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The Statistical Observer is a publication designed to contribute toward informing economists, statisticians and related professionals throughout Canada about selected statistical and research developments undertaken in DBS, in other Federal departments and agencies, in provincial departments, in universities and in business and independent research organizations.

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DBS 1918-1968

Earlier this year, the Dominion Bureau of Statistics celebrated its fiftieth birthday. The first Statistics Act, the work of Dr. R.H. Coats who had been Dominion Statistician since 1915, became law on May 24, 1918, and the transition began from a small and scattered statistical system to one of the most highly developed and fully integrated in the world.

The history of statistics in Canada is a long one. In the days of New France, the clergy kept records of vital statistics, which were made available to posterity for the years 1608 and 1621 in the writings of Champlain and Sagard. In 1666 the Intendent of New France, Jean Talon, took the first systematic census of modern times when he personally carried out a considerable part of the doorto-door enumeration. This form of census was repeated no fewer than 36 times during the French regime.

Changes which followed the cession of Canada to the British in 1763 did not include an improvement in statistics. Censustaking diminished, and did not again assume a regular form until well into the 19th century. By the 1840's however, most of the colonial areas that were to become provinces of Canada had conceived some regular form of decennial census so that by the time of Confederation in 1867 they had all had regular censuses every 10 years since 1851. The first census commissioner after Confederation, J.C. Taché, was in charge of the census of 1871 and 1881. In this role he was responsible for bringing together in Volume IV of the census of 1871, a summary of the results of all the preceding censuses over a period of more than two centuries including the vital statistics of New France.

Statistical activity for the remainder of the century was characterized by the development under various titles of a statistical abstract for Canada (the forerunner of the present Canada Year Book) by the beginning of the census of western Canada in 1886, and by expansion of statistical activities in addition to the census. Until the turn of the century, however, this expansion took place in the departments of government concerned rather than in a central agency, and included such subject areas as banking and insurance, crime, and statistics of merchant shipping, postal services, trade, inland revenue and immigration. The formation of the Department of Labour in 1900 accelerated the development of labour statistics.

Recognition of the need for coordinated development was reflected in the passing of the Statistics Act in 1918 and the establishment of the Dominion Bureau of Statistics. In the years that followed, Dr. R. H. Coats, the first Dominion Statistician, laid the foundations for the present statistical

Purely statistical operations in other federal departments were transferred to the new agency. The new Bureau then turned to the task of filling in gaps in the system and creating a coordinated system in areas as basic as vital statistics, external trade and the census of industry. A system of classification of commodities and industries was introduced. Three federal-provincial statistical conferences in 1918 and 1920, on agriculture, education and vital statistics, paved the way for cooperation among levels of governments.

By 1939 a broad national statistical system had been established including comprehensive accounts of the balance of payments.

The greatest effect of World War Two on long run statistical development was the demonstrated usefulness of a conscious economic policy based on a much more sophisticated conceptual and statistical foundation than had previously been tried in Canada.

During the immediate post war period the need for basic improvements and innovation in the statistical system was recognized. In this process the national accounts played a central role by providing an integrated framework for improving and extending economic and financial statistics. Another milestone was the development of operational unemployment and employment concepts and their measurement in a regular labour force survey. Important progress was made in creation and implementation of up-to-date classification systems for industries, commodities and so on.

Significant progress was made in the field of social statistics including education, health, justice, while the census of population, housing and agriculture was modernized.

During the 1960's the demand for statistical services has been stimulated by the pressing needs of royal commissions and new government departments and agencies, and by the need for more provincial and regional data. The role of meaningful information, and of statistics as a particularly useful form

of information, in the process of government

and private decision making, is now much more clearly understood than ever before. The sharpening of analytical ideas in business accounting, in economic forecasting and in demographic analysis makes it virtually necessary to approach these objectives from a statistical viewpoint. The development of new mathematical methods and the invention of the modern electronic computer have created a huge demand for data, and vast possibilities for their utilization. These circumstances highlight one fact above all others, and this is the necessity for the coordinated and integrated approach to statistics, an approach which lay at the root of the original scheme conceived by Dr. Coats. This structure now exists to a substantial extent, and suggests the pattern of future growth.

Prime Minister Unveils Population Clock at DBS Headquarters

Prime Minister Pierre E. Trudeau recently inaugurated an electronic population clock installed in the DBS headquarters building in Tunney's Pasture, Ottawa.

The clock graphically displays the main elements in Canada's population growth. The estimated total population, displayed in illuminated figures four inches high, changes as each additional person is estimated to have been added to the population.

