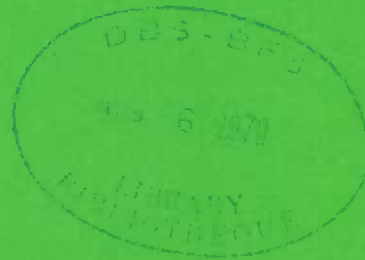


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# STATISTICAL OBSERVER



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# Plans for the 1971 Census of Canada

The 1971 Census of Canada will be markedly different from previous decennial censuses in three major ways: It will be conducted largely on a self-enumeration basis; more extensive use will be made of sampling techniques; and questionnaires have been designed to provide more statistics of higher quality than resulted from all previous censuses.

The following paper by W.D. Porter, Director of the DBS Census Division, explains the changes.

## Importance of the 1971 Census

The increasingly complex problems of modern-day planning, administration, and research, in both the public and private sectors, have led to a substantial escalation in the demand for census information. More statistics will be expected from the 1971 Census than from any previous census. Regional development planning, urban renewal projects, education and manpower programs, poverty and welfare assistance measures, and market research analysis, are some of the fields in which increasing needs of users have been articulated and evaluated during the planning stages for the 1971 Census.

The Canadian Census of today has far wider uses than its original purpose of apportioning electoral representation. Its importance hinges on its role as an inventory of the people — their numbers and local distribution, age and sex, language, ethnic and religious composition, educational attainment, occupational and industrial employment, income levels, housing and agricultural conditions. These facts are not only vital in themselves but they are especially significant when derived from a census which permits their analysis in relation to one another, and when viewed against the background of history and natural environment.

Census data form a standard by which other indicators relating to the nation's well-being can be measured with real meaning (e.g., birth and death rates, criminality, production, trade, wealth, unemployment, migration). Of critical significance are the uses made of the census results in the development of plans and the formulation of social and economic policy by government departments and the business community.

## Content of Questionnaires

In establishing the questions for the 1971 Census, planning committees and work groups worked closely with representatives of other federal departments and agencies, many of whom were active participants in these groups. Careful consideration was given also to submissions received from provincial statistical agencies and from nongovernmental agencies representing the business community, universities, town planning experts, and other users of census data.

Decisions to include or exclude specific items in the 1971 Census were largely based on: (1) the value of a question, e.g. for the administration of government or other important needs; (2) relative cost; (3) the ease or difficulty in obtaining reliable data; and (4) respondent work loads and tolerance. The evidence avail-

able from almost three years' investigation of user needs, and evaluation of a field testing program indicate that the 1971 questionnaire content represents a judicious balancing of the essential criteria: it will satisfy the needs of users without imposing an unacceptable burden on respondents.

**Population and Housing** — Changes in the questions for the 1961 Censuses of Population and Housing that have been recommended for 1971 result mainly from demands for more detail within existing subject fields. Education questions have been expanded to include vocational and occupational courses; net income of persons operating farms has been added; a question on language commonly spoken, recommended by the B & B Commission, has been added to those on mother tongue and official language; transportation agencies and town planners have effectively argued for inclusion of a question on address of place of work to determine relationships between where people work and where they live. Additional questions have been included on rent, fuel used, and vacation homes.

**Agriculture** — The Census of Agriculture is taken at the same time as the Censuses of Population and Housing. Questionnaire planning for the 1971 Census of Agriculture began in 1967 with the formation of a federal interdepartmental committee. During early 1968, meetings were held with provincial representatives in each province, with university users, with the federal Department of Agriculture, and with the Statistical Committee of the Farm Equipment Institute. Recommendations were reviewed by the interdepartmental committee and the resulting questionnaire was field-tested in October 1968.

In the 1971 Census of Agriculture, one general questionnaire is planned to replace the four questionnaires used in 1961. Irrigation questions and questions on forest products (on a reduced basis) form part of the general questionnaire for 1971. New questions relate to the use of fertilizers and sprays, and to the classification of the part-time work of farm operators by kind of work done. Additional items of farm machinery and equipment are included in the appropriate questions.

In the summary, farm operators will have approximately the same number of agricultural questions to answer in 1971 as in the preceding decennial 1961 Census. The questionnaire on non-farm holdings is being dropped since their importance is now negligible.

## General Methodology

The development of the proposed methodology for the 1971 Census received its initial impetus from the evaluation of the quality of the 1961 Census and from the study of similar international experience, particularly in the United States. This research identified several important sources of error to which census statistics are subject. Respondents may inadvertently or deliberately provide erroneous information. Enumerators may influence answers in a number of damaging ways. Additional errors are possible at the data processing stage. The studies indicated that by far the largest reduction in error could be expected



if the role of the enumerator in the data collection process was minimized.

**Development of "Self-enumeration" Techniques** – From the foregoing studies, it became an objective of the 1971 testing program to develop methods that would reduce the role of the enumerator. These methods, involving self-enumeration, have several variations, but a common goal is to have each adult member of every household answer the census questions pertaining to himself, and where necessary to consult relevant records. Households or persons who do not answer the census questions or who make significant omissions are contacted by telephone or canvassed by an enumerator.

The "do-it-yourself" technique of enumeration is preferable to the traditional method where the enumerator must ask, interpret and record quick answers to intricate questions, given for all members of the household by any responsible member whom the enumerator happens to contact at home.

A small proportion of the population cannot, however, be covered by self-enumeration techniques. These include, for example, the people in the vast northern regions, the coastal outposts, institutions, and military barracks, all of which present special problems requiring traditional canvasser methods.

**Field Testing Program** – A series of census field tests, starting with a small pre-test in Ottawa in December 1966, followed by a complete test enumeration of the city of London in September 1967, a test of 6,000 households in Toronto in June 1968, and a rural test in four representative localities across Canada in October 1968, was designed to investigate the merits of various field methods for the 1971 Census.

Two of the tests assessed the advantages of self-enumeration, with questionnaires mailed to all householders for their completion and returned by mail to a central processing office. In the rural test, a combination of the traditional interview method and enumerator "drop-off" and "pick-up" of questionnaires was employed.

Response rates in these various field tests indicated the feasibility of employing self-enumeration techniques. A trial Census, or full-scale dress-rehearsal was held in September 1969 in three localities: Sherbrooke, Quebec; St. Catharines, Ontario and the rural areas around Souris, Manitoba. As a result of this intensive testing program, field plans for the 1971 Census call for a system of enumerator "drop-off" of self-enumeration questionnaires to the householders for their completion and "mail-back", to be employed in the larger urban centres. In smaller centres and rural areas, enumerators will drop off the questionnaires (including agriculture, where applicable) and will return to pick up the completed forms.

### The Use of Sampling

Self-enumeration and extensive sampling in 1971 appear to offer the best combination to achieve the basic aims of the census in terms of cost, quality, and timeliness of the data.

New field methods have, as a main objective, the production of data of higher quality through the use of self-enumeration tech-

niques. The degree to which sampling will be employed is directly related to the reduction of costs and to the production of more timely results. Sampling will contribute to error, particularly for tabulation "cells" with very small numbers of observations, but the reduction in error through self-enumeration is expected to be greater. The objective is to minimize total error, at acceptable cost. Sampling, it is expected, will make a relatively small contribution to total error, will significantly increase operational efficiency and control, and reduce cost. Also, by reducing the editing and processing work load, sampling should make a major contribution to the timely release of census results.

Sampling is also an essential technique in reducing the burden on the respondent. There have been strong pressures to expand the range of inquiry of the census. Without sampling, additional questions could not have been included in the 1971 Census, partly because of the additional processing burden that would be imposed on DBS, but also because of the response burden which would be imposed on the public.

Sampling has been used as a census-taking technique in Canada since 1941. At that time, its use was restricted to the collection of housing data and a sampling ratio of 10 per cent was employed. The procedure proved to be effective and was extended to a 20 per cent ratio in 1951 to provide additional geographical detail. In 1961, its use was further extended to population questions, and a sample of 20 per cent of households was asked additional questions about income, migration and fertility.

A major extension of this technique will be used in the 1971 Census employing two questionnaires. A "short" questionnaire, containing just six basic population questions, to be answered by everyone, and nine housing questions, to be answered by household heads, will be completed in two thirds of all households in Canada. A "long" questionnaire containing the same 15 basic questions, 20 housing, and some 50 socio-economic population items will be answered by the remaining one third of Canadian households. Thus, compared to the 1961 Census, two thirds of all households are being asked substantially fewer questions (averaging eight per person as compared to 20 in 1961), and only one third are asked significantly more questions (averaging 48 per person as compared to 36 in 1961).

A great deal of intensive investigation into the relative costs and benefits of alternative sampling ratios for different combinations of questions preceded the final decision to recommend a 33 1/3 per cent sample for all but the basic questions. The more extensive use of sampling is not expected to reduce the availability of 1971 Census statistics as compared to 1961, for either small geographic areas or detailed cross-classifications.

Small numbers – five, 10 or even 15 – contained in census tabulations have significant error associated with them. The error contributed by sampling will not make results any less acceptable than the results from 100 per cent coverage. Even where the data are found by the user to be inadequate, they will frequently be sufficient to indicate problem areas and the need for more intensive survey information.

