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TRADE PICTURE IMPROVES

An export surplus in Canada's trade for the month of August, the first this year and the first for the month of August since 1953, was shown in preliminary figures released recently by the Dominion Bureau of Statistics. Commodity imports in August were down by more than 17 per cent in value from August 1957, while exports showed a smaller decline of 5 per cent in the same comparison.

Imports from all countries in August had an estimated value of \$389,100,000 compared to \$471,300,000 in August last year, continuing the down-trend on a year-to-year comparison that has been unbroken since September 1957. Total exports for August amounted to \$416,000,000 against \$437,400,000 a year earlier. There was thus an export surplus of \$26,900,000 in the month as against an import surplus of \$33,900,000 last year.

For the eight months ending August, the aggregate value of imports this year was \$3,392,600,000, down 12 per cent from \$3,855,300,000 last year. Total exports for the same period were valued at \$3,218,900,000, slightly above last year's value of \$3,217,100,000. The result was a reduced import balance of \$173,700,000 for the eight-month period as compared to \$638,200,000 in 1957.

Imports from the United States in August fell nearly 20 per cent to \$256,700,000 from \$320,800,000 a year earlier, accounting for almost four-fifths of the drop in the month's total imports. In the January-August period purchases from the United States were down to

\$2,362,600,000 this year from \$2,787,500,000 in 1957. Exports to the United States in August showed a smaller decline to \$240,700,000 from \$276,300,000 last year, and in the eight months to \$1,859,200,000 from \$1,922,900,000. The import balance with the United States thus declined to \$16,000,000 for August from \$44,500,000 a year earlier, and for the eight months to \$503,400,000 from \$864,600,000 last year.

Purchases from the United Kingdom also declined in August to \$36,400,000 from \$47,200,000 a year ago, but with a mixture of gains and small decreases in earlier months the eight-month total was almost unchanged at \$351,100,000 against \$352,800,000 in 1957. Total exports to the United Kingdom were down moderately in August to \$63,700,000 compared to \$69,900,000 last year, but for the eight months were up to \$507,400,000 against \$480,200,000. The export balance with the United Kingdom thus rose in August to \$27,300,000 from \$22,700,000 a year earlier, and for the eight months to \$156,300,000 from \$127,400,000.

Imports from other Commonwealth countries increased in value to \$22,800,000 in August from \$20,800,000 a year earlier, but for the eight months declined to \$137,400,000 compared to \$153,000,000. Total exports to these countries were also higher in August at \$20,100,000 against \$16,700,000 and in the cumulative period were up to \$201,600,000 from \$150,500,000 in 1957.

Purchases from all foreign countries other than the United States also declined in August to \$73,200,000 compared to \$82,500,000 a year earlier, and for the January-August period amounted to \$541,500,000 against \$562,000,000. Sales to these countries, on the other hand, rose in August to \$91,500,000 from \$74,500,000 in August 1957, but for the eight months were lower at \$650,700,000 compared to \$663,500,000 last year.

LORD MOUNTBATTEN IN CANADA.

Admiral of the Fleet, the Earl Mountbatten of Burma, arrived in Montreal on October 4 on a one week visit to Canada.

In Montreal, he attended a reception and supper given by the President and Dominion Council of the Navy League of Canada before embarking in an RCAF aircraft for the flight to Ottawa, where he was the guest of the Governor General.

On Monday morning Lord Mountbatten opened the annual meeting of the Dominion Council of the Canadian Legion at Legion House, after which he addressed a closed meeting of officers of National Defence Headquarters in the Elgin Theatre. He called on the Prime Minister, on Mr. Pearkes, the Minister of Defence and met with General Foulkes and the members of the Chiefs of Staff Committee and with members of the Naval Board. In the evening he was the guest of the Navy at a mess dinner at HMCS Carleton.

On Tuesday, October 7, Admiral Mountbatten paid a brief visit to Kingston where he addressed the staff and students of the National Defence College, and the cadets of the Royal Military College. He left that evening by RCAF aircraft for British Columbia.

