market in 1973 to 15 percent in 1987, because of market share loss to Asian imports. There has been no significant change in export and import percentages for the lighting fixtures and conduits and fittings sub-sectors between 1973 and 1987.

2. Strengths and Weaknesses

Structural Factors

Standard light fixtures (fluorescent lighting banks) have a relatively high weight-to-value ratio. As a result, this part of the industry is characterized by relatively high freight costs and little international trade. Competition, however, is intense, as the sub-sector is fragmented into a relatively large number of producers.

For specialty lighting fixtures, the key to competitiveness is product design and innovation. Products such as chandeliers and decorative glass fixtures must be aesthetically pleasing in order to sell. These are unique products which are less price-sensitive than standard products. Although designs by foreign-owned subsidiaries are generally copied from parent companies, Canadian-owned companies have been remarkably successful because of their design capabilities.



The light bulb sub-sector manufactures mature, standard products for an extremely price-competitive market. The key to competitiveness is the major capital investment for modern manufacturing equipment needed to increase production efficiency in high-volume production lines. Intense competitive pressures in the sub-sector have resulted in extensive worldwide rationalization in recent years, leading to numerous plant closures in the United States, Canada and Europe. Productivity tends to be lower in Canada than in the United States, because of the smaller domestic market. Canadian production lines have limited runs of several products instead of large runs of relatively few products.

Wiring devices are generally standard, lightweight, price- and volume-sensitive products. To be successful, a producer must be price-competitive, have effective distribution channels and established relationships with both distributors and contractors. In recent years, the increasing penetration of lower-priced imports has led to the rationalization of certain product lines between subsidiaries in Canada and their foreign parents.

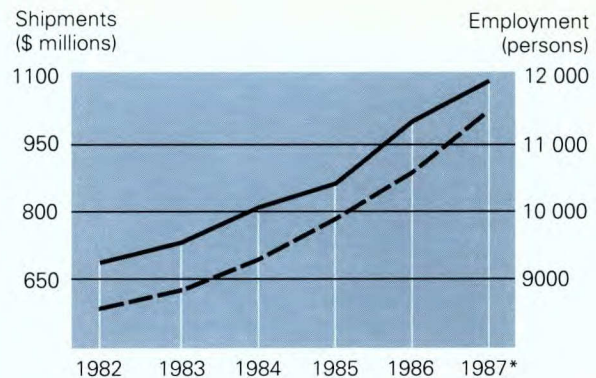
Conduits and fittings are also generally mature, standard products. The keys to competitiveness in this sub-sector are price and effective channels of distribution. These are low-value, high-weight products that are sensitive to freight costs. They are usually manufactured locally in low volumes, relatively unaffected by tariffs and unchallenged by imports. As a result, this sub-sector has not had to adapt significantly to international competitive pressures.

Trade-related Factors

Canadian tariffs for most electrical lighting and wiring products range between zero and 13.5 percent, with the majority at 11.3 percent. U.S. tariffs are much lower, ranging from zero to 6.9 percent on most items (flashlight bulbs are an exception at 25 percent). European Community (E.C.) tariffs are levied at between 4.1 and 7.2 percent, while Japanese tariffs are even lower, at between 3.6 and 4.8 percent.

In general, Canada and the United States have similar standards. In some product lines such as fluorescent fixtures, however, U.S. and Canadian consumer preferences are sufficiently different to represent a significant barrier to exports. Another factor limiting trade is the relatively high cost of freight for many products. For example, lighting fixtures and certain wiring devices are heavy and bulky, while light bulbs are large-volume, low-value items.

The combined effect of standards and high weight-to-value ratios means that trade is predominantly with the United States. The only exceptions are some light bulb exports to countries which previously enjoyed the Commonwealth preference tariff, and some wiring device sales to the Caribbean (some Caribbean countries use North American electrical standards).



Shipments —————

Employment - - - - -

Total Shipments and Employment

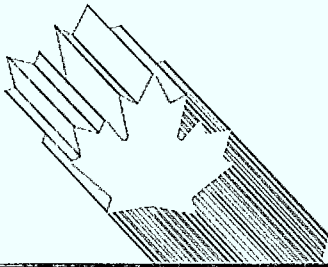
* ITC estimate for employment

The Canada-U.S. Free Trade Agreement (FTA) contains elements which will affect this industry. The most significant is the phasing out of all tariffs over a 10-year period beginning January 1, 1989. Another is the FTA "rules of origin," which stipulates that if 50 percent of the cost of manufacturing electrical products is incurred by either country, such products qualify for duty-free treatment. In addition, the two governments are endeavouring to make their respective standards more compatible, and in this way reduce their trade-inhibiting effects.