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By its nature, the census is a multipurpose information medium and, as such, cannot provide a sufficient depth of data for many particular purposes. This is one of the important reasons that DBS is planning to expand its survey capability to meet special information requirements that cannot be satisfied by census statistics.

### **Data Access and Dissemination of Results**

Plans have been made to improve the effectiveness of the storage and retrieval of census data substantially over 1961 and 1966. The computer technology which is available for the 1971 Census has far greater capability than that of earlier censuses. The computer experience of 1961 and 1966 is also being incorporated into the systems design, and software and hardware plans for 1971.

In the development of new methods, procedures and programs to improve effectiveness and efficiency in census data access by users, emphasis is being given to extending the range and volume of tabulations available in published, print-out, and machine-readable form. Close examination is being given to the preparation of working arrangements with provincial governments and other major user groups for efficient access to census statistical data through more extensive and comprehensive use of user-oriented census data automated files.

The extended capabilities of computer technology are also being used for the benefit of the continuously increasing number of census data users requesting a wide and diversified range of special tabulations by means of computer storage and retrieval programs such as the DBS Geographically Referenced Data Storage and Retrieval System (GRDSR or geocoding) and CASPER. The geocoding system, under development, is expected to provide rapid and economic access for users requesting special tabulations for non-standard types of areas.

More user-oriented literature, catalogues and manuals on census data access will be prepared in order to ease and increase the effective utilization of the vast potential of the 1971 Census data.



# NEW PROJECTS

## Census Data Collection Methods Under Study

Two major evaluation studies of Census data collection methods are being undertaken jointly by the Census Division and the Sampling and Survey Research Staff of DBS.

The Reverse Record Check is a project which is designed to determine the extent of underenumeration, the number of people missed during the Census enumeration, and to detect the kinds of people that tend to be missed. In the Reverse Record Check project carried out in connection with the last Census for example, it was found that as many as 10 per cent of the people in a certain age bracket were missed. Hence, this project identifies the problem areas so that they may be investigated to determine ways of reducing underenumeration in future censuses.

In addition, the data resulting from this project can be used in conjunction with the tabulated census statistics on population to obtain a more accurate indication of the population that the Census attempted to measure. There will be two or three extensive clerical operations involving searching, to determine whether or not certain people were enumerated, and a tracing operation of those who could not be found in the list of the enumerated people.

The Response Variance Study is to be undertaken so that an estimate of the reliability of published census data can be provided for certain characteristics. In the past, the published Census data have been taken as the absolute value of the reported characteristics. However, a respondent can be interviewed twice by the same person and be asked a question referring to the same time period, but give two different answers. In addition, since most of the census questions are asked on a sample basis (in the 1971 Census, only one third of the households will be asked to answer some 90 questions) there will be a variability in the estimates due to the sampling. Hence, the published census data not contain the absolute value for each of the questions. Since many of the users will be aware that sampling was used in the Census and some will even be aware that there is response variance they may well query the reliability of the published data. Since the present-day users of Census data are becoming more statistically oriented and are putting the Census data through more statistical tests, the users must be provided with some estimates of the reliability of the data they obtain from DBS.

*Inquiries should be directed to G.B. Gray, Sampling and Survey Research Staff, DBS, Ottawa, 3.*

## Area Measurements Completed for Census Subdivisions

The Census Division of DBS recently completed the compilation of land area measurements of census subdivisions as of June 1 1966, the first readily available measurements based on a uniform method.

Most measurements were performed by planimeter except in the Prairie Provinces where the survey system does not warrant the use of such an instrument. Measurement was performed on maps with scales corresponding to population density, generally

1:50,000 and 1:250,000 in the settled areas and smaller scales in sparsely populated regions. In each case, the concept was of land area; water bodies were excluded where possible and an attempt was made to indicate the area of Indian reserves included in the census.

The census subdivisions are coded on the basis of the Standard Geographical Classification rather than the census code.

The publication of this data on base leaf pages constitutes provision for changes which occur for a variety of reasons, but especially from municipal boundary changes. Such changes will be incorporated in the listings on a periodic basis.

*This uncatalogued information may be obtained from Geography Section, Census Division, DBS, Ottawa, cost: for complete set - \$3.00 or \$1.00 per region. Inquiries on the Standard Geographical Classification should be directed to: Central Classification and Company-Establishment Integration Staff, DBS, Ottawa, 3.*

## Expanded Survey of Consumer Finances

A new survey of incomes, assets and indebtedness, covering the year 1969 has just been completed. The survey was designed by the DBS Consumer Finance Research Staff and was conducted by the Special Surveys Division.

Although basically similar to the 1963 survey as reported in *Incomes, Assets and Indebtedness of Non-Farm Families in Canada, 1963* (cat. no. 13-525), a number of new features have been added. The sample size has been increased from 8,400 to 13,500 households and now includes farm families; new questions have been added on car ownership, contributions to pension funds and payments for life insurance premiums.

The family income part of the survey, as in similar surveys conducted in the past, will inquire into the size and sources of income of the family; sex and age of the head of the household, number of children; family characteristics; and tenure.

The survey will also gather information on asset holdings of families by size and composition of asset holdings at different family income levels; total assets held; age of family head; and other family characteristics.

The survey will also inquire into the debts of families and individuals, the type of debt contracted - consumer, mortgage or other debts - amounts outstanding and percentage distribution among the various income levels and age groups.

*Inquiries should be directed to Mrs. G. Oja, Chief, Research and Analysis, Consumer Finance Research Staff, DBS, Ottawa, 3.*

## Publications Program Expanded in Aviation Statistics

A comprehensive review of the publishing program and the data collection procedures of the Aviation Statistics Centre of the Transportation Division of DBS has resulted in substantial improvement in timeliness in ASC publications and service to users of air carrier data. This review was prompted initially by the increasing burden imposed on the air carriers by the regulatory

nature, number and complexity of the questionnaires, and the need of the carriers themselves for more information and improved timeliness.

The first step in the review — an examination of the Civil Aviation Survey, a continuing survey conducted jointly by DBS and the Air Transport Committee of the Canadian Transport Commission — was followed by interviews with carriers to get first-hand information on all aspects of the survey as it affected their paper workload and their data needs.

With this information and with redefined government information requirements, questionnaires were revised so as to produce information on the basis of the type of operation of the carrier rather than on the basis of the size of the service. The result is that the same statement is completed by all carriers engaged in the same type of service regardless of the size of the operation. New statements were also designed to correspond as closely as possible to the air carriers' own system of keeping records.

The Fleet Survey is an example of the improvements resulting from the review. Formerly, each carrier had to list all his aircraft types quarterly. This placed an unnecessary burden on the respondents. At the same time, changes in individual fleets could only be ascertained by ASC by direct comparison of one quarterly list with previous lists. In the new program, which began in October 1969, each carrier is provided by ASC with a computer print out of his previous report with provision on it for updating. This new reporting procedure has reduced delinquencies in reporting by 90 per cent and has considerably reduced the work of compiling the information from reports of the carriers.

Developments on the publication side include three new reports: *Trans-Continental and Regional Air Carrier Operations* (cat. no. 51-001), is a new monthly publication specially designed to meet the needs of the two transcontinental and five regional carriers who are the largest users and the largest contributors of information to the industry. It provides operating statistics, and revenue and expense data for the seven carriers in both domestic and international services. It replaces the *Civil Aviation Monthly* (cat. no. 51-001).

*Air Carrier Operations in Canada* (cat. no. 51-002), gives a picture of the entire industry each quarter with year-to-date figures in each issue. The fourth quarter issue will carry figures for the full year and will replace the former annual report (*Civil Aviation, Preliminary*, cat. no. 51-201).

*International Air Charter Statistics* (cat. no. 51-003), to be issued quarterly beginning later this year, will feature four double-scale charts summarizing the most important current factors in international air charter operations with figures for the previous year. It will also contain statistical information in summary form in cross-referenced tables with overlapping captions and stubs to facilitate interpretation. These data, hitherto unknown or not available, are of significant analytical value to the air carriers and regulatory bodies.

*The Civil Aviation Annual Report* (cat. no. 51-202), will be completely revised for the 1970 edition and will be issued as the *Canadian Aviation Handbook*. It will contain data on general avia-

tion, air carrier activity, airport activity, origin and destination statistics and many other topics of general interest to the aviation industry.

*Inquiries should be directed to G.E. Clarey, Chief, Aviation Statistics Centre, 275 Slater Street, 12th Floor, Ottawa 4.*

## Retail Price Differentials Now for 11 Cities

Measurements of retail price differentials prevailing between a number of Canadian urban centres previously published to reflect inter-city comparisons as at May 1965 and May 1968 have now been updated to May 1969. The cities of St. John's, Nfld., Charlottetown, P.E.I. and Saint John, N.B. have been added to the list of urban centres for which place-to-place comparative retail price information was presented earlier.

Differential price indexes for Regina, previously limited to foodstuffs, have now been extended to include non-food items. In the case of St. John's, Nfld., differentials for food items and a limited number of non-food items are shown, while for Saint John, N.B., the comparative retail price information is limited to foodstuffs.

As before, for most cities, comparisons are drawn for commodities and services comprising nearly three quarters of the budget on which the Consumer Price Index for Canada is currently based, with the major omission being shelter (both rented and owned).

