



CANADA

CANADIAN WEEKLY BULLETIN

INFORMATION DIVISION • DEPARTMENT OF EXTERNAL AFFAIRS • OTTAWA, CANADA

Vol. 19, No. 7

February 12, 1964

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FOREIGN TRADE IN 1963

Canada's trade with all countries in 1963 totalled \$13,547 million, the highest value ever recorded, according to preliminary estimates of the Dominion Bureau of Statistics. This constituted an advance of 7.5 per cent over the previous peak in 1962, when total foreign trade amounted to \$12,605 million. Both exports and imports were at new top levels; total exports rose 10 per cent to \$6,980 million from \$6,347,700,000 in 1962, and imports advanced to \$6,567,400,000, an increase of 4.9 per cent over the total of \$6,257,800,000 the preceding year. For the third year in succession there was a merchandise-trade surplus and, at \$412,600,000, it was the largest since 1952.

An upward trend in exports has prevailed throughout 1963, for though actual values have oscillated from month to month, the total for each month has been above that of the corresponding month in the preceding year. Imports, too, have moved higher in most months of 1963, with the exception of February, March and May, while both exports and imports rose strongly in the latter part of the year. Over the 12 months, the increase in exports was mainly due to the added volume of shipments, while the advance in imports was owed chiefly to higher prices. The average of export prices showed only a small gain of around 1 per cent in 1963, while the net volume of goods shipped advanced approximately 9 per cent. Average import prices increased about 4 per cent and the index of physical volume rose by around 1 per cent.

EXPORT HIGHLIGHTS

Larger wheat, lumber and iron-ore shipments were the highlights in 1963 exports. There was a slight decrease in the proportion of exports destined to the United States, balanced mainly by an increase in the share of goods sent to other foreign destinations, while shipments to Britain and to other Commonwealth and "preferential" countries were proportionately the same as in 1962. A lower proportion of imports came from Britain and slightly less from the United States. Other Commonwealth and preferential countries increased their share, mainly owing to increased values of sugar imports, and the ratio of arrivals from other foreign countries rose slightly.

During the fourth quarter of 1963, there was a 14.7 per cent increase in total exports and an estimated advance of 15.5 per cent in imports, compared to the October-December period of the preceding year. These reflected larger changes than in the other quarters and increases in trade with all main areas were noticeable. Total exports to Britain rose 5 per cent and imports therefrom advanced 10.8 per cent above the values for the fourth quarter of 1962. Exports to other Commonwealth and preferential-rate countries increased moderately by 3.3 per cent, but imports were up 44.8 per cent, owing mainly to increased sugar purchases. Total exports to the United States rose by 4.2 per cent and imports by 14.1 per cent chiefly owing to augmented arrivals of automobile parts, engines, tools, tractors and farm

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equipment. Exports to other foreign countries increased by nearly a half over the October-December 1962 total, the large wheat shipments adding to this total, and imports, spread over a wide diversity of commodities and countries, rose by 13.8 per cent. There was a sizeable export trade balance estimated at \$176,400,000, compared to that of \$164,800,000 for the fourth quarter of the preceding year.

TRADE BY REGIONS

Trade between Canada and the United States remained at a high level in 1963. Total Canadian exports thereto were valued at \$3,913,200,000 and imports therefrom at \$4,457 million, both records in Canada's commerce with the United States and representing gains of 4.5 per cent and 3.7 per cent, respectively, over totals in the preceding year. The increase in exports was gradual throughout the year, while imports picked up only in the last half. Increased economic activity on both sides of the border was reflected in added demands for goods and materials. There was a slight decline in the import balance of trade, which was estimated at \$543,800,000 for 1963 versus \$554,900,000 in 1962.