Technological Factors

In general, Canadian product technology is competitive with that of other countries. These products are, for the most part, mature, low-technology, low-cost items. Research and development (R&D) is, therefore, normally associated with the production processes rather than product development.

Although some sub-sectors have taken steps to improve production techniques (for example, the use of computer-controlled metal stamping equipment in the wiring devices sub-sector) production processes of Canadian firms are generally less automated than their U.S. competitors. In some sub-sectors, equipment currently used is second-hand — imports from modernized American plants. The use of computer-assisted design/computer-assisted manufacturing (CAD/CAM) in Canada is limited.



Other Factors

Most industry imports are from the United States. However, low-cost imports from Asia (especially Taiwan and the Republic of Korea) in market niches have approximately doubled between 1985 and 1987, and are an increasing concern for the Canadian industry. For example, 1987 imports of conventional incandescent light bulbs from the Republic of Korea rose to more than \$10 million in value — accounting for close to 30 percent of imports and about four percent of the Canadian market.

In this extremely competitive, price-sensitive market, competition against imports can be affected significantly by the relative value of the Canadian dollar against the currency of the exporting country.

3. Evolving Environment

While markets in Canada have expanded from the recessionary lows of 1982, average annual growth rates are expected to slow significantly between 1988 and 1992 because of an expected moderation in residential, commercial and industrial construction activity. Housing starts are expected to drop as a result of fewer families and the backlog of demand from the early 1980s that has been largely satisfied. While commercial and industrial construction activity may continue in selected geographical areas, it is generally considered to have peaked after four strong years.

Mirroring the long-term construction forecast, the demand for the products of this industry should grow at a modest rate. Overall shipments are expected to rise at a compound annual rate of between two and 2.5 percent during the 1988-92 period.

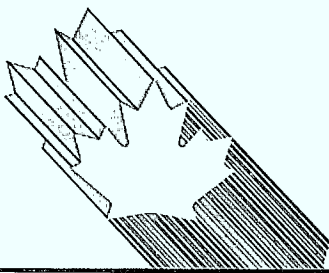
Over the longer term, electric light bulb production in Canada could be in jeopardy under the FTA. The North American industry is currently restructuring in response to competitive pressures. This process is expected to concentrate light bulb production among fewer facilities and establish more efficient, larger-scale production units. Production of electric bulbs by the two major U.S. subsidiaries in Canada is expected to be adversely affected in the longer term. Major new Canadian investments to maintain competitiveness are unlikely, particularly when Canadian market needs could be satisfied by a relatively small increase in U.S. production.

Canadian producers of wiring devices are also expected to encounter more competition from U.S. imports under the FTA. In all likelihood, this challenge will require substantial adjustment, particularly on the part of the U.S.-based subsidiaries currently manufacturing in Canada. Most production in this sub-sector consists of standard products such as light switches, electrical plugs, etc., for which economies of scale are important. To a large extent, Canadian producers are smaller and lack both the scale and production efficiencies of U.S.-based producers. Certain specialty products which already enjoy success in the U.S. market could benefit from improved market access. For trade in relatively simple products with high weight-to-value ratios such as junction boxes, the FTA is not likely to have any effect.

Conduit and fitting production in Canada is expected to neither benefit from increased export opportunities in the U.S. nor suffer from import competition in Canada. Markets tend to be regional, because of their extremely high weight-to-value ratio.

Canadian producers of residential and commercial "designer" lighting fixtures will probably benefit from improved access to the U.S. market. However, exports are not expected to increase significantly, as tariffs are not a major factor in the lighting fixtures sub-sector. Similarly, producers of specialty lighting such as high-intensity discharge, street and area lights are also expected to benefit from improved access to the U.S. market.

Canadian producers of standard industrial fixtures are expected to face increased competition from U.S. imports. While the relatively high weight of the product and different Canadian standards will tend to cushion the effects of tariff removal, imports from higher-volume U.S. lines can be expected to replace some Canadian production. Therefore, while Canadian exports to the United States may increase, they are not expected to offset incremental U.S. imports completely.