In British Columbia Lord Mountbatten was the guest of Rear-Admiral H.S. Rayner, Flag Officer Pacific Coast, at Esquimalt from October 8-10, where he visited Canadian Naval establishments.

Admiral Mountbatten went to the United States for visits to various places and will sail from New York for Southampton on the Queen Elizabeth on October 22.

CANADA FIGHTS CANCER

The Ontario Cancer Institute, incorporating the new Princess Margaret Hospital on Toronto's Sherbourne Street, is acknowledged to be one of the finest in the world for the fight against cancer. Built by the Ontario Government, the 87-bed hospital and the research centre which operates with it are sponsored by the Ontario Cancer Treatment and Research Foundation. Altogether, there are eight cancer treatment and research centres in the Province, but this one is certainly the most important centre in Canada.

About 75 per cent, of its space is set aside for the care of patients suffering from cancer and related diseases. The remaining 25 per cent is devoted to research.

Establishment of this \$7 million treatment and research centre, officially opened by Lieutenant-Governor John Keiller Mackay on September 25 but in operation for the past few months, marks an important milestone in the fight against cancer in Ontario.

GIFT TO MCGILL

A gift of \$4.5 million to McGill University was announced on October 6, prior to McGill's Founder Day convocation, by Mr. J.W. McConnell, senior governor of McGill and former publisher of the Montreal Star. Of this magnificent gift \$2.5 million will cover the complete cost of a new engineering building to be known as the J.W. McConnell Engineering Building. Interest from \$2 million will provide scholarships in the Faculties of Science and Engineering.

WORLD SKI CHAMPION RETIRES

Miss Lucile Wheeler, the first Canadian to win a world ski title, has announced her retirement from competitive skiing.

Last February in Bad Gastien, Austria, the attractive 23 year-old Canadian won both the world downhill and the giant slalom ski titles, a feat unparalleled in North American ski history. This accomplishment was the result of a rigorous five-year training programme. For five winters Miss Wheeler went to Europe to train and race against the stiffest competition in the world. On her return to Canada last March she was given a tumultuous welcome.

NEW AMBASSADOR

The Secretary of State for External Affairs has announced the appointment of Mr. Louis Couillard, at present Head of the Economic Division of the Department of External Affairs, as Ambassador to Venezuela, to succeed Mr. R.P. Bower. Mr. Bower's next appointment will be announced later.

JUDGES APPOINTED

Announcement was made on October 6 of two new judges to Ontario's Supreme Court. They are Mr. Stanley N. Schatz, 69, and Mr. George T. Walsh, 67, both Toronto lawyers. They fill positions which were created when the court was expanded from 19 members to 21. The two new justices will serve in the trial division of the Supreme Court, officially known as the High Court of Justice for Ontario.

NEW ESTATE TAX ACT

The Acting Minister of Finance, Mr. J.M. Macdonnell, announced on October 7 that the Government is proclaiming the new Estate Tax Act, passed in the 1958 session of Parliament, to come into force on January 1, 1959. He urged that people re-examine existing wills in the light of the new provisions.

This new Act, which will take the place of the existing Dominion Succession Duty Act, enlarges the exemptions and changes the rates of tax with the result that the amount of tax levied on small and medium sized estates will, in most cases, be considerably reduced. The new Act continues the rule that no estate of less than \$50,000 will be subject to tax but in addition it provides that where estates are valued at more than \$50,000, certain specific deductions will be allowed. The most important of these is where the deceased leaves a widow. In such cases the estate will receive a deduction of \$60,000 and this will be increased by \$10,000 for each dependent child surviving the deceased. For example, after January 1, 1959, there will be no federal estate tax on the estate of a man who dies leaving a widow and two dependent children unless his estate exceeds \$80,000.

Mr. Macdonnell emphasized that in the light of these new provisions it is highly desirable for people who have made wills to re-examine the terms. He felt sure that people would wish to be certain that the intent of their wills would continue to be fulfilled.