Trade with Britain showed a gain of 10.3 per cent in total exports and a decline of 6.3 per cent in imports. Exports were high throughout the year, while imports, which were sharply lower in early 1963, turned upwards only in the last quarter. Total exports to Britain were valued at \$1,014,900,000, which figure was only once surpassed and then in 1944. There were important gains in large shipments of wheat, nickel, copper, uranium, lumber and iron ore, while deliveries of aluminum, wood pulp, platinum and oilseed were well maintained. Imports dropped to \$527,500,000 and, except for estimated gains in machinery, electrical apparatus and wool, most of the chief items were at lower levels than in the preceding year. The export surplus in Canada's trade with Britain increased to \$487,400,000 compared to \$356,900,000 in 1962.

Trade with other Commonwealth and preferential-rate countries advanced considerably in 1963, exports thereto rising by 18.9 per cent over the preceding year and imports therefrom increasing by 27.4 per cent. Exports gained throughout the year, particularly in the first half, and totalled nearly \$400 million. The main increases in imports were in the latter part of 1963 and total imports from this group for the year rose to \$405,800,000, to which added deliveries of bauxite and sugar contributed substantially. There was a small import balance of \$6,800,000 in 1963 compared to an export surplus of \$17,100,000 in the preceding year.

RCAF PHOTO-RECONNAISSANCE

To help fulfil NATO's photographic-reconnaissance requirements, two of the CF-104 squadrons of the Royal Canadian Air Force in Europe have been converted from a strike role to a "photo-recce" role. These squadrons, based in Marville, France, will be equipped with the latest photographic equipment available. Since aircraft, to survive, must fly over defended territory either at very low or very high altitudes,

the CF-104 is well suited to the photo-recce role, as it can, in poor weather, navigate at low level to a target and return, and can obtain photographs under adverse light conditions at altitudes of 200 feet or below.

DESCRIPTION

At the request of the RCAF, Computing Devices of Canada, working from set specifications, developed the Vicom Air-Photo System, which is integrated with the electronic system of the CF-104. The "pod", as the camera installation is called, consists of four 70-mm cameras enveloped in an aluminum aerodynamically-contoured mount, which is attached to the belly of the aircraft amidships.

The photo system's automatic features, such as the automatic-exposure control that adjusts the exposure as light conditions vary, permit the pilot to concentrate on flying the aircraft - a most exacting task in low-level, high-speed operations. As he approaches the target area, the pilot selects the camera or cameras he intends to use. This automatically opens the protective doors over the camera windows and activates the automatic-exposure control. As he passes the target, the pilot depresses a button on the control column and the selected cameras operate.

Equipped with this sophisticated air-photo system, the CF-104 photo-recce squadrons will perform a vital role for NATO. In today's world of intercontinental ballistic missiles, mobile missile launchers and nuclear-equipped field artillery, the rapid acquisition of information on the movement of enemy weapons is of vital importance.

EAST COAST NAVIGATION AID

Shipping in Cabot Strait, between Newfoundland and Cape Breton Island, and in the Gulf of St. Lawrence is now being served by a Decca Navigator chain. This navigational aid comprises three main elements: a chain of land-based transmitting stations - usually three or four; a receiving and indicator unit aboard the ship being guided; and a special marine chart. On receiving signals from the shore stations, the shipboard unit automatically indicates the vessel's position in relation to the chart.

The position-fixing installation, formerly the West Newfoundland chain, has its master or controlling station located on Grindstone Island, Magdalen Islands, Quebec; its "slave" stations are at Antigonish, Nova Scotia, and Port aux Basques, Newfoundland. The chain formerly serving in this area was located with its master and slave stations on the west and south Newfoundland coasts. The engineering and installation of the new chain, with greatly improved equipment, was carried out at a cost of \$800,000 by the Telecommunications and Electronics Branch of the Department of Transport.

The system is used mainly for general marine navigation, but it is also employed by fishermen in their operations and for salvage, cable laying, hydrographic survey and other marine purposes.

NEW SCIENTIFIC SHIP

Canada's new \$7-million oceanographic research vessel, the "Hudson", will be commissioned February 14 in Halifax, Nova Scotia. The new vessel will be attached to the fleet at the Bedford Institute of Oceanography, Dartmouth, N.S., which is operated by the Department of Mines and Technical Surveys.