To portray the estimated average frequency of births, deaths, immigrant arrivals and emigrant departures, the clock has four illuminated moving bars. Two travel upward — for births and immigration as additions to the population, the other two move downward to indicate losses.

For births, five lights mounted vertically come on one at a time to completely light up the bar in 1 minute 25 seconds. For immigrants, ten lights come on two at a time, to completely light the bar in 2 minutes and 22 seconds. For deaths, fifteen lights are used, coming on three at a time and lighting up the deaths bar every 3 minutes and 32 seconds. In the emigrant bar, 40 lights coming on four at a time complete this, the longest cycle, in 8 minutes and 35 seconds.

The clock was designed and built by the Canadian Government Exhibition Commission using instrumentation designed and assembled by Levy Associates Co. Ltd. of Ottawa.

New Projects

New Input-Output Tables to be Published Soon

Part I of Input-Output Structure of the Canadian Economy, 1961 is tentatively planned for publication by the Dominion Bureau of Statistics later this year. It will be the first of a series which will:

1 provide a quantitative description of the interindustry relationships of the 1961 economy;

2 through formalization of input and output structural relationships, present models of the economy that will provide the basis for very detailed analytical studies.

Analytical Uses of Input-Output Tables

Among the broader types of studies which are facilitated by input-output analysis are estimation of:

I short and long term projections of changes in outputs of each industry and commodity, and of labour inputs into each industry:

2 the projected effects of the implementation of a particular plan by business or by government and comparative effects of two or more alternative plans:

3 the effects of an anticipated substitution of one commodity by another (e.g. replacement of one kind of fuel by another):

4 changes in import requirements by commodity arising from growth in the economy including situations where there are short-run limitations on domestic production (say capacity) or longer-run restrictions (limited supply of a natural resource);

5 the accumulated indirect tax content, labour content or import content of a particular category of final demand (e.g. of personal expenditure on automobiles).

In addition, a single firm might use the technique as an aid in providing projections of its markets. This would be facilitated by splitting out its individual operations from the industry (or industries) in which it is included in the National Tables on the basis of its accounting records.

Previous Input-Output Table

Over the past two decades, input-output tables have been prepared for many national economics, as well as for regions. The only previous input-output table for Canada to be constructed from basic data was a square (42 x 42) industry system, the revised version of which was published by the Dominion Bureau of Statistics as "Supplement to the

Interindustry Flow of Goods and Services, Canada, 1949". Catalogue No. 13-513.

Conceptual Framework of the 1961 Studies

The conceptual framework of the 1961 studies improves on 1949 in two important respects:

I There is an explicit recognition of the distinction between commodities (goods and services) and industries. Each industry usually has several or many characteristic products on which separate detail is most valuable for analysis. Hence the 1961 worksheet tables are rectangular with more commodities than industries (approximately 190 industries and 650 commodities).

2 An individual establishment — and therefore the industry in which it is included — often produces some commodities which are characteristic of other industries in addition to its own characteristic products. Hence a rectangular output table, separate from the input table, has been constructed to show the structure of commodity outputs by industry.

Analytical Potential of the 1961 Framework

With separate input and output tables, one can make important distinctions in the choice of marketing (output) structural relationships on the one hand, and technological (input) structures on the other. With the detailed rectangular systems, there is great flexibility in choosing a level of aggregation and the appropriate structural relationships to be used in the formulation of input-output models for answering specific questions. Models exist for working with the extra commodity detail. However, one can also aggregate over commodities to derive square tables in which the number of commodity groups is equal to the number of industries.

Publication Plans

In checking the content of the separate input and output tables, it was found that many of the elements are confidential under the Statistics Act and that this situation remains even with considerable aggregation over commodities and industries. It is therefore not possible to publish separate input and output tables of any substantial size. The contents of the publications are necessarily limited by this fact.

Part I will contain the following:

- I a A square dollar value "input-output table" for a 110 industry aggregation.
 - b A table of the corresponding "direct input coefficients".
- c A table of the corresponding "direct plus indirect" output requirements per dollar of final demand (the "inverse matrix").

In effect, each of the tables will combine the input and output relationships, using the following assumptions:

- i For a particular industry, each commodity produced has the same input structure.
- ii Each industry maintains a fixed share in the total output level of a particular commodity.

2 Three tables, identical in conceptual format to those described above, for a 65 industry aggregation.

3 A set of rectangular input and output tables with something between 10 and 20 industry groups. These will be used to illustrate the analytical potentialities of the rectangular framework.

4 The detailed worksheet classification systems: for industries (relating Input-Output industry groupings to the DBS Standard Industrial Classification); for goods and services (relating Input-Output groupings of goods to the DBS Standard Commodity Classification); the link between these two systems in terms of identifying the principal producing industry of each good and service.