Mr. Macdonnell pointed out that the way a will is drawn up will determine how the burden of the estate tax will be distributed among the beneficiaries. Under the existing Succession Duty Act the liability for duty falls on the beneficiary, but under the new Estate Tax Act the tax is computed on the whole estate

before distribution, and where there are bequests of specific amounts the full tax will be left to fall on the residue of the estate unless the testator directs otherwise. Many testators have provided in their wills for the succession duty that would otherwise fall on each beneficiary to be paid from the mass of the estate as a general charge, like a debt. Such wills will not require any change on this point. However, if a testator has not made such a provision, and if he wishes to have the tax under the new Act apportioned among his beneficiaries rather than borne entirely by those receiving the residue of his estate, he would have to provide instructions to his executors in his will to apportion the tax in accordance with his wishes.

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UNIVERSITY STUDENTS MEET

The University of Ottawa played host last week to 100 undergraduates from universities across Canada, at the 22nd annual conference of the National Federation of Canadian University Students.

One of the projects discussed was the possibility of a student exchange programme between Iron Curtain countries and Western universities. The need was stressed for taking a greater interest in student problems in the Asian and African countries.

The NFCUS will continue to refuse to join the Communist dominated International Union of Students, but will follow its practise of sending observers to IUS meetings. The Canadian federation is a member of the 63 nation International Student Conference.

Meetings were addressed by Mr. Diefenbaker and Mr. Brooke Claxton, Chairman of the Canada Council, and delegates were entertained by the Governor General at Rideau Hall.

* * * *
the first half of 1957

Over the 12 months (September 1, 1957 to September 1, 1958), Canada's estimated population growth was 409,000 (2.4 per cent), comparing with 552,000 (3.4 per cent) in the 1956-1957 period, 390,000 (2.5 per cent) in the 1955-56 period, 394,000 (2.6 per cent) in the 1954-55 period, 443,000 (3 per cent) in the 1953-54 period, and 398,000 in the 1952-53 period. The population growth was 1,073,000 from the 1956 Census total of 16,081,000 and 3,145,000 from the 1951 Census count of 14,009,000.

The table following lists quarterly estimates of Canada's population from June 1, 1951 to September 1, 1958 (actual census totals for June 1, 1951 and June 1, 1956):

POPULATION INCREASE

Canada's population increased 267,000 in the first eight months of this year to an estimated 17,154,000 at September 1 from 16,887,000 at the start of the year, according to the Dominion Bureau of Statistics' quarterly estimate. This year's January-August increase was considerably smaller than last year's record eight-month increase of 401,000, but close to the 1956 rise of 274,000.

The slowing of the numerical growth in the nation's population so far this year, as compared with last year's record, was chiefly due to a drop in immigration. In the first six months of this year the number of immigrant arrivals was some 68,000 as against 182,000 in

Year	January 1	March 1	June 1	July 1	September 1	December 1
(In Thousands)						
1951....			14,009	14,050	14,129	14,242
1952....	14,277	14,336	14,459	14,496	14,568	14,657
1953....	14,682	14,730	14,845	14,886	14,996	15,074
1954....	15,105	15,162	15,287	15,330	15,409	15,507
1955....	15,535	15,587	15,698	15,736	15,803	15,893
1956....	15,919	15,972	16,081	16,118	16,193	16,308
1957....	16,344	16,420	16,589	16,650	16,745	16,860
1958....	16,887	16,948	17,048	17,085	17,154	

NATIONAL RESEARCH COUNCIL

During the fiscal year 1957-58, the National Research Council:

- provided \$3.6 million to support pure research in the universities (510 grants; 305 scholarships and fellowships);
- employed 583 scientific research staff (including 142 postdoctorate fellows), 854 technical personnel, and 888 general service and administrative staff;
- operated five laboratory Divisions in the sciences: Applied Biology, Applied Chemistry, Pure Chemistry, Applied Physics, and Pure Physics;
- operated three engineering Divisions: Building Research, Mechanical Engineering, and Radio and Electrical Engineering;
- operated two regional laboratories, one at Halifax and the other in Saskatoon;
- operated a Division of Medical Research to award grants and fellowships in support of research in this field;
- sponsored 30 Associate Committees, operating in such diverse fields of science as Aquatic Biology, Corrosion Research, Plant Breeding, Radio Science, and Soil and Snow Mechanics;
- answered 9,500 technical enquiries from Canadian industries.