For Halifax, Montreal, Ottawa, Toronto, Winnipeg, Regina (food items only), Edmonton and Vancouver, price differentials for May 1969 were obtained by adjusting the inter-city relationships computed in May 1965 by the movement of prices, at the item level, during the intervening four-year period as measured by the various Consumer Price Indexes applicable to each city. The differential price indexes for St. John's, Nfld. and Saint John, N.B., however, were computed on the basis of comparisons of retail prices collected in each of these cities in October 1968 and related to those prevailing in Halifax at that time, with these results subsequently adjusted to May 1969 to facilitate comparisons with other cities.

For Charlottetown and Regina (non-food items only), the index measurements were derived from consumer price data collected in these cities in May 1969 and compared with prices in Halifax and Winnipeg, respectively.

*The study of Canadian inter-city retail price comparisons was published in the November 1969 issue of Prices and Price Indexes DBS (cat. no. 62-002).*

## Comparability Improved in Imports Statistics

The External Trade Division of DBS has recently completed a project which promises to be useful for government studies of international trade policies as well as for statistical integration within DBS.

The project consists of a direct item-by-item concordance between the Canadian tariff item (CTI) and the Brussels tariff



nomenclature (BTN), using the Import Commodity Classification and the Standard International Trade Classification. The concordance has been arranged in two forms:

- (a) CTI order and BTN heading order with each tariff item.
- (b) BTN heading order and CTI order within each BTN heading.

The concordance and concordance tables have been studied by various government departments involved in tariff negotiations, the Department of Finance, the Department of Industry, Trade and Commerce, the Department of National Revenue and the Tariff Board, and the tables have been supplied to the UN Statistical Office, OECD, UNCTAD and GATT. Discussions took place recently in Ottawa between the Director of DBS External Trade Division, and the Chief Statistician of the GATT Secretariat, concerning the use and limitations of the concordance. Further analysis of trade data is intended to provide "effective" tariff rates under each BTN Heading.

The significance of these measures particularly for trade policy, trade promotion and tariff research, lies in the development and alignment of the Canadian tariff with tariffs of many other countries expressed in BTN terms. These measures provide government and business with the ability to make detailed comparisons of Canadian external trade statistics with those of other countries and will also provide the more detailed commodity intelligence necessary for making important trade policy decisions.

*Inquiries concerning this concordance should be addressed to G.A. Richardson, Director, External Trade Division, DBS, Ottawa, 3.*

### **Economic Accounts Branch Undergoes Reorganization**

The Economic Accounts Branch of DBS has been reorganized to give recognition to altered roles, relationships and responsibilities which have developed in the Branch in recent years. An essential need for close and continuing coordination between the staff engaged on productivity analysis and the staff estimating real output data has resulted in the former Industrial Output Section and Productivity Research and Analysis Section being combined into a new division, the National Output and Productivity Division. G.J. Garston is Director.

At the same time, it became apparent that the functions performed by the former National Accounts Section, particularly those relating to coordination and integration of data, could be carried out more effectively as a Division. The name was changed to National Income and Expenditure Division to more adequately identify its precise status within the overall Canadian System of National Accounts. G. Leclerc is Director.

The General Time Series Staff includes overall responsibility for the administration of CANSIM (Canadian Socio-economic Information Management System), as well as functioning as a DBS focal point for general time series development. Miss Mary Lennox is Chief.

The role and organization of the Balance of Payments and Financial Flows Division remains unchanged.

### **Railway Statistics Converted to SCC Basis**

After a long period of studies and negotiations, DBS has completely revised its railway freight statistics. This new form of presentation, which begins with the January 1970 data, deals with two main areas: (a) the commodity conversion project, and (b) the railway carloadings program.

(a) Commodity conversion project — before conversion, railway commodity statistics were based on the railway's commodity codes condensed to 267 items. As such, they were not comparable with the other DBS series based on the Standard Commodity Classification (SCC). The SCC was developed by DBS to be compatible with the United Nations Standard International Trade Classification, and has proved to be particularly well suited for classifying foreign trade statistics.

The task of converting the railway's 13,000 commodities was undertaken after the new condensation of the SCC, consisting of 320 commodities, was established. Involved in this task were extensive negotiations and analysis and the writing of new computer programs — much of the work being done by the major railways.

Because of the changes, *Railway Freight Traffic* is now more comparable with other DBS publications in the commodity series. In addition, the segregation of potash, lignite coal, container traffic and other commodities which have recently become economically important, has considerably increased the usefulness of the publication.

(b) *Carloadings* has also been expanded this year to show a 70-commodity breakdown in place of the 48-commodities previously used. This expansion now permits the segregation of several commodities, including potash, sulphur, lead and zinc ores, and plywood, which have been gaining in economic importance. Cars received from connecting railways will now be listed as coming from Canadian or from United States connections. Piggy-back traffic will also be segregated to show trailers separate from containers.

In addition to this extra detail, the new form will show tons loaded as well as carloads. This should provide a measure of traffic volume which will not be affected by the gradual introduction of larger equipment.

The frequency of *Carloadings* has been changed to monthly from four times a month. However, total carloads and tons, along with piggyback carloads and tons for Eastern and Western Canada, will continue to be available on a four-times-a-month basis for those desiring a quick economic indicator.

*Inquiries should be directed to A. L. Brown, Director Transportation and Public Utilities Division, DBS, Ottawa, 3.*



# PROJECT PROGRESS REPORTS

## Improvements Continue in Timeliness Program

Further progress has been made in improving timeliness of release of DBS data. At the start of 1970:

*Exports by Commodities* was issued an average of 45 days after the reference date – a noteworthy improvement over the 99-day average time lag of 1967. In *Imports by Commodities*, the time lag dropped sharply from 1967 to 1968 – 103 days to 57 – and has shown continued though modest improvement for 1969 at 56 days.

In *Employment and Average Weekly Wages and Salaries*, the time lag improved from 92 days in 1967 to 69 days at the end of 1969.

The *Summary of Foreign Trade* was issued seven days earlier in 1969 than in the previous year and 43 days earlier than in 1967. The present figure is 59 days from reference date to issue date.

For *The Index of Industrial Production*, important as a cyclically coincident economic indicator and a major integrating device within DBS, the time lag in 1969 was 42 days, slightly better than the target of 45 days set by the Timeliness Committee when the program began.

*National Income and Expenditure Accounts*, a comprehensive economic indicator, was the subject of a Timeliness Committee investigation in late 1968 and 1969. Results of the work of the Committee and the various other groups involved began to be felt in the third quarter of 1969 when the information was released 52 days after the reference date: much closer to the U.S. figure and a decided improvement from the first and second quarter figures of 84 and 92 days. The fourth quarter figure was 57 days.

*Canada's Balance of International Payments* is now released within 45 days of the end of the reference quarter, an improvement of 30 days, and coinciding with the U. S. early release date.

## Job Vacancies: Some National Data Soon

The Job Vacancy Section of the DBS Labour Division continues to make progress toward its objective of providing data on current and future job vacancies. The Survey, undertaken on a cost-recoverable basis for the Department of Manpower and Immigration, was made necessary by the growth in selective manpower policies and their increasing demand for data on vacant jobs at any particular time. Without this information as an essential complement to readily available information on unemployment and the unemployed, the planner is at a distinct disadvantage.

The establishment of such a survey, with almost no previous experience and with limited knowledge of the job vacancy market, presents considerable problems of definition and concept. Requirements for data for policy decisions make speed essential while the need for theoretical relevance and future adaptability induce caution.

A highly generalized data system and the building-up of a large interview capacity, which assists in improving data quality and also allows for periodic collection of additional information,

provide an inherent flexibility in the system enabling response to changing analytical requirements with minimal complication.

The core of the job vacancy definition is objective recruiting action by the employer, undertaken during a specified time period, to fill a position that is vacant. The minimum duration of a vacancy is one day. Additionally, vacancies covered in the survey are required to be "external" or available to the general labour market, rather than "internal" or filled only from the establishment's current list of employees. Normally, the firm's labour requirements will "feed through" the internal market before appearing as external vacancies. A job vacancy for the purposes of this survey is therefore a position externally vacant for at least one day, and for which active recruiting is being conducted.

The survey is conducted in two phases, the first by mail, the second by interview. From the DBS central file of 400,000 companies and legal entities, a master file of about 150,000 reporting agents, known as JVRU's (job vacancy reporting units), is made up. The population of the master file is stratified on the basis of size, industry and location, and a mail-phase sample of 25,000 is chosen for each survey occasion.

The results of the survey, conducted twice monthly, will allow monthly estimates of job vacancies by occupation and location, and provide three-month moving averages ending with the current month. The rotation of samples is such that a maximum of reliability is achieved over six survey cycles, or every three months.

The methodology and the findings of the survey will be subjected to intensive evaluation over the next year. Because this is an entirely new field of investigation and because of the complexity of the program, no firm data can be set for the release of data but it is hoped that some data at the national level will be available by the end of 1970.

*Further information on the Job Vacancy Survey may be obtained from Job Vacancy Survey Section, Labour Division, DBS, Ottawa, 3.*

## Canadian Travel Survey Postponed

The inability of some of the provincial sponsors to contribute financially toward a major household survey of travel has resulted in the survey's postponement. The sponsors, the Office of Tourism, Department of Industry, Trade and Commerce, and the tourism offices of the ten provincial and two territorial governments, had agreed that the survey should begin in April 1970 and plans were well advanced.