5 The classification systems for each of the published tables in terms of the relevant groupings of the above detail.

6 Although confidentiality requirements preclude publication of much of the worksheet detail, certain commodity totals for a 500 item grouping of goods and services will also be included. The following will be shown for each commodity grouping:

- a total domestic output from all industries
- b total imports
- c total intermediate use by all industries
- d total exports
- e the total of "all other" final expenditures on the commodity group.

These totals will be at "producers' values". Information on the relevant margins (transportation costs, wholesale and retail margins, indirect commodity taxes) will also be furnished so that valuations at "purchasers' prices" can be obtained.

7 A description of the conceptual framework of the dollar value tables (levels of valuation, routing of commodities, relationship to the National Accounts, etc.) and of the derivation of the tables of coefficients.

In the preliminary 1961 tables, described above, final demand will be broken into only two categories — exports and "all other" — in addition to the import column. Part 2 of the study, which will be published several months after Part I, will contain considerable detail on final expenditures:

Exports – Detail for several important countries or groupings of countries.

Government Expenditure – A breakdown by level of government with additional detail for important industries which are included in the government sector; for example, public hospitals, public education, public administration and defence, will be shown.

Personal Espenditure — Detail on the classes or purposes of personal consumer expenditure corresponding to National Accounts categories.

Gross Fixed Capital Formation — A two column breakdown: expenditure on new construction; expenditure on new machinery and equipment.

Value of Physical Change in Business Inventories — To be shown in a single column.

Part 3 of the publication will contain a detailed write-up on data sources and methods of estimation, and a revised version of the 1961 Tables tying in with the 1961 base period revision to the National Accounts.

Services to Users

It is hoped that a service can be established by which outside users of input-output analysis could make use of the confidential detail contained in the worksheet tables without having access to this information. This would involve the establishment of computer based arrangements at DBS by which the user's particular problem could be presented for solution without revealing confidential structural information. The input-output staff would provide some consulting services to the user on the conceptual formulation of the problem and specification of the data to be used in the appropriate input-output format. Some charge would be made to cover costs of service provided.

Further information on DBS input-output research can be obtained from Mr. P. Pitts, Input-Output Research and Development Staff, DBS, Ottava.

Automation and Statistical Services

A shift in DBS methodology towards much greater reliance on electronic data processing equipment at all stages of collection and processing of statistical information is accelerating DBS capacity to keep abreast of the demand for increased scope, detail, and timeliness in the production and release of official statistics.

Included in this shift are the construction and maintenance of comprehensive lists of statistical reporting units, sampling from these lists when this is called for, preparing documents for mail-out to respondents and DBS officers in the field, control of follow-up operations on late respondents, editing and processing the incoming data and the statistical output, and the production of printed tables in a form suitable for reproduction in official publications. In addition, plans are being developed for the release of data in machine-readable form, processed to user specifications.

An article in the June 1968 issue of the Canadian Statistical Review briefly describes some of the new techniques under development or already introduced in DBS and indicates the direction of change in the collection and processing of statistical information. One aspect of the article dwells upon a geographically referenced data storing and retrieval system. The objective of the system now being developed applies to the coding of data for urban addresses in Canada and the automatic coding of an individual address and the automatic retrieval of data aggregated to arbitrarily specified areas. The "code" assigned is the geographic coordinates of the address expressed in the Universal Transverse Mercator (UTM) System.

Individual re-prints of the article, "Automation and Statistical Services", can be obtained from the Inquiries Section, Information Division, DBS, Ottawa.

Improved Timing of DBS Reports -Progress Report

The measure of quality of a statistical system for economic policy makers is not merely its ability to depict accurately the intricacies of the market system, but as important is its capacity to provide up-to-date information which will permit planners and policy makers to react quickly to changing economic conditions. That the DBS Timeliness Committee is concerned about this fact is best illustrated by improvements in the timeliness of selected DBS services effected during the fiscal year ended March 31. The previous issue of the *Statistical Observer* outlined the aims of this committee.

Monthly Index of Industrial Production

The Index of Industrial Production was chosen by the Timeliness Committee as the focal point for its activities because this index is important as a cyclically coincident econoniic indicator and also because it is a major integrating device within DBS, using such statistics as the monthly employment and payrolls survey and a great many commodity series. The committee decided that the time lag for the Canadian Index of Industrial Production should, as a short run target, be reduced from over 60 calendar days to 45 days or better by March 31, 1968. In fact, the DBS Daily release date dropped from 64 days after the end of the reference month for January 1967, to 40 days for March 1968.