4. Competitiveness Assessment

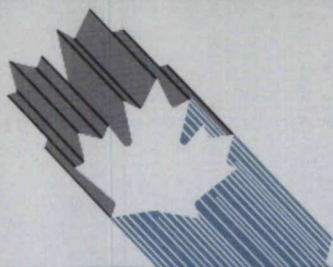
The industry is generally characterized by mass-produced, low-cost products with relatively little product differentiation. Products are price-sensitive and must be produced in volume to reduce unit cost. Because of their primary focus on the limited Canadian market, Canadian-based companies generally cannot match the lower costs of the U.S. companies in the absence of tariff protection. One major exception is specialty lighting fixtures, for which attractive design and styling have resulted in a number of unique products which Canadian-owned companies are successfully exporting to the United States. The other exception is in conduits and fittings, which have a high weight-to-value ratio. Differences in electrical standards, tariffs, and sensitivity to freight rates, make trade with countries outside of North America generally limited. A notable exception is the increased imports of some low-cost items from Asia.

The Canadian industry focuses largely on the domestic market. It manufactures limited quantities of many standard products with older production machinery and carries on relatively little R&D. If Canadian-based companies are to survive as viable international competitors, they need to focus on product specialization and rationalization, increase their levels of R&D and product design, and incorporate more automation and new technology into their manufacturing process.

For further information concerning the subject matter contained in this profile, contact:

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PRINCIPAL STATISTICS

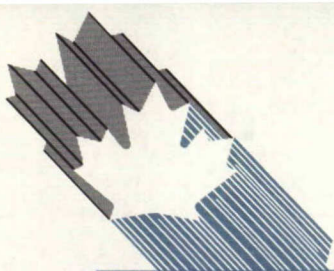
SIC(s) COVERED*: 3331, 3333, 3392, 3399

	1973	1982	1983	1984	1985	1986	1987
Establishments	N/A	N/A	198	207	213	232	240 ^e
Employment	N/A	8 690	8 911	9 251	9 947	10 698	11 500 ^e
Shipments (\$ millions)	295	680	696	806	903	1 003	1 089

TRADE STATISTICS

	1973	1982	1983	1984	1985	1986	1987
Exports (\$ millions)	40	90	112	159	183	190	204
Domestic shipments (\$ millions)	255	590	584	647	720	813	885
Imports (\$ millions)	77	164	203	259	280	317	328
Canadian market (\$ millions)	332	754	787	906	1 000	1 130	1 213
Exports as % of shipments	14	13	16	20	20	19	19
Imports as % of domestic market	23	22	26	29	28	28	27
Source of imports (% of total value)				U.S.	E.C.	Asia	Others
			1981	80	11	8	1
			1982	76	10	11	3
			1983	79	10	8	3
			1984	77	11	10	2
			1985	75	11	12	2
			1986	73	9	15	3
Destination of exports (% of total value)				U.S.	E.C.	Asia	Others
			1981	64	11	4	21
			1982	69	9	5	17
			1983	73	9	3	15
			1984	76	7	4	14
			1985	73	8	5	13
			1986	84	5	1	10

(continued)

**REGIONAL DISTRIBUTION — Average over the last 3 years**

	Atlantic	Quebec	Ontario	Prairies	B.C.
Establishments — % of total	—	25	60	8	7
Employment — % of total	—	20	70	5	5
Shipments — % of total ^e	—	20	70	5	5

MAJOR FIRMS

Name	Ownership	Location of Major Plants
Cooper Industries (Canada) Inc.	American	Scarborough, Ontario
GTE Sylvania Canada Limited	American	Drummondville, Quebec
Lightolier Canada Inc.	American	Lachine, Quebec
Smith & Stone (1982) Inc.	American	Georgetown, Ontario
General Electric Canada Inc.	American	Oakville, Ontario
Fleck Manufacturing Inc.	Canadian	Tillsonburg, Ontario
Philips Electronics Ltd.	Dutch	London, Ontario
Clevemont Industries Ltd.	Canadian	Anjou, Quebec
Leviton Mfg. of Cda Ltd.	American	Montréal, Quebec
Columbia International Ltd.	Canadian	Longueuil, Quebec

* SIC(s) on 1980 basis

^e ISTD estimate

N/A Not available

Note: Statistics Canada data have been used in preparing this profile.

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