## **Dr. S.A. Goldberg, New Chairman, Income Research Association Council**

Dr. S.A. Goldberg, Assistant Dominion Statistician, Integration and Development, was elected Chairman of the Council of the International Association for Research in Income and Wealth at the General Conference held in Nathanya, Israel. Dr. Goldberg has been a member of the Association almost since its inception and has served on its Council.

The Association was founded in 1947. Its aims are the advancement of knowledge related to national income and wealth. Its fields of interest are the definition and measurement of national income and wealth, and development of systems of economic and social accounting and their use for economic policy, international comparisons, and other economic analyses.

This conference, held in August 1969, was the eleventh for the Association. Sessions dealt with: the role of prices in the national accounting framework; financial accounts; regional accounting; and personal income distribution.

Three papers were presented by DBS staff members. Hans J. Adler, Assistant Director General of the Economic Accounts Branch, in his paper "Approaches to Regional Economic Accounting in Canada", defined 'economic accounts' as a set of statistics useful in economic analysis, and defined 'region' as a province.

The paper was divided into four sections, the first of which contained a brief historical outline of the development of demands for provincial economic accounts and the Dominion Bureau of Statistics response to these needs.

Apart from a description of the more well-known conceptual difficulties, some of the fundamental problems of the usefulness and applicability of a national accounting framework to the regional scene were discussed. The resource problems of constructing analytically meaningful and reliable, as well as spatially reconcilable, regional accounts were described.

The second part outlined the impact of present policies and problems on the development of regional statistics. It described the reasons for the Bureau's desire to strengthen its data base in regional terms and the decision to await possible construction of regional accounts until the regional data base has been fleshed out in a more systematic manner. With the development of the latter, Mr. Adler suggested, the ability, advantages and disadvantages of the provinces undertaking their own estimates must also be more fully explored.

The third part of the paper dealt with an overview of work in Canada on provincial accounts carried out by organizations other than DBS. The last part gave a summary description of the data gaps which exist in presently available regional statistics.

A paper by Miss Jenny R. Podoluk, Co-ordinator, Consumer Finance Research Staff, Socio-Economic Statistics Branch, "Some Comparisons of the Canadian-U.S. Income Distribution," dealt with similarities and differences in the income distribution in the two countries examining cross-sectional data for the period 1951 to 1965. Most of the previous research done in the area of relative income levels and levels of living, Miss Podoluk noted, had been

on per capita comparisons and the results were somewhat contradictory. Her study dealt mainly with the post-war period; sufficient data are not available for earlier years.

The conclusions reached were that current income distributions are very much alike on both sides of the border, that almost the same degree of inequality exists, and that almost the same family and individual characteristics for low and high income groups are present. In both countries, in the period since 1951, sufficient data are not available for earlier years.

A disaggregation of the data to compare more homogenous families and individuals suggests that there are internal differences in the two countries. For example, the smaller proportion of highly educated workers in the Canadian labour force, as compared with the United States labour force, appears to result in greater differentials of earnings between those with low levels of education and the more highly skilled workers. In fact, workers in some of the highly skilled occupations are moving toward parity in earnings with their U.S. counterparts. On the other hand, greater inequality of family income by age of family head exists in the United States than in Canada. U.S. data suggest that inequality has been widening there; in Canada it has been diminishing. Different employment preferences of married women may be a factor in this.

Statistics are not yet available for the assessment of the impact of recent changes in Canadian social security legislation on income distribution. It is possible that when the full effects of these changes are felt, the Canadian income structure may show greater divergences from the U.S. structure than at present.

In their paper "Pricing and Price Indexes in the Service Industries," Miss Betty J. Emery, Chief, Industrial Prices Section, Prices Division, Economic Statistics Branch, and John Randall, Director, Balance of Payments and Financial Flows Division, Economic Accounts Branch, dealt with that aspect of the marketing of services which is concerned with the measurement of output prices.

The paper examined the relative importance of service industries in the Canadian economy and outlined the needs and uses for price indexes in this area. It also suggested the basis for a system of priorities which could be used to select the particular industries for which price indexes could be developed. Trade, transportation and personal and business services, were suggested as the industries offering the greatest potential for short-run achievement.

On the practical aspects of pricing, the paper suggested what might be priced in the priority industries or the coverage envisaged; where pricing might be undertaken or the source of data; and when pricing should be undertaken or the frequency of index calculation.

The value series in current prices, which form the basis for constructing integrated sets of macro-economic systems of statistics, was built up at a considerable cost. The integrated systems now require a substantial matching of commodity and industry-oriented price indexes; the reallocation of resources to price



collection and index preparation; and a large injection of new price data.

*Inquiries should be directed to Dr. S.A. Goldberg, Assistant Dominion Statistician, Integration and Development, DBS, Ottawa, 3*

### **International Statistical Institute Thirty-Seventh Session**

Delegates from 48 countries and five international organizations gathered in London, in September 1969 for the 37th Session of the International Statistical Institute. More than 750 members, mostly from government statistical agencies, participated in nine days of formal sessions, receptions and informal gatherings.

This session, the first held in London in 35 years, was at the invitation of the Royal Statistical Society. It was officially opened by then British Prime Minister, the Rt. Hon. Harold Wilson, at a reception given by the British Government. Later in the Conference, Mr. Wilson was the principal speaker at the official banquet and dealt with the British Government's program on statistics and development of a more centralized statistical system.

The conference dealt with a wide variety of topics, including problems of capital planning, econometrics, statistics in the physical sciences and manpower projections. Computers and data banks were dealt with in some depth. A paper by Dr. I.P. Fellegi, Director of Sampling and Survey Research Staff, DBS, and Dr. S.A. Golberg, Assistant Dominion Statistician, Integration and Development, "Some Aspects of the Impact of the Computer on Official Statistics," made the point that the eventual use of the computer is an important factor to be taken into account during the design of surveys. The development and implementation of the required comprehensive design requires the participation of several disciplines, collaborating as a team under a project manager. Moreover, where possible, individual automated surveys should be designed to be compatible with other similar surveys, to spread overhead costs over a number of projects and enhance opportunities for integration.

The authors suggested that manual interruption of computer processing of survey data be kept to a minimum so that the advantages of computer operations are not lost. They stressed, however, that well-designed automated surveys are distinguished by the amount of care taken to provide an "audit trail" (i.e. summary measures of the impact of computer processing on the collected data) and that it is through these trails that the statistician exercises control over the processing of data by overruling the computer processing where this appears to improve significantly the quality of the final estimates.

The paper also described some lessons learned in automation of some DBS surveys. The Job Vacancy Survey was cited as an example of a complex project which was successfully automated. Part of the reason for its success was that it was designed for automation from the outset, applying lessons learned from other surveys.

The authors stressed that investment in data storage and retrieval systems yielding prompt and flexible statistical services will pay off handsomely. Two major developments in DBS were

described: the Canadian Socio-Economic Information Management System (CANSIM) and the Geographically Referenced Data Storage and Retrieval System (GRDSR).

Automation has already had a considerable impact on the management of the statistical office, it was noted. Comprehensive planning systems, management information systems, and production planning and control systems, have had or will have to be developed. The updating of hardware and the training and re-training of staff were of increasing importance, if bottlenecks or serious setbacks are to be avoided.

The paper also outlined the type of organizational structure best suited to take advantage of the new technology. It was suggested that one benefit of automation was that subject-matter officers who currently have a substantial administrative responsibility would have more time to devote to research, to the needs of users and to liaison with respondents. Closer ties with government departments generating administrative records was becoming increasingly necessary to ensure that full allowance is made for statistical purposes as the departments automate their internal information systems or make changes in them.

Another feature resulting from the new technology was the need for flexibility in moving people from one major development to another. A prerequisite for this is the instillation of a department-wide orientation in people. As far as organization is concerned, a functional type structure may well develop, grouping people primarily by the type of activity they are engaged in: data processing, production planning and control, central registers, classifications survey methodology, field operations, research and analysis.

### **Manpower Projection**

Three invited papers and two contributed papers were presented in the meeting on manpower projection organized by H.P. Lacroix of the International Labour Organization.

Dr. D.F. Johnston of the U.S. Department of Labour, in his paper "The Integration of Supply and Demand Projections in the Labor Force", described the many difficulties in the way of establishing a satisfactory integration of the supply and demand approaches, especially when occupations, skills or educational levels are being studied — as they are likely to be if the projections are to have practical value. Despite the difficulties, Dr. Johnston was optimistic about the outcome.

A paper by C. Vimont, of the Institut National d'études démographiques of France, "*La prévision de la demande de main-d'oeuvre*," reviewed a number of possible ways of presenting labour force demand. He described, as the most commonly used method, one which related the level of employment in each sector of the economy to projected production levels and productivity indices, and which usually breaks down the figures within each sector by occupation or other classifications of labour.

J.N. Ypsilantis, also of ILO, in his paper, "Projection of Manpower Supply", described the basic method for labour force projection used by ILO, and ways in which experience in one

geographical area may be used to improve the projections for other areas.