Monthly Employment and Payrolls Survey

The monthly employment and payroll survey was selected to form an integral part of the timeliness programme because that survey provides employment, man-hours and payroll data which are extensively used by government and business as guides for policy decisions. In addition about one-third of the monthly Index of Industrial Production is based on man-hours series. The figures are also used to derive estimates of labour income for purposes of quarterly national accounts.

Aims of the committee with respect to the employment and payrolls survey were described in the previous *Observer*. That the improved timeliness aim was successful is illustrated by the fact that advanced estimates of industry aggregative employment and payrolls data are now being released about one month after the end of the reference month — a gain of four to five weeks. Time elapsed for release of the publication *Employment and Payrolls* was

seventy-seven calendar days in December 1967, a gain of about six weeks over the January 1967 time lag of 121 days. During the same period the time lag for *Man-Hours and Hourly Earnings* was reduced to 80 days from 121 days.

Import - Export

Import-export statistics are among the most sensitive and closely watched series produced by DBS because of Canada's dependence of foreign trade. For this reason and because of the volume of the work required to produce the import series, the committee selected imports for special emphasis. The less voluminous export series will receive the same degree of attention later. Problems to be faced by the committee in dealing with the import-export series were mentioned in the last issue of the Observer. A quick measure of the Committee's success to date is possible by comparing the release dates of Imports by Commodities for December 1965, 1966 and 1967. The publication was released on May 6, 1966. April 17, 1967 and March 14, 1968.

For the very detailed monthly publication on imports, the release lag for the first few months of 1968 has improved by approximately 7 weeks over the performance of early 1967. For the advance summary statements of import statistics, information was released for March 1968 only 17 days after the end of the month, an improvement of 9 days over last March.

Current Commodity Surveys

In the current commodity survey area, there are approximately 135 monthly surveys, the results of which are used in their own right and as elements in more aggregative series such as the *Index of Industrial Production*. Timing gains have been effected in virtually every series. The most representative overall measure of improvement is that for January 1968, when 50 more surveys than in the preceding year were completed by the 25th working day after the end of the month.

Monthly Retail Trade

One other key economic indicator, the monthly retail trade series, showed an improvement of about a month in terms of issuance of the actual publication.

Current Shipments, Inventories and Orders

The monthly shipments, inventories and new orders series for manufacturing has shown little long-term improvement as yet, although a considerable loss in timeliness in the early part of 1967 has been entirely recovered. As well, groundwork has been laid during the year for a highly automated system which will generate earlier and more reliable estimates.

National Accounts

For the next 12 months, the quarterly national income and expenditure accounts will form the focal point of the timeliness program. At present, the estimates of the national income and expenditure accounts are published about 12 to 14 weeks after the quarter, compared to a much earlier release in the United States. The committee is confident that it can make a substantial start towards narrowing this gap during the present year.

In general, DBS efforts in the area of timeliness are being broadened and intensified with the aim of reaching an irreducible time lag between the period being measured and the release of statistics for that period.

Those interested in obtaining more details on the activities of last year's timeliness effort and program for this year, should contact B. J. Lynch of the National Accounts, Production and Productivity Division, DBS, Ottawa.

New DBS Motor Transport Traffic Survey Under Consideration

Concepts for a new motor transport traffic survey, to replace the one discontinued at the end of 1967, are being developed at DBS.

The previous survey, initiated on a Canada-wide basis in 1957, was undertaken to provide broad national trends relative to the size, importance and competitive significance of the trucking industry in Canada.

Conducted in each province on a quarterly basis by means of a random sample of truck registrations, provincial and national estimates were produced covering four major categories of truck operations — for hire, private, urban, and farm. Detailed information was published on tonnage carried, revenue earned, and various ratios such as revenue per ton mile, percentage capacity

utilized, average annual mileage, etc. This information was widely used by economists, market research and consulting agencies, transportation firms, and government departments for a variety of purposes.

During the past ten years, considerable changes have taken place in the trucking industry. For example, developments such as piggyback, containerization and truck interlining have increased significantly. These developments were not covered in the original design of the Motor Transport Traffic Survey. In addition, changes in provincial licensing systems such as reciprocity, installment licensing, 'per trip' licenses, and the conversion of provincial licensing systems to computer affected survey methodology. Coupled with this were the increasing demands made upon DBS to collect origin and destination of truck commodity movements for comparison with other modes of transport and to provide some indication as to the nature and extent of the changing transportation market, both regionally and nationally.

These factors played a major part in the decision to discontinue the Motor Transport Traffic Survey in its present form last year. A major review of the survey completed at that time indicated that a new survey is necessary to cover these changes in the industry and at the same time meet the needs of users for commodity origin and destination data.