A COMPLEX TASK

One of the most modern research ships afloat, the 294-foot vessel, of 4,800 tons displacement, has been under construction since early in 1961, and is already over a year overdue. Much of the delay has been caused by the problems involved in building a ship of such complexity.

The "Hudson" has a cruising range of 15,000 nautical miles and a speed of over 17 knots. A floating laboratory, she is capable of hydrographic and oceanographic work anywhere in the world but will serve mainly in the Arctic and Atlantic oceans. The "Hudson" is already fully booked for 1964, her main tour of duty being a full-scale geophysical investigation of Hudson Bay during July, August and September.

OUTSTANDING FEATURES

The "Hudson" has a number of outstanding features:

- (1) The most modern navigational devices and hydrographic aids, including precise radar, echo sounders, both long and short range positioning devices that will greatly extend the scope of the hydrographer, and two-range Lambda, an electronic positioning system;
- (2) special mechanisms to control and regulate ship movement during oceanographic observation and measurement;
- (3) modern chart rooms complete with the latest cartographic equipment and facilities for making provisional charts at sea;
- (4) adequate and flexible laboratories, equipped with modern facilities and instrumentation;
- (5) a ship's well of some 42 inches in diameter, permitting the lowering of instruments through the ship's bottom;
- (6) special gear for anchoring in very deep water;
- (7) a wide variety of special winches, ranging from oceanographic winches with some six miles of

wire rope to small bathythermograph winches with about 1,000 feet, for many scientific purposes such as drawing water samples from various depths, handling meters for measuring currents, lowering underwater cameras and lights, obtaining samples of the ocean floor, towing plankton nets and obtaining biological specimens;

- (8) two helicopters and helicopter hangar, three launches (two 37-footers and a 31-footer) and a 30-foot landing barge;
- (9) accommodation for 86 persons, including female oceanographers.

FIRST VOYAGE NORTH

The "Hudson" will leave for Hudson Bay early in July for a three-month geophysical investigation of this body of water, which is the largest inland sea in the world. The project is expected to throw light upon the age and present-day structure of the Bay.

Scientists aboard the ship will make a seismic study of the Bay to test the theory that its centre represents a large sedimentary basin two miles deep. They will take continuous gravimetric, magnetic and ocean-bottom topography observations to ascertain whether the known geological structures on shore extend out into the Bay. They will also take sediment samples and photographs of the sea bottom.

Before heading north in July, the "Hudson" will work off the "tail" of the Grand Banks southeast of Nova Scotia during March and April to obtain information for the production of charts for fishermen. During May and part of June, the vessel will work between Newfoundland and the Azores, where oceanographers from the Bedford Institute and from the Woods Hole Institution of Oceanography will study the deep circulation in the Newfoundland Basin.

When the "Hudson" returns from Hudson Bay, she will proceed to the Strait of Belle Isle where scientists will make certain studies in connection with the theory of continental drift. The Strait of Belle Isle will be a critical area in this study.

If time permits before the end of the year, the vessel will make a joint survey with the United States Navy Oceanographic Service of the waters between Nova Scotia and Bermuda.

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EXPO SHIELDED FROM RIVER ICE

Mr. Jean-Paul Deschatelets, Minister of Public Works, recently announced that tenders were being called for the first stage in the construction of an ice-control structure upstream from the St. Lawrence River site of the 1967 World's Fair at Montreal.

The structure, 8,500 feet long, with steel gates, has been designed to protect the existing and proposed installations for the World's Fair and to assist in controlling the ice jams that seriously affect water levels in this area. The hollow gates will be installed between concrete piers. Each will be 88 feet long

and will rise and fall with a change in water level. The gates will protrude above the water in order to retain ice; their submerged sections will offer a minimum of interference with the river's flow. The grooves in which they slide will be heated electrically to prevent the gates from freezing into position.