"The Canadian Job Vacancy Survey: A Measure of Labour Demand" by Dr. Sylvia Ostry, formerly Director of Special Manpower Studies, Integration and Development, and now a member of the Economic Council of Canada, and Alan Sunter, Co-ordinator, Economic and Financial Survey Methods dealt with the program of development of the Canadian Job Vacancy Survey. (See also, Project Progress Reports).

The paper defined a vacant job as one which has not been occupied during some specified reference period and for which recruiting is being actively carried on. The core of the job vacancy definition is current recruiting activity. The activity criterion is applied stringently and literally. Some features of the program which are required by this criterion are: the information must be secured from a respondent who is as close as possible to the centre of recruiting activity (Job Vacancy Reporting Units have been formed in large businesses in these key areas), the survey period is set at one day; the recruiting activity must not be restricted to people within the respondent company; and the survey distinguishes between current vacancies and future-starting-date vacancies.

The authors concluded that:

1. An operationally feasible definition of current and future-starting-date vacancies has been developed and successfully tested.
2. Response units, capable of reporting job vacancy data with minimal error, have been defined and incorporated as sample units of an ongoing survey operation.
3. A large-scale and flexible survey capacity has been established in the enterprise sector.

The International Statistical Institute is an autonomous society devoted to the development and improvement of statistical methods and their application throughout the world. The next ISI conference will be held in Washington, D.C. in August 1971.

*Inquiries should be directed to Dr. S.A. Goldberg, Assistant Dominion Statistician, Integration and Development, DBS, Ottawa, 3*

#### Four DBS Papers Presented at CEA Meeting

The fourth annual meeting of the Canadian Economics Association was held at the University of Manitoba, Winnipeg, Manitoba, in June. Among the papers presented were four from DBS staff:

- "Some Recent Developments and Plans in the Field of Merchandising and Service Statistics", by G. Snyder, Director, Merchandising and Service Division, Economic Statistics Branch.
- "Meeting Research Needs from 1971 Census Data", by Dr. L.O. Stone, Acting Assistant Director, Census Division and H.G. Beyer, Co-ordinator, Research Sub-division, Census Division, Socio-Economic Statistics Branch.
- "DBS Approach to Regional Statistical Needs", by M.L. Szabo, Co-ordinator, Regional and Manpower Research Staff, Integration and Development.

- "Developments in Educational Statistics for Economic Planning," by Dr. Miles Wisenthal, Director, Education Division, Socio-Economic Statistics Branch.

A report on the conference and abstracts of these papers will be given in the next issue of the *Statistical Observer*.

#### Federal-Provincial Conference on Agriculture Statistics

"One of the real reasons for having this meeting is to see whether we can build up better communication among the user groups, DBS and provincial organizations". This was the way W.L. Porteous, Director of the Agriculture Division, DBS, summed up a roundtable discussion in the Federal-Provincial Agricultural Statistics Conference held in Ottawa in March 1970.

The discussion followed the presentation of papers by C. Webber, Division Agronomist, Imperial Oil Ltd., and by L.E. Leighton, Assistant General Manager, Packinghouse Division, Canada Packers Ltd., on the management information needs of agribusiness.

With Mr. Porteous on the panel were Mr. Webber, Mr. Leighton, and Dr. D.H. Plaunt, Director, Farm Management Division, Economics Branch, Department of Agriculture. The panel members representing their industries answered numerous questions on what specific reports and what parts of the reports they found most useful. They, in turn asked questions about DBS surveys and services.

Other topics touched on in the discussion were:

- private surveys by industry and the possibility of joint government industry projects,
- the possibility of issuing information on prices of livestock shipped to stockyards and to packinghouses,
- the reluctance of some farmers to provide information which they considered might benefit packinghouse operators but harm themselves,
- the farmer's need for expert analysis of the statistics,
- confidentiality, the farmer and the Income Tax Act, and
- the relevance of DBS information.

Two papers were presented which dealt with farm labour costs. One, "Farm Wage Survey", by R.B. Proud, Farm Finance Section, DBS, dealt with this survey as it has been conducted since its inauguration in 1940. The other, by Miss A. W. Foster, Prices Division, DBS, "Proposals for Improving the Accuracy and Reliability of Hired Farm Labour Data in their Use in the Price Index of Commodities and Services used by Farmers," was the result of a cooperative effort in which the DBS Prices Division and the Farm Finance Section joined forces to make an extensive appraisal of the Farm Wage Survey. Three major changes were suggested: in sample selection, in specifications of hired farm labour required and design of the questionnaire, and the frequency and timing of data collection.

The proposal that a central register of farms be set up was put forward by R. Gagné, Director of the Quebec Bureau of Statistics. In Mr. Gagné's view such a register could be used:

- to establish comprehensive tabulations according to specific characteristics for specific surveys,



- to serve as a depository for statistical compilations of administrative data, e.g. computerized farm accounting, and
- to serve as a basis for establishing samples.

As a basis for the central register of farms, Mr. Gagné suggested the five-year census as the most readily available source of information, and requested further studies into the technical and administrative aspects of such a project.

Five recommendations were made at the conference:

1. An interdepartmental committee consisting of the Canada Department of Agriculture, DBS, and a representative of the Meat Packers Council, be formed to review and assess the marketing information currently published in the *Weekly Live-stock Market Review*
2. Consideration should be given to the summarizing and highlighting of statistical information prepared by DBS and its dissemination to farmers in a manner to be decided upon in consultation with the Canada Department of Agriculture.
3. A committee consisting of representatives from DBS, Canada Department of Agriculture and the Meat Packers Council be established to determine the future of cattle-on-feed statistics. It was further suggested that a precise definition of the proposed quarterly survey of livestock numbers be prepared and circulated to the provinces.
4. There should be consultation between the Department of Manpower and Immigration and the following DBS Divisions and Staffs: Prices, Labour, Agriculture, and Sampling and Survey Research, to consider ways and means of improving survey methods and concepts used in the development of the farm wage rate series.
5. DBS should undertake to collect information regarding farm rental rates. Also, consideration should be given to allocating the value of vegetables raised in greenhouses to the total cash receipts from the sale of vegetables rather than "other crops" as is done at present.

### Standardized Classifications in Municipal Finance Statistics

A new system of classification for all financial transactions of municipal administrations was introduced to British Columbia municipal finance officers at a one-day conference held in Victoria, B.C., in February 1970. The conference was arranged by the British Columbia Department of Municipal Affairs in conjunction with DBS Governments Division and included 150 delegates and observers representing most of the municipal administrations in British Columbia, as well as the British Columbia Advisory Committee of the Institute of Chartered Accountants, and representatives from the Investment Dealers Association.

The new system was developed through six sessions of the Eighth Federal-Provincial Conference on Municipal Finance Statistics and approved at the Halifax session of the conference in November 1969. DBS was asked by the conference organizers to explain the new system as detailed in a manual: *A Financial System for Canadian Local Governments*.

This manual sets out the kinds of information required, using standardized classifications, rather than specifying forms to be

used in reporting. The adoption of this system is part of an on-going program in the DBS Governments Division to establish a comprehensive base for the study of government finances at all levels.

G. A. Wagdin, Director General, Financial Statistics Branch, DBS, told the conference that municipal revenues in 1969 were estimated at \$3.9 billion, or roughly 15 per cent of total revenues raised by all three levels of government, and that municipal expenditures were estimated at \$4.5 billion or 17 per cent of the total for the three levels in the same year. These figures, said Mr. Wagdin, underline the powerful influence municipal governments exert in their own communities, the economic regions in which they are located and in the nation as a whole.

J. B. Smith outlined the work of DBS Governments Division, of which he is Director, in a paper "The What, Why and How of the Governments Division of the Dominion Bureau of Statistics". He defined the role of the Division as "the development and issue in accordance with user requirements of complete and integrated statistics on all levels of government in Canada and on their agencies". "We collect statistics", he continued, "as a comprehensive basis for the study of government and for the study of the financial, economic and social involvement of government in and its impact upon national, provincial, local and regional activities".

The "how" of the Governments Division's operation is structured on four principal categories: economic analysis compilations, financial management series, government enterprise series, and the employment and payroll series. These provide, independently or in combination, basic standardized information on: government revenues; the services provided by governments and the costs of such services; the objects of government expenditures in the provision of services; the government operations within, and effect upon, the capital market; government-type business enterprises; and government as an employer.

The new classifications manual and its place in helping to meet the needs of users, was explained by A. G. Kerr of the Division's Local Government Section. The new manual will be in loose-leaf form to facilitate updating. It will be issued in a number of volumes, two of which, the General Introduction and the Classification Systems, are scheduled for release in the fall.

Five classification systems will be included:

1. Revenue Classification System
  2. Functional Classification System of Expenditure
  3. Object Classification System of Expenditure
  4. Assets Classification System
  5. Liabilities and Equity Classification System
- Succeeding volumes will cover such topics as: financial reporting, the application of the classification systems to "single-function" governments (municipal agencies, joint boards, commissions, school boards), terminology, and the incorporation of non-financial information for the development of performance indicators by which true comparisons can be made between the various operations of governments, and by which the efficiency and effectiveness of governments can be determined.

The adoption of the classification system was the main accomplishment of the Halifax session of the Federal-Provincial

Conference on Municipal Finance Statistics in November 1969. This project began in 1967 at the first session, and continued through the next five sessions with DBS drafting the proposals and carrying out any necessary amendments, requested by the delegates.