In consultation with the Bureau's Sampling and Survey Research Staff, a new two-part survey design is being considered covering truck fleets and individual trucks. The proposed fleet survey would concentrate primarily on commodity, origin and destination data while the individual truck survey would provide information of a general nature such as size, make and model of trucks, annual mileage, nature of operation, etc. The periodicity of both surveys has as yet not been decided, although the latter would likely be on an annual basis only.

Pricing of Service Industries Subject of DBS Study

A study of the special problems associated with pricing in the service industries is being undertaken by Miss B. J. Emery and Mr. J. D. Randall of the Prices Division, DBS. The service industry field constitutes one of the most rapidly growing sectors in the Canadian

economy and one in which the availability of statistics lags behind many other areas. The results of the study will be presented in a paper to be given at the International Income and Wealth Conference in mid-1969.

The study will explore the adequacy of existing classification systems for services, with particular reference to the sort of specifications required for regular pricing purposes, and will examine the suitability of the present macro-economic systems of statistics as vehicles for the integration and presentation of service prices. There will be some consideration of the conceptual problems of measuring output in this field as it affects price index construction, and of the appropriateness of the techniques presently used in adjusting for quality change in the goods field for measuring quality change in services. In addition, the practical problems of when, where and what to price, will be discussed in terms of establishing a program of collection, calculation and publication of service prices.

Information was provided by J. D. Randall, Assistant Director (Industrial Prices), Prices Division, DBS, Ottawa.

Integrated System of Industry and Commodity Price Statistics

A committee within DBS has begun a series of meetings to establish guiding principles and to assist in the preparation of a theoretical framework for an integrated system of industry and commodity price statistics. Under the chairmanship of J. D. Randall, Assistant Director, Prices Division, the committee will consider user needs, conflicts in concepts, feasibility of price data collection, availability of weighting diagrams and problems associated with the meshing of commodity and industry prices data.

The demand for an integrated system of price statistics covering major producing sectors, all important commodities and services, and important levels of distribution, stems from the recognition of the central role played by prices in the production and consumption processes. The need to be able to relate and analyse price data within the same industry classification system as statistics of production, employment and productivity and to be able to construct price indexes relating in concept and definition to widely used macro-economic measures of production and demand, has been frequently

voiced. The need will become even more apparent with the development and regular publication of input-output tables requiring comparison of differing time periods.

The framework, initially serving as the basis for the logical development of price statistics, revealing gaps and imposing consistency, will eventually provide a broadly based meaningful set of price indicators which will:

1 be useful in formulating policy relating to fiscal and monetary matters and other specific programs concerned with inflation or deflation;

2 assist in the improvement of the measures of "real" production (i.e. constant price measures of real output by industry of origin;

3 provide a wider range of escalators for long-term business contracts to maintain purchasing power.

Information provided by J. D. Randall, Assistant Director (Industrial Prices), Prices Division, DBS, Ottawa.

Multi-Purpose Area Probability Sampling Used in Farm Surveys

An international project sponsored by the Food and Agriculture Organization of the United Nations to study crop diseases by area probability sampling has been introduced into a survey program being used in southwestern Ontario by the Dominion Bureau of Statistics' Agriculture Division.

The survey program, introduced last summer by the Agriculture Division in cooperation with the Ontario Department of Agriculture and Food, was geared to provide unbiased estimates of various farm characteristics in southwestern Ontario. The division used the multi-purpose area probability sampling approach based on modern statistical concepts. Results obtained from this survey were quite encouraging and the program, which covered 12 counties, has been expanded to include 17 counties this year. Similar sampling techniques will be used for the first time by the Alberta Department of Agriculture in that province's Forage Seed Crop Survey this year. The principal objective of applying this technique is to obtain unbiased estimates and forecasts with known precision and reliability which are not feasible by ordinary non-probability sampling methods. Consequently, the application of area probability sampling, originally started

on a pilot basis, is now expanding as rapidly as resources permit to take its place as an important part of the operating program of the Agriculture Division for the purposes of meeting the increasing need of more accurate and timely agricultural statistics in Canada.

Those interested in greater detail should contact Y. S. Hwang, Agriculture Division, Dominion Bureau of Statistics, Ottawa.

Announcing

O. M. Schnick, former Director of the Applied Economic Branch in the Office of Chief Economist, Province of Ontario, was appointed Executive Director of Ontario's Economic and Statistical Services Division.

Douglas Blyth has retired as Director-General of the Economic Accounts Branch, DBS. Mr. Blyth entered service as a Supervising Census Clerk in 1931. In 1934 he joined the Internal Trade Branch where he was associated with early work on the Balance of Payments. Mr. Blyth's career was marked by increasingly important roles as a principal authority on the Canadian Balance of Payments. He became Director, International Trade Division in 1948, Director, National Accounts and Balance of Payments Division in 1962, and Director-General of the Economic Accounts Branch in 1967.