This information was contained in the forty-first annual report of the National Research Council of Canada, 1957-1958. Excerpts from the Report of the President, Dr. E.W.R. Steacie, follow:

"During the past year the West has been forced into a new look at science and this has resulted in some speeding up of research efforts in most countries, Canada among them. Canada has an additional reason for such an acceleration since we are rapidly undergoing an industrial expansion and it is, therefore, necessary for us both to keep up and to catch up in industrial research. The speed with which we become industrialized will undoubtedly be related to the research done inside our borders. It has become a cliché that the fundamental research of today becomes the manufactures of tomorrow. Close and careful attention must, therefore, be given to the expansion of scientific research in our universities, our Government laboratories, and our industries.

"Because of contacts through the scientific literature and of other kinds, research workers in the West have been aware for many years that scientific research in the Soviet Union is sound and productive. It has repeatedly been stated that Soviet scientists were certain to make considerable advances in those fields in which they were prepared to make a special effort, and yet a year ago the general public firmly believed that the Western position in science was "unassailable" and that there was no possibility that the Soviet Union could challenge western "supremacy". This complacency was shattered by the launching of the first earth satellite which showed in a

dramatic way that Soviet science and technology are indeed extensive and efficient.

"The launching of the first satellite did, in fact, indicate a change in the U.S.S.R. although neither so dramatic nor so ominous as interpreted by the public. It did not mean that the U.S.S.R. had become a great scientific nation overnight. On the contrary it showed that the system of education and the programme of scientific research pursued systematically over thirty years had been thoroughly successful and in consequence the U.S.S.R. must in the future be accepted as an advanced nation.

"Science, among other things, is the basis of military power and the foundation of industrial strength. It is this realization which to some extent accounted for the reaction to Sputnik. Those who had previously refused to believe the U.S.S.R. capable of any scientific research not directly copied from the West frequently swung to the other extreme and proclaimed that the West was lagging badly in all fields of science. This is, of course, a complete misconception. What is implied by events is that Soviet scientists have now reached parity with the most advanced Western nations in science. It is nevertheless most unfortunate to regard science as a race with Russia. Our scientific effort should be aimed at our own means and desires rather than interpreted on the basis of per capita competition with another nation. There is no question, however, that entirely apart from any consideration of what Russia may or may not be doing, Canada's own immediate requirements in her expanding universities and her expanding economy demand a considerable increase in Canadian scientific effort. The national scientific effort consists of three parts--the universities, the Government laboratories and the industrial research laboratories.

RESEARCH IN THE UNIVERSITIES

"The Council has instructed me to urge the Government to increase its support for scientific research in universities. During the fiscal year 1957-58, the National Research Council provided over 3½ million dollars to Canadian universities to support scientific research and to assist post-graduate science students. During the next fiscal year the Council has recommended that the programme for university support should be increased to six million dollars, and this figure has been tabled in the estimates. Beyond that, if scientific research is to keep pace with the expected expansion of the universities and of industry, continually and rapidly increasing financial support will be necessary from the Federal Government, the Provincial Governments, and from private agencies.