In order to speed up production of the manual, a timetable was established for forwarding to provincial officials the manuscripts of the various sections, and for their return to DBS.

*Inquiries should be directed to A. G. Kerr, Chief, Local Governments Section, Governments Division, Financial Statistics Branch, DBS, Ottawa, 3*

## Inter-American Conference on Transportation Statistics

The first session of the Sub-committee on Transportation and Communications Statistics of the Inter-American Statistical Institute (IASA) was held February 1970 at the headquarters of the Pan American Union in Washington, D.C.

The sub-committee, chaired by A.L. Brown, Director, Transportation and Public Utilities Division, DBS, consisted of experts in road transport from Brazil, Chile, Honduras and the United States. Also in attendance were a number of observers from such organizations as the International Road Federation, the United States Bureau of Public Roads, the Latin American Free Trade Association, the Economic Commission for Latin America, and the Organization of American States.

Because of the size and complexity of the field, the sub-committee in its first session confined its deliberations to road transport. Future sessions are to be convened to deal with other modes of transport and communications. The following topics were included in the agenda:

1. Consideration of the status of road transportation statistics in the Americas, particularly with respect to activities carried out during the 1956-69 period at the world and regional levels, and those planned for the immediate future; and the results of the inquiry on road transportation statistics conducted by the IASI general secretariat.
2. Study of the draft standards and methodology (concepts definitions, classifications and tabulations) pertaining to Section XI.D. Road Transport, of the Inter-American Program of Basic Statistics and formulation of recommendations on the draft for consideration by the Committee on Improvement of National Statistics (COINS).
3. Other matters (including future activities of the sub-committee).

The sub-committee reviewed and revised a proposed standard for producing basic road transport statistics which is to be submitted to the IASI Committee for the Improvement of National Statistics for consideration, and to member nations for comment.

*Inquiries should be directed to A.L. Brown, Director, Transportation & Public Utilities Division, DBS, Ottawa, 3*

## CALURA Extends Measures of Business Magnitude

The Corporations and Labour Unions Returns Act Division (CALURA) has recently released seven publications which provide more complete measures of the magnitude of business in Canada, and permit a better assessment of the importance of foreign-owned corporations.

The 1965 Report on Corporations was the first to reflect the results of amendments to the Corporations and Labour Unions Returns Act which were passed in 1965. The original legislation involved duplication of corporation financial data accumulated under the Income Tax Act. To avoid this duplication, legislation was passed which enabled a joint statistical operation to be undertaken by DBS and the Department of National Revenue. This resulted in the elimination of the requirement to file one of the two sets of financial statements previously required.

The amendments have broadened the scope of corporation statistics in two important ways. The access to financial statements of all taxable corporations has permitted a compilation of statistics for corporations exempt from reporting under the Corporations and Labour Unions Returns Act, but subject to the provisions of the Income Tax Act. The additional information has provided more complete measures of the magnitude of business in Canada and has permitted a better assessment of the importance of foreign-owned corporations.

The second important aspect of the 1965 amendment is that the additional information available from the corporation income tax statements has permitted the identification of corporations having difficulty in meeting the reporting requirements of the Corporations and Labour Unions Returns Act. On the basis of this evidence, and after an extended program was undertaken to acquaint corporations with their reporting responsibilities, the number of CALURA returns increased from 26,764 in 1964 to 37,780 in 1965.

The 1966 and 1967 corporation reports were prepared on a basis consistent with that of 1965.

*For further information on the seven publications, listed below, contact C.R. Luft, Planning and Analysis Section, CALURA, DBS, Ottawa.*

*Corporation Financial Statistics – 1967, cat. no. 61-207*

*Corporation Taxation Statistics – 1967, cat. no. 61-208*

*Report for 1965 – Part I, Corporations; Corporations and Labour Unions Returns Act,*

*Report for 1966 – Part I, Corporations; Corporations and Labour Unions Returns Act,*

*Report for 1967 – Part I, Corporations; Corporations and Labour Unions Returns Act,*

*Report for 1967 – Part II, Labour Unions; Corporations and Labour Unions Returns Act,*

*Inter-corporate Ownership – 1967, cat. no. 61-508*

## New Paper on Industry Selling Price Indexes

A new reference paper, *Industry Selling Price Indexes 1956-1968* cat. no. 62-528, was released by DBS in January 1970. The



publication introduces the first comprehensive revision to the system of price indexes relating to manufacturing industries which was initially released in 1961 on the time base 1956 = 100. Price indexes for 99 industries are included in the publication in addition to some 470 relevant commodities.

The revised index series (1961 = 100) contained in this report, supersedes all previously published indexes. Although every effort was made to maintain historical continuity with their 1956 based counterparts, some discontinuities were created due to the changed structure of the Standard Industrial Classification on which the indexes are based. Index data for the period prior to 1961 have been arithmetically converted to the base 1961 = 100. Those series for the year 1961 and subsequent years have been reworked to reflect the relative importance of commodities sold by Canadian manufacturers, and to facilitate the introduction of new price series.

The more important features of the revision are (i) the introduction of the 1961 time and weight base period, (ii) the adoption of the 1960 Standard Industrial Classification and corresponding definition and classification of establishments, and (iii) the expansion in the number of commodity indexes available to users.

Commencing with the December 1969 issue of *Prices and Price Indexes* (cat. no. 62-002), the index series as published in the reference paper are being up-dated monthly.

*Inquiries should be directed to R.L. Borden, Assistant Director (Industrial Prices), Prices Division, DBS, Ottawa, 3*

## **Market Research Handbook Now Available**

A completely new concept in the DBS market research handbook series, developed for the 1969 *Market Research Handbook*, (cat. no. 63-514) brings together for the first time in one volume, a comprehensive range of marketing data gathered in various DBS surveys, in addition to summaries of 1966 census data.

The new handbook provides a convenient source of information and reference for all those who are engaged in analyzing the many aspects of Canadian markets at the local, provincial, regional and national levels.

The present *Market Research Handbook* has been radically changed from earlier editions: data are provided in greater depth than before, explanations accompany most tables and definitions are provided for many terms. The layout and typography have been changed both to enhance the appearance of the handbook and to make it easier to use.

The Merchandising and Services Division, which is responsible for the handbook, consulted with a number of leading market research consultants and others in the private sector on improvements.

One principle which emerged from this exchange of views was that the handbook should show, in addition to summary data from the latest census, marketing information from other DBS surveys: thus survey data for 1967 and 1968 are included.

Another improvement on previous editions is that the new handbook indicates trends by showing data for earlier years as

well as the latest available information. This type of presentation is intended to help the marketing practitioner in assessing the dynamic aspects of marketing topics, such as the growing consumer acceptance of automatic dishwashers or the fluctuations of residential construction.

The publication is divided into seven sections under these headings:

Selected Economic Indicators

Merchandising

Advertising and Media

Population Characteristics

Personal Income and Expenditure

Housing, Motor Vehicle, and Household Facilities and Equipment

Small Area Market Data

The Small Area Market Data section gives a wide range of information — on population, housing, passenger cars, income, manufacturing, agriculture, and service and retail trade — for each province, for county or census division, and for incorporated places of 15,000 population and over.

Containing some 640 pages, the new *DBS Market Research Handbook* is more than four times larger than previous DBS marketing handbooks. It presents data in bilingual form in more than 250 tables, 14 maps and 18 charts; large type and a two-colour format facilitate the location of the desired information.

*Inquiries should be directed to Dr. L.D. Sonkodi, Merchandising and Services Division, DBS, Ottawa 3.*

## **Major Historical Revision of National Accounts**

A major historical revision of the national accounts, *National Income and Expenditure Accounts 1926-1968* (cat. no. 13-531), made possible by new information and refinements in statistical concepts is scheduled for publication later this year.

A preliminary bulletin shows that as a result of the latest revision, Canada's economic expansion for the period 1950 to 1968 is now estimated to have been at a higher annual real rate than previous estimates showed: 5.1 per cent as against 4.5 per cent.

Significant changes have also occurred in the relative proportions of various components of GNP.

The increase in GNP reflected varying movements among its components. For example, corporation profits increased at an estimated current dollar annual rate of 6.2 per cent (up from 4.8 per cent in the previous estimates). Wages and salaries also rose faster (8.7 per cent as against 8.1 per cent).

On the other hand, the effect on the rate of growth of business capital formation was negligible (7.8 per cent vs. 7.7 per cent).

While statistical revisions in the new accounts have been largely confined to the period since 1951 when previous benchmarks were established, a number of series has also been revised back to 1926 in light of new information and newly developed statistical methods.

Significant features of the new estimates, which supersede the

previous historical series covering the period 1926 to 1956, include major statistical revisions based on results of the 1961 censuses of population, housing, labour force and merchandising. New data from Department of National Revenue taxation returns and additional comprehensive financial tabulations by the Corporation and Labour Unions Returns Act Administration provided other significant input.

In addition to major statistical revisions, significant changes in definitions and structural presentation are employed in the new accounts while a variety of new concepts and improvements in the methodology, range and quality of statistics originating in the Bureau and other agencies, have permitted improved estimates of many items.