Bower Carty has been appointed Director-General of the Economic Accounts Branch, DBS, succeeding Douglas Blyth. Mr. Carty was formerly Director, Balance of Payments and Financial Flows.

Pierre Boulet, formely Assistant Registrar, the University of Laval, was appointed in March 1968 as Chief, Higher Education Section in the Education Division, DBS, with supervisory responsibility for statistical data on post-secondary education.

Mrs. D. M. Cameron, formerly of the Occupational Research Section of the Programme Development Service, Department of Manpower and Immigration, has been appointed, on July 1, 1968, Chief of the Adult Education Section of the Education Division, DBS, with responsibility for statistics on adult education and libraries.

Miss R. S. Samlalsingh, formerly of the Task Force on Labour Relations, joined the Economic Characteristics Section of the Census Division, DBS, on January 4, 1968.

D. Clifford Evans has been appointed Branch Administration Coordinator, Socio-Economic Statistics Branch, DBS. Mr. Evans was formerly Assistant Director of Planning (Ceremonies), Centennial Commission.

Mrs. Jean Spear, formerly Chief of Training for the Census Division, became Branch Training Coordinator, Socio-Economic Statistics Branch, DBS, on June 12, 1968.

Thomas S. Tuschak has been appointed Chief of the Financial Flows Section in the Balance of Payments and Financial Flows Division, DBS, Mr. Tuschak who has a broad financial background was latterly Manager-Treasurer of the Capital Funds Division for

I.A.C. in Montreal. Mr. Tuschak will be mainly concerned with the development and publication of *Financial Accounts*, a macroeconomic presentation and analysis of intersectional financial flows in Canada.

John Keller, formerly on the staff of the Eastern Ontario Institute of Technology joined the Prices Divisions. DBS, on June 1 as Unit Head, Goods Producing Industries. Industrial Prices Section. Mr. Keller will be responsible for the development and maintenance of price indexes and related data, with particular emphasis in the immediate future on the Industry Selling Price Indexes, General Wholesale Index, and Prices paid by Farmers and Farm Product Indexes.

Yvon P. Fortin, formerly Acting Chief of the International Prices Section, DBS, is now Chief, Comparative Living Costs Section.

Rowland D. Simpson has joined DBS as Head, Rail Unit, Transportation Section of the Transportation & Public Utilities Divisions, DBS. Mr. Simpson was formerly with the British Railways Board.

Frank Thomas has been appointed Assistant Chief, Quinquennial Census, Merchandising and Services Division, DBS. Previously, Mr. Thomas was a Combines Officer with the Combines Investigation Branch, Department of Consumer and Corporate Affairs.

Laszlo Sonkodi has joined DBS as Chief, Research and Development Section, Merchandising and Services Division.

Dr. Mascell Beckford, formerly Senior Resources Analyst with the Manitoba Department of Mines and Natural Resources, has joined the Comparative Living Costs Section of the Prices Division, DBS.

G. Stewart Simpson has been appointed Chief, International Prices Section, Prices Division, DBS. Mr. Simpson was previously with the Personnel Policy Branch of the Treasury Board.

Marcel Jolicoeur has been appointed Chief of the Mental Health Section, Health & Welfare Division. Formerly, Mr. Jolicoeur was Liaison and Co-ordination Officer in the same section.

Frank Morrow has been appointed Senior Co-ordinator, Crimes Statistics, Judicial Section, Health & Welfare Division, DBS. Mr. D. N. Cassidy, the former incumbent, is now Director of Police and Security, National Harbours Board.

J. L. Forsyth retired from the Government Service on February 23, 1968, after serving for 38 years. Mr. Forsyth started his service in 1938 as Assistant Superintendent of the Dominion Experimental Farm at Nappam, N.S. He joined DBS in 1941 as a statistician in the Census of Agriculture and progressed to Chief of Agriculture Census, and, in 1952, to Assistant Director of the Census Division. He was Senior Assistant Director, Administration, in the Division when he retired.

Jacques G. Gagnon, Co-ordinator, Provincial Liaison and Consultative Services, has accepted a post with the United Nations and has left the Bureau for a period of two years for Algeria, where he will act as Technical Advisor to the Algerian Bureau of Statistics.

Pierre Gadbois, Head of the Montreal Regional Office for Special Surveys Division, DBS, has accepted the position of Regional Director of the Manpower Directorate in the Department of Labour for the Province of Quebec.