GOVERNMENT LABORATORIES

"Much also remains to be done in the other areas of scientific effort, the laboratories

of Government and of industry. The secondary or manufacturing industries depend to a very large extent on science, to an even greater degree than do the primary industries. If, therefore, the economy is to expand further, scientific research must be expanded at a faster rate than the economy itself. A continued increase in research in Government institutions is therefore essential. At the present time much research that affects industries of all sizes in Canada is done in federal and provincial laboratories, and this will continue to be true, particularly in large scale or expensive fields such as aerodynamics and atomic energy. Government laboratories and Technical Information Services are also particularly useful to the smaller industries which cannot hope to be technically self-supporting. At the present time the picture as far as Government laboratories are concerned is healthier than that of the universities or of industry. Canada is spending per capita an amount which is roughly the equivalent of that in the United States or Great Britain on Government laboratories, while support for research in universities and spending on research in industry lags considerably behind. In spite of this, however, research effort is expanding rapidly in all countries and a continued growth of government research laboratories is essential. This is particularly the case because of certain limitations to research in industry in Canada.

INDUSTRIAL RESEARCH

"With the growing importance of a secondary manufacturing in our economy, research performed by industry itself has been on the increase. Before the last war, secondary manufacturing contributed about 15 per cent to the net output of the economy and employed about the same percentage of the civilian labour force. Since the war these proportions have risen to 22 per cent of total net output and to nearly 20 per cent of the civilian labour force.

"Before the war Canadian secondary industries spent less than \$5 million a year for scientific research. In 1956 they spent about \$80 million, which represents an increase of 20 per cent over the previous year. More than 80 per cent of current expenditures is for research in company laboratories in Canada, and only 18 per cent for work done outside Canada. These figures may indicate a departure from the former dependence on research conducted by parent companies outside Canada.

"A significant fact about these research expenditures, however, is that about 65 per cent of them are made by a relatively few large companies. This top-heavy pattern differs little from what is found in other industrialized countries. Not only do larger companies conduct more research; they are also more alert to the work of government laboratories, and to the services provided by the provincial

and federal governments. One explanation of this, of course, is that changes in products or techniques which are suggested by research involve capital outlay which the larger firms can better afford. It is an historic fact, however, that many of our large firms of today owe their expansion to the successful use of scientific techniques.

"Compared with the United States or Great Britain, Canadian expenditure on research by industry is relatively low and there is no question that it will have to expand in the future if Canadian industry is to continue to develop. There are, however, many difficulties ahead. These include the control of Canadian companies from abroad, the tendency for research to be done by the parent organization, the relatively small size of most Canadian companies, and above all the relatively small Canadian market as compared with the market in the United States. In spite of these difficulties, however, the last ten years have seen a very considerable expansion in Canadian industrial research and the future outlook is definitely encouraging. It is, however, essential if such an expansion is to occur that the supply of competent scientists and the general scientific atmosphere be satisfactory. This means that research in the universities and in Government laboratories must be maintained on a high level if the expansion within Canadian industry is to take place.

"The whole Canadian scientific picture thus looks encouraging. It will, however, necessitate a major effort to bring about the type of expansion that will be required for the future. This effort involves above all continued and increasing support of Canadian universities which are the sole source of supply of the people necessary for an expanded scientific effort. In addition industrial research rests on the foundation of pure science and of long-term applied science, and it is essential that every encouragement be given both to university and to Government research in these fields."

AWARDS AND COMMITTEE SERVICES

"The Awards and Committee Services Branch administers all Council activities associated with the support of scientific research in Canadian universities.

"A major portion of the work of the Branch is the operation of an extensive scholarship programme designed to assist outstanding students in Canadian universities who are taking postgraduate training. To graduates in science, engineering, mathematics and psychology, Bursaries are offered for the first year, and Studentships for subsequent years of postgraduate training. The former have a value of \$800, the latter a value of \$1,200 for the academic year; summer supplements amounting to \$800 may be added, at the discretion of the students' supervisors, for work during the summer months. A few Special Scholarships

valued at \$2,000 per year are also awarded at the predoctoral level for tenure outside the country, if the desired training is not available in Canada. A limited number of Post-doctorate Overseas Fellowships, valued at \$2,700 per year for single, and \$3,500 per year for married Fellows, are also available for study abroad. To graduates in medicine and dentistry, Graduate Research Fellowships ranging in value from \$2,200 to \$4,500 per year, depending on qualifications and experience, are offered for research training in the basic sciences. All awards are offered in competition, on the basis of academic merit. In the year 1957-58, a total of 287 scholarships and fellowships were awarded, of which 231 were held; summer supplements were awarded to 190 students.