Examples of changes in definition are:

- Government investment is now included in total gross fixed capital formation.
- Hospital expenditures, previously included in consumer expenditures, as of 1961 became an item in government expenditures, to reflect the role of government hospital insurance spending. Hospital capital spending, previously an item in business gross fixed investment, similarly became an item in government capital expenditures.
- Price deflators for construction expenditures now incorporate allowances for changes in productivity and profit margins to improve constant dollar estimates.

The revisions are also designed to provide a closer relationship to the international standards represented by the new United Nations System of National Accounts.

*Inquiries should be directed to G. Leclerc, Director, National Income and Expenditure Division, DBS, Ottawa, 3*

### **Preliminary Report on Income Distributions**

New estimates of family and individual income levels in Canada for 1967 have been released by the DBS Consumer Finance Research Staff in a bulletin *Income, Distribution and Poverty in Canada, 1967, Preliminary Estimates*. The estimates were derived from a survey conducted in 1968 on family incomes in 1967, the tenth in a series of consumer finance surveys undertaken by the Bureau.

The 1967 preliminary estimates showed that the annual family income in Canada was \$7,596, an increase of 16 per cent over the 1965 estimate of \$6,536. About half the increase is counted as real gain; consumer price increases absorbed the remainder.

In individual incomes, women were still far behind men in 1967: an average income of \$2,303 as against \$5,331 for men. Women however, gained more percentage-wise: their incomes rose 23 per cent over 1965 levels as against 17 per cent for men.

The 1967 estimates also show that the proportion of families receiving incomes of less than \$5,000 decreased to 29.7 per cent (from 37.9 per cent in 1965), while the proportion receiving \$10,000 and up increased to 22.5 per cent from 14.6 per cent. This brought the total in the \$10,000-and-over bracket to more than one million families. (For purposes of the survey, a family

is defined as a group living together and related by blood, marriage or adoption).

By regions, the survey showed that Ontario had the highest average family income in 1967 — \$8,466 — while the Atlantic region had the lowest, \$5,756. The average rate of increase was highest in Quebec and Ontario (nearly 18 per cent), lowest in the Atlantic region (11 per cent), while the Prairies and British Columbia at 14 per cent were slightly below the national average.

A significant feature of the 1967 survey results was a downward shift in the estimated proportion of families below the income levels which were used by the Economic Council of Canada as indicators of poverty. In 1967, the proportion was 18.6 per cent as against 21.2 per cent in 1965. In round figures, the number of families in this category is estimated to have declined to 840,000 in 1967 from more than one million in 1961, despite a substantial increase in total population.

The new poverty estimates are arrived at by applying the low income cut-offs previously used by the Economic Council of Canada in its fifth annual review (1968) now adjusted for consumer price increases. The new poverty lines for 1967 (with 1961 cut-offs in brackets) are: single persons, \$1,740 (\$1,500); family of two, \$2,900 (\$2,500); three, \$3,480 (\$3,000); four, \$4,060 (\$3,500); five or more, \$4,640 (\$4,000).

The proportion of families below these cut-offs, by regions, showed the Atlantic region as having the highest ratio, nearly 34 per cent, and Ontario the lowest, 12 per cent.

The main report *Income Distributions by Size in Canada* (cat. no. 13-534) scheduled for issue in the second half of this year, will provide the most comprehensive income distribution data available for the intercensal period. Because the sample size was larger — approximately 21,000 family units, or 37,500 individuals with incomes for the 1967 survey, versus 8,800 family units and 15,000 individuals with incomes for the 1965 survey — it will be possible to provide more detailed cross-classifications and income distributions for most provinces rather than by the five economic regions. In addition, the report will be followed by articles or bulletins dealing in depth with studies of certain population groups.

*Inquiries should be directed to Mrs. G. Oja, Chief, Research and Analysis, Consumer Finance Research Staff, DBS, Ottawa 3.*

### **Fifteen-Year Summary of Income Distributions**

*Income Distributions, Incomes of Non-farm Families and Individuals in Canada, Selected Years 1951-1965* is a historical summary of six small-scale surveys taken for the years 1951, 1954, 1957, 1959, 1961 and 1965. In addition to summarizing the data of the previous reports, it gives two different kinds of information for the first time — income distribution in constant (1961) dollars for the survey periods, and data in quintiles.

Section I tables, given in current dollars, show the distribution of non-farm individuals and of families, in various income groups by source of income i.e. whether it was derived from wages, investment, self-employment or other sources. The distribution



is also shown by selected characteristics: by region and place of residence of the recipient, by sex, age group, relationship to the head of the family, immigration status and educational level.

This same type of information is given in Section II but in constant (1961) dollars. Using the tables in this section, comparisons can be made of the changes in real income which took place during the 15-year period.

An entirely different way of presenting the data is used in Section III – the percentage income distribution for individuals and families is given in quintiles. These are arrived at by listing all income recipients or families in descending order and dividing this list into five equal-sized parts; a quintile therefore represents one fifth or 20 per cent of the total list. From these tables, studies can be made of any particular quintile by the same selected characteristics as were used in the other two sections, and for the same time periods.

This report is an important contribution to the study of incomes and especially the changes in incomes which have occurred since 1951.

*Income Distributions, Incomes of Non-farm Families and Individuals in Canada, Selected Years 1951-1965 (cat. nos. 13-529 and 13-529F) is available for \$1.00 from the Publications Distributions Unit, DBS, Ottawa. Inquiries should be directed to Mrs. G. Oja, Chief, Research and Analysis, Consumer Finance Research Staff, DBS Ottawa 3.*

### Monthly Breweries Survey

Two monthly surveys covering the 48 breweries which reported to the 1967 annual DBS survey of breweries are the basis of a new monthly report.

This replaces data previously provided by the Customs and Excise Division of the Department of National Revenue.

The report includes data on shipments by product and region of origin, monthly inventories and usage of major brewing components.

*Breweries, cat. no. 32-119, is available from the Publications Distribution Unit, DBS, Ottawa, 3 (10¢ per issue, \$1.00 per annum)*

### New Special Studies of Labour Force

A new study in the series of Special Labour Force Studies has been published since the last issue of *Statistical Observer*. This study, *Some Methods of Analyzing Cross-Classified Census Data – The Case of Labour Force Participation Rates*, by N.H.W. Davis, (cat. no. 71-515), examines a number of different statistical techniques and compares the results of applying these techniques to data from the 1961 Census of Canada.

Another study, *Underutilization of Manpower in Canada*, by N.K. Tandan, which is No. 8 in the general series, is an attempt to estimate the gap between potential and actual employment in Canada. The two components of the gap, unemployment and non-

participation, are studied separately by age and sex in the five geographic regions.

Other studies in preparation include an examination of the cyclical variation in Canadian labour force participation rates; the nature and extent of job mobility, including an occupational and industrial dimension; and an examination of data on overtime working and multiple job holding in Canada.

*Inquiries should be directed to N.H.W. Davis, Regional Manpower Research Staff, DBS, Ottawa, 3*

### Economic Growth Patterns in Small Areas

A new publication produced by the Regional and Manpower Research Staff of DBS, *Growth Patterns in Manufacturing Employment by County and Census Division, 1949-1959 and 1961-1965*, provides an indicator of economic growth for small areas. Changes in employment in manufacturing during the periods 1949-59 and 1961-65 are analyzed by resolving the total change into three components; national growth, industrial mix and regional share. The regional share component makes possible a spatial comparison of the ability of regions to attract their "share" of employment. The industrial mix component shows whether a region is dominated by fast-growing or slow-growing manufacturing industries.

Data are given at both the provincial and the county level, and measures for groups of counties, such as economic regions, can be easily obtained by addition of the data.

*Inquiries should be directed to Dr. M.L. Szabo, Coordinator, Regional and Manpower Research Staff, DBS, Ottawa, 3*

### Canada Year Book and Canada 1970

The 1969 edition of the *Canada Year Book* and the handbook *Canada 1970*, the two official reference compendiums on resources, history, and social and economic conditions in Canada, have now been released.

The *Canada Year Book* is a review of the statistical data made available by DBS on almost every measurable phase of Canada's social and economic development.

The 1969 edition has 1,329 pages and is illustrated by 27 specially prepared maps and charts, and 57 photographs. In addition to normal updating of all subject matter, feature articles or specially prepared chapters have been included on: recent trends in urbanization and metropolitan growth, a summary of the agricultural statistics of the 1966 census, fuels in Canada, the first decade of the St. Lawrence Seaway, and Canada's trade with the European Economic Community.

The handbook, *Canada 1970*, covers much the same fields as the Year Book but in less statistical detail. It is designed primarily for the general public and for students, especially those of high school age. It features brief descriptions of the main aspects of the Canadian land, its people and its economy by some 60 specialists in various fields, within DBS, in other government departments and in the private sector. It gives a brief description of

salient features of national production, resources, geography and history, government organization and services.

*Inquiries should be directed to P. Joncas, Director, Canada Year Book Division, DBS, Ottawa, 3.*

## Theory and Practice of Business Pricing

Theory and practice of business pricing are discussed in a recent book by Dr. Laszlo Sonkodi, Chief, Wholesale Trade Section, Merchandising and Services Division, DBS. The book, *Business and Prices*, is a new addition to the British Library of Business Studies series.