Frank T. Denton, Director of the Econometric Research Staff in the Integration and Development Branch has left DBS to assume the duties of a professor in the Department of Economics at McMaster University in Hamilton, Ontario.

Conferences

Population Association of America -Annual Meeting

Four papers dealing with mortality, fertility and migration were delivered by Canadians at the Population Association of America annual meeting in Boston, Massachusetts, April 18-20. The papers, all presented in a special session on Canadian population trends, were, "Recent Trends in Canadian Mortality", by Dr. M.V. George and W. Zavachkowski, Dominion Bureau of Statistics; "Recent Trends in Canadian Fertility", by Dr. Jacques Henripin, University of Montreal; "Economic Aspects of Recent Provincial Differentials in Migration", R.M. McInnis, Queen's University and "Some Findings from the Canadian Family Growth (Toronto) Study", by John Kantner, T.R. Balakrishnan and J. Allingham, University of Western Ontario, Dr. Leroy O. Stone of the University of Western Onfario and Demographic Consultant for DBS chaired the session.

The paper, "Recent Trends in Canadian Mortality", surveyed the trends and patterns of mortality in Canada during the 1926 to 1966 period and examined some of their implications for mortality projections. Canada has had a crude death rate of less than 12 per 1,000 population since 1926; the crude rate registered a fairly steady decline up to 1954. After 1954, despite the advances in social and medical care, the trend in death rates has been fairly stable for both sexes; the annual crude death rate declined from 8.2 to 7.5 during 1954-1966. The farily stable trend in the death rate in recent years may not be surprising because it is obviously impossible for the death rate to decline indefinitely. Further, with an aging population, the percentage of population for the age group 70 and over in Canada increasing from 4.7 in 1951 to 5.0 in 1966, it is possible for the death rate to increase even if there is no change in the age-specific death rates. In this context, a number of questions may be asked on the future course of mortality:

1 Has Canada reached the irreducible minimum level in the death rate?

2 Is the recent stable trend in the death rate a temporary phenomenon or does it indicate the starting of a new trend with the prospect of an eventual increase in mortality?

3 What implications do recent mortality trends and patterns have on future population growth and life expectancy?

Among the countries which have fairly reliable vital statistics, Canada's crude death rate, (7.5) is one of the lowest. Of such countries, Japan (6.8), U.S.S.R. (7.3) and Poland (7.3) had lower death rates. If the comparison of death rates is made between West European and English-speaking countries elsewhere, Canada had the lowest crude death rate in 1966. However, where a 1960 comparison was made using age-adjusted death rates, for each sex the lowest death rates were found in Norway, with the Netherlands a close second; and Canada ranked either seventh or eighth.

Like the crude death rate, there has been a slackening in the fall of infant mortality rate in most of the other countries of low mortality during recent years. The largest change in the rate of decline occurred in New Zealand and the infant mortality rate there (20.4 in 1962 and 17.7 in 1966) has been practically stationary over the past few years. On the other hand, in Sweden, Finland, and the Netherlands, where the infant mortality rate is the lowest (12.6, 14.4 and 14.7, respectively, in 1966) the annual rate of decline was the highest in recent years compared with other countries of low mortality. In view of these changes in other countries with low mortality and in view of the fact that in countries such as Sweden and the Netherlands the infant mortality rates are about 13 to 15, a further decline in the infant mortality level may be expected in Canada. In 1966, eleven countries of the world had lower infant mortality rates than Canada. Canada's infant mortality rate during 1966 was 23.1.

The analysis indicates that there has almost been a levelling off of the decline in death rates in recent years, particularly after 1954, which may be explained by a combination of two sets of factors acting against each other. The first is the dramatic drop in the death rate for the diseases of infectious and parasitic origin which lost much of its impetus in the 1950's. As a result, the share of deaths from diseases of infectious origin on the death rate became negligible in the recent years. Secondly, the so-called "new diseases" such as cardiovascular-renal diseases, cancer, and motor vehicle accidents have become the main causes of deaths, particularly for middle ages and old ages. Because of the aging of the population the diseases common in the adult population may have more effect in bringing about the deceleration of the rate of decline of the death rates. Hence, future trends in mortality depend to a great extent on controlling these deseases. According to a study by B. Woodhall and S. Jablon, the largest increment in life expectancy would come from the elimination of cardiovascular diseases as a cause of death.