"In addition, Postdoctorate Fellowships are awarded annually in open competition to Canadians and nationals of other countries, for tenure in the Council's own laboratories, in the laboratories of Canadian universities and in those of other federal government departments such as Agriculture, Mines and Technical Surveys, and National Health and Welfare. These Fellowships are valued at \$3,700 per year for single, and \$4,500 for married Fellows. At the end of March 1958, 142 such awards were being held in the Council's main and regional laboratories, 31 in the laboratories of other government departments and 41 in Canadian universities. This phase of the Council's programme has now been in operation for 10 years and has had a most stimulating effect on the work done in Canadian laboratories.

"Medical Research Associateships are awarded to individuals of outstanding ability and training who have proven capable of conducting fulltime independent research programmes; they are tenable in Canadian medical schools and appointments are made on application by the universities, who must undertake to provide adequate research facilities and to give the Associates appropriate honorary or academic rank on their staffs. Appointments are made initially for two years, and may be extended subsequently for further periods on the recommendation of the universities as approved by Council. Eight such Associateships are currently held in Canadian universities.

"As in former years, Awards and Committee Services handled the annual competition for the Nuffield Foundation Dominion Travelling Fellowships in Medicine and for the Shell Oil Company Scholarships. It continued to administer the National Industrial Design Scholarships, for which funds are provided by the National Gallery, and the scholarships awarded by the Fisheries Research Board of Canada. For the first time, Canadian applications for the fellowships and grants in radiology offered by the James Picker Foundation were processed by the Branch, which will also be responsible for

administering the funds provided by the Foundation.

"By far the largest part of the extra-mural programme, in terms of dollars, is that of grants in aid of research in the pure and applied sciences and in medicine. Approximately 500 such grants were made during the year, to support scientific research projects being carried out by highly qualified investigators in Canadian universities and hospitals. Expenditures for support in this form totalled almost 2.3 million dollars, including \$400,000 administered on behalf of the Atomic Energy Control Board.

"The Council continued its financial contributions to the activities of such organizations as the Royal Society of Canada and the Canadian Standards Association, and to the cost of the research programme associated with the International Geophysical Year. Membership was maintained, on behalf of Canada, in a number of international scientific unions, and travel assistance was provided to enable official delegates to attend the meetings of such groups. Funds for all these purposes were administered by the Branch.

"The administration of the funds of 30 Associate Committees sponsored by the Council was handled by the Branch, and members of its staff continued to act as secretary to the Associate Committees on Applied Psychology, Corrosion Research and Prevention, Dental Research, Forest Fire Protection, Geodesy and Geophysics, and High Polymer Research. The Committee system was established early in the history of the council, and has proved to be a most effective way of developing and co-ordinating scientific research in Canada. The members of Associate Committees are drawn from industry, universities and government, and serve without remuneration. The operating cost to the Council of these Committees amounted to approximately \$65,000 during 1957-58, a small amount in proportion to the invaluable advisory assistance rendered on problems of national concern.

EDITORIAL OFFICE

"The Editorial Office is responsible for publishing six scientific Journals, each dealing with a different subject field. Three of the Journals are issued monthly and three bimonthly; all are distributed widely, on a subscription basis, throughout the world. In the calendar year 1957, 773 papers (7,136 pages) were published in these Journals.

"Of the contributions published in the six Journals as research papers, notes, or letters to the editor, approximately 41 per cent were from federal or provincial government departments or agencies (about half of which were contributed by the staff of the National Research Council itself), 43 per cent were from Canadian universities, 2 per cent from workers in government agencies in collaboration with workers in universities, and 14 per cent from other sources, both in and outside of Canada."