The book surveys the field of price making, covering such areas as: price leadership and administered prices, pricing objectives and actual pricing methods of business firms compared with economic theory, consumer attitudes and prices, pricing policies by manufacturers and retailers, the nature and economic effects of price agreements, resale price maintenance, recommended resale prices, the various types of discount and rebate schemes — including aggregated rebate schemes as a form of restrictive practice — geographical price policies (ex-works vs. delivered pricing, national vs. regional pricing), the machinery and operation of organized commodity exchanges, the special pricing problems of public utility enterprises, and the main issues inherent in government-inspired prices and income policies (wage-price guidelines).

The subjects are analyzed from three standpoints: the business firm as a decision-making unit; the issues of public policy relative to prices; and the position of the consumer.

*Business and Prices*, Sept. 1969, 236pp, distributed in Canada by General Publishing Co., 30 Lesmill Road, Don Mills, Ont.

*Inquiries should be directed to Dr. L. Sonkodi, Chief, Wholesale Trade Section, Merchandising and Services Division, DBS, Ottawa, 3*

## Ontario Labour Force Trends Examined

The Economic Planning Branch of the Ontario Department of Treasury and Economics recently released two publications on the labour force of that province.

*Trends in Job Families and Educational Achievement of the Ontario Labour Force* examines the nature of changes in job families and provides an indication of current and future educational achievement levels for the Ontario labour force. Data on the Canadian labour force have been provided to give a broader frame of reference.

*Ontario Labour Force Projections, 1968-1991* contains labour force projections for two time horizons — the short term to 1971 and the longer term to 1991. The short-term projections, based recent immigration levels and birth and death rates, are provided for each year from 1968 to 1971.

*These two publications may be obtained free from the Economic Planning Branch, Policy Planning Division, Department of Treasury and Economics, Parliament Buildings, Toronto.*

The Dominion Statistician, Walter E. Duffett, has announced changes in responsibilities for three Division Directors. The staff movements are in the interest of career development and to contribute to the objective of a highly co-ordinated statistical structure at DBS.

**Alexander S. Foti**, Director, the National Income and Expenditure Division, takes over from Donald Traquair as Director, Corporations and Labour Unions Returns Act Administration (CALURA).

**Donald Traquair** leaves CALURA to return to the Business Finance Division as Director. He previously worked in the Division as Chief of the Capital Expenditure Section. Mr. Traquair had been with CALURA since 1963.

**Guy Leclerc**, after four years as Director of Business Finance Division, has been appointed Director of the National Income and Expenditure Division of the Economic Accounts Branch. He joined the Bureau in 1957.

A recent reorganization of the Economic Accounts Branch, DBS, resulted in these appointments:

**Hans J. Adler** has been appointed Assistant Director General of the Branch. Mr. Adler was, from 1967, Director of the former National Accounts, Production and Productivity Division, and prior to that Assistant Director of National Accounts and Balance of Payments Division. He joined the Bureau in 1949.

**Gordon J. Garston** has been appointed Director of the newly — organized National Output and Productivity Division. Mr. Garston moves up from the post of Chief of Industrial Output Section, which was merged with Productivity Research and Analysis Section to form the new Division.

**Béla Prigly** has been named Acting Chief of the Productivity Research and Analysis Section. Mr. Prigly was formerly Assistant Chief and Head of the Aggregate Productivity Measures Unit of that Division.

**Miss Mary Lennox** has been appointed Chief of the recently reconstituted General Time Series Staff.

**C.D.P. Bernier** has been appointed Chief of the Provincial Government Section of the Governments Division. Mr. Bernier comes to DBS from the Department of Finance where he served in the Fiscal Policy and the Tax Policy divisions.

**R.L. Borden** has been named Assistant Director, Prices Division with responsibility for industrial prices. Prior to this appointment he served as Chief, Energy and Mineral Statistics Section, Manufacturing and Primary Industries Division of the Economic Statistics Branch. He joined the Bureau in 1960.

**R.A. (Bob) Chadwick** has been appointed to the new position of Assistant Coordinator (Travel) with the Provincial Liaison and Consultative Services Staff. Mr. Chadwick will be responsible for the coordination and development of an integrated system of statistics on travel, tourism and recreation. Prior to joining the Bureau he was on the staff of the Treasury Board.



**Dennis C. Featherstone**, Chief, Methods and Systems Section of Econometric Research Staff has left DBS to become Assistant Economist with IBM Canada, Don Mills, Ontario.

**Donald C. Hanright** has been appointed Director of the Information Division, DBS. A member of the professional staff of the Economic Council of Canada since 1965, he has also been a publicity adviser to the Royal Commission on Taxation, and an editorial consultant to the Royal Commission on Farm Machinery. He was previously a staff writer for the Canadian Press in Edmonton and Regina and from 1959 to 1964 in the Parliamentary Press Gallery in Ottawa, latterly specializing in financial and economic affairs.

**Kenneth F. White**, Director of the Information Division, DBS since November 1968, has been appointed Public Information Advisor, Department of Indian Affairs and Northern Development.

**Peter Hicks**, formerly Assistant Chief of the Employment Section of the Labour Division, DBS, has been appointed Chief of the Labour Force Survey Section, which was recently transferred from the Special Surveys Division to the Labour Division.

**Claude Hudon** has been appointed Assistant Coordinator (liaison) with the Provincial Liaison and Consultative Services Staff. Mr. Hudon has been primarily engaged in a review of all DBS provincial cooperative agreements. Prior to joining the Staff, he was Head, Textiles and Clothing Unit in the Manufacturing and Primary Industries Division.

**Mrs. Irene E. Johnson** has been appointed Chief of the Analysis and Development Section, Labour Division, of the Economic Statistics Branch. Mrs. Johnson comes to DBS from the Department of Finance.

**Richard G. Knapp** has been appointed Chief of the Statistics Use Development Section of the Information and Yearbook Group. Mr. Knapp has had nine years of business experience including positions as Marketing Manager of a food processing company and General Manager of an importing distribution company.

**Maurice A.J. Lafontaine** has left his position of Assistant to the Director General of the Economic Statistics Branch of DBS to become Director of the Efficiency Evaluation Division, Planning Branch of the Treasury Board.

**Bernard J. Lynch** has been appointed Assistant to the Director General of the Economic Statistics Branch, DBS. Mr. Lynch joined the Bureau in 1957 and since December 1968 has been Chief of Foods, Beverages and Textiles in the Manufacturing and Primary Industries Division, Economic Statistics Branch.

**Hugh MacDonald** has been appointed Chief of the Manpower Planning and Utilization Section of the Personnel Division. Mr. MacDonald comes to the Bureau from the Department of National Revenue where he was Head of the Manpower Planning and Appraisal Section.

**W.A. Nesbitt** has been appointed Acting Director of the Special Surveys Division, where he has assisted in the transfer of the

subject matter responsibility of the Labour Force Survey to the Labour Division. Prior to this appointment, Mr. Nesbitt was Assistant Director of the Special Labour Force Division. He joined DBS in 1931.

**Mrs. Sylvia Ostry**, formerly Director of Special Manpower Studies, DBS, has been appointed a Director of the Economic Council of Canada. Mrs. Ostry is coauthor of the DBS Census monograph, *Working Life Tables of Canadian Males* and author of *Geographic Composition of the Canadian Labour Force* and *The Female Worker in Canada*. Prior to her work in Special Manpower Studies and Consultation she served as Assistant Director of the Labour Division and as Chief of the Research and Analysis Section.

**William L. Porteous** has been appointed Director of the Agriculture Division of DBS following the retirement of C. Parker, last May. Mr. Porteous joined the Bureau in 1956 and served as Chief of the Crop Section, and as Assistant Director of the Agriculture Division before assuming his present position.

**W.G. Morris** has been appointed Assistant Director of the Agriculture Division. Mr. Morris joined the Bureau in 1945 and from 1956 was Chief of the Farm Finance Section.

**John D. Randall** has been appointed Director of the Balance of Payments and Financial Flows Division, Economic Accounts Branch. Mr. Randall joined DBS in 1956 and became Chief of the National Accounts Section in 1966. After serving as an economist in the Resource Development Division of the Department of Finance during part of 1966 and 1967 he returned to DBS as an Assistant Director of the Prices Division.

**J.B. Smith**, Acting Director of Governments Division, Financial Statistics Branch has been appointed Director of that Division. Mr. Smith joined the Division in 1967 as assistant Director after working in the Taxation Division of the Department of Finance.

**Dr. Michael L. Szabo** has been named Co-ordinator of the Regional and Manpower Research Staff in a merging of the Regional Statistics Research and Integration Staff and the Special Manpower Studies and Consultation Staff. Dr. Szabo moves up from the post of Co-ordinator of Regional Statistics Research and Integration. Prior to coming to DBS he was Chief of the Economic Geography Division, Geographical Branch Department of Energy, Mines and Resources.

In October 1969 **Dr. Miles Wisenthal** was named Director of the Education Division of DBS. Dr. Wisenthal comes to the Bureau from McGill University where he was Associate Dean of the Faculty of Arts and Sciences.

**Nicol LeSelleur**, Acting Director of the Education Division has retired after 23 years service in the Bureau. Mr. LeSelleur graduated from University of Western Ontario in Business Administration in 1938 and came to DBS in 1947.

**David A. Worton**, Chief of the Productivity Research and Analysis Section has been appointed Assistant Director of Central Planning and Programming, DBS. Mr. Worton will be particularly concerned with manpower and professional development.

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