The structure will be built in four stages at an estimated cost of \$12,500,000, the City of Montreal contributing \$2.5 million and the Federal Government the rest. The first phase, for which tenders will close on March 11, will be the major one, costing, it is expected, between \$9 and \$10 million. This will include the construction of some 77 piers and a

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super-structure, across Laprairie Basin between the Seaway dike and the eastern tip of Nun's Island. Stages 2, 3 and 4 will include installation of electrical equipment, fabrication and installation of the gates, and the construction of service buildings. Tenders for these stages will be called shortly and the work will be carried out concurrently with the latter part of Stage 1, so that the entire structure can be completed during the autumn of 1965.

UNIVERSITY SALARIES, 1963-64

Median salaries of full-time teaching staff at 17 selected universities and colleges in 1963-64 showed small increases over the previous year, according to a Dominion Bureau of Statistics advance release. The 1963-64 median for deans was \$16,125 (up 0.6 per cent over that for 1962-63); for professors, \$13,457 (3.7 per cent); for associate professors, \$10,113 (2.6 per cent); for assistant professors, \$8,002 (2.9 per cent); and for instructors and lecturers, \$6,421 (3.1 per cent). For all full-time teaching staff at the 17 institutions, including a small group of ungraded professors, the 1963-64 median was \$9,013, up 2.3 per cent over 1962-63, 5.3 per cent over 1961-62, and 8.3 per cent over 1960-61.

The increase in total full-time teaching staff at the 17 institutions from 1962-63 to 1963-64 (up from 5,016 to 5,567) was 11.0 per cent, compared to an increase of 10.1 per cent from 1961-62 to 1962-63 (from 4,557 to 5,016).

REGIONS

The median salary for all staff included from institutions in Central Canada was \$9,451 (up 3.3 per cent from 1962-63), in the Western Provinces \$9,050 (0.7 per cent), and in the Atlantic Provinces \$7,919 (9.2 per cent). Although median salaries for institutions in the Atlantic Provinces were still appreciably lower than those for the other two regions, they have

increased at a greater rate in recent years, being up 18.2 per cent from 1960-61 against an increase of 9.4 per cent for Central Canada and 4.6 per cent for the Western Provinces.

STEPPED-UP TRADE-FAIR PROGRAMME

Mr. Mitchell Sharp, the Minister of Trade and Commerce, had revealed details of the Department's 1964 trade-fair programme and announced that Canada's representation in fairs abroad will increase by 40 per cent this year. "Trade fairs have definitely proved their value as a vehicle for promoting exports," Mr. Sharp said. "This year's programme should provide even greater opportunities for Canadian firms to display their wares and develop new markets."

The new programme calls for participation in 46 fairs and exhibits, 13 more than in 1963. Canada will be represented in 11 countries, main emphasis being placed on the country's two largest export customers, the United States (23 fairs) and Britain (7). Other countries on the programme are France, West Germany, Italy, Japan, Holland, Sweden, Spain, Israel and Finland.

IMPORTANCE OF SECONDARY INDUSTRY

Mr. Sharp stressed the importance of secondary manufacturing to the Canadian economy. "One of the most gratifying features of our development last year," he said, "was the dramatic rise in our exports of manufactured goods. We must work for further expansion in our secondary industry if we are to keep the economy buoyant and provide jobs for our rapidly-developing work force. In light of this need, I am pleased that we have been able to expand our trade-fair programme this year -- for many Canadian firms have first demonstrated their ability to compete successfully abroad through participation in these international exhibits."

and will rise and fall with a change in water level. The gates will protrude above the water in order to retain ice, their submerged sections will offer a minimum of interference with the river's flow. The grooves in which the gates will be seated are to prevent the gates from backing into position. The structure will be built in four stages at an estimated cost of \$12,500,000. The City of Montreal is contributing \$2.5 million and the Federal Government the rest. The first phase, for which tenders will close on March 11, will be the major one, costing in expected between \$9 and \$10 million. This will include the construction of some 4,000 tons and a