On the question of whether Canada has reached the irreducible minimum death rate, the examination of the death rates by sex. age and cause of death indicates that further declines are possible. Also, comparison of the death rates by age and sex for various countries of low mortality around 1963 and for the provinces of Canada shows that the current death rate for Canada as a whole is not the lowest. Although Canada has the lowest crude death rate among the countries of Western Europe and English-speaking countries elsewhere, these countries had lower death rates in a number of ages for both males and females. Further, there are a number of countries in Europe and Oceania with infant mortality rates below or around 20 per 1,000 live births. It may also be possible to reduce the disparity between the male and female death rates in Canada. Another point in favour of a further decline in mortality is that the current mortality level in Canada is higher than the expected lowest level indicated in a study by J. Bourgeois-Pichat, who arrived at mortality limits by measuring mortality strictly of a biological nature through the extrapolation of trends noted in different countries. The expectation of life at birth on the basis of these mortality limits was 76.3 years for males and 78.2 years for females. Considering these factors, it may be reasonable to expect that Canada's mortality rate, unlike that of the U.S., will reach a level somewhere near the lowest level recorded in countries of Europe and Oceania and the provinces of Canada or a level near the biological limits, within a few years.

The first of two fertility papers, "Recent Trends in Canadian Fertility", dealt with the changing Canadian fertility pattern. Since the war the age structure of married women has been conducive to a high fertility rate. The drop in crude fertility rates is mainly due to changes in marital fertility in recent years. A contrast was shown between two indexes of fertility — cohort fertility and period fertility. Three factors account for the excess of period over cohort fertility rates since 1945: the catch-up in marriages

following the war, the lowering of the marriage age, and the reduction in the birth interval. A rough measure estimates that the 0.6 excess of period fertility rate over cohort fertility rate was due to an advance of 2.2 months per year in the child-bearing time schedule — 1.2 due to the lowering of the age at marriage and 1.0 due to the reduction in birth interval. One author expects the completed fertility of married women to fall from 3.3 children to 2.6 within the next 30 years.

The second fertility paper "Some Findings from the Canadian Family Growth (Toronto) Study", is the result of a sample survey of contraceptive methods in Toronto. Each 100 questionnaires received were processed separately as a sub-sample and there was a high degree of consistency between the sub-samples suggesting that the sample, as a whole, was a reliable one. The survey shows that "the pill" is the most important method of contraception. The study also cross-classifies methods of contraception by education, religion and previous methods of contraception.

The fourth paper, "Economic Aspects of Recent Provincial Differentials in Migration", dealt with the relationship between male earnings by province and interprovincial migration. In his conclusions, the author suggested that the continued high percentage of males in the 15 – 19 age group, in certain losing provinces, will be reflected in continued out-migration since these provinces can not supply the needed jobs to keep them.

Canadian Public Health Association Annual Meeting

Totem Park Complex at the University of British Columbia was the location of the 1968 Annual Meeting of the Canadian Public Health Association, held May 6-9. This year's annual meeting consisted of three general sessions, as well as numerous section meetings and several business meetings.

The general sessions included the following addresses: "Planning Health Services — Substance versus Form" by M.I. Roemer: "Imported Exotic Diseases — Where Have You Been" by C.J.G. Mackenzie, D.M. McLean, and W.E. Shepherd: "Social Sciences and Public Health Programs" by D.O. Anderson, A.L. Knutson and A.P. Ruderman; and "Responsibilities of Voluntary Agencies Today" by Floris King.

J. Silins and W. Zayachkowski of the Dominion Bureau of Statistics presented the papers at the Vital and Health Statistics section meeting.

"Life Expectancy Eliminating Certain Causes of Death, Canada, 1960-1962" by J. Silins considered life expectancy at birth if each of cardiovascular diseases, cancer and accidents were eliminated as a cause of death. If cardiovascular diseases were eliminated as a cause of death during the above period, then male babies born in 1961 could expect to live an additional 11.36 years and female babies an additional 12.88 years. The corresponding figures for cancer are 2.27 and 2.62 and for accidents, 1.86 and 0.75, respectively.

"Cancer Mortality in Canada, 1961: An Urban-Rural Comparison" by W. Zayach-kowski presented a comparison of six main types of cancer mortality for urban, semi-urban, and rural areas of Canada by province for the year 1961. Most forms of cancer mortality were above the national level in the urban areas and below the national level in the rural areas. Exceptions were female cancer in rural Québec, stomach cancer in rural Newfoundland and rural Québec, female cancer of the intestine in rural Nova Scotia, and female genito-urinary cancer in rural Québec; mortality in all these cases was significantly above the national level.

Enquiries concerning these two papers should be addressed to the authors in the Vital Statistics Section, Health and Welfare Division, DBS, Ottawa.

Federal-Provincial Committee on Labour Statistics — 1968 Meeting

The annual meetings of the Federal-Provincial Committee on Labour Statistics have proved to be valuable vehicles for the Dominion Bureau of Statistics and for the various provincial statistical agencies to discuss their progress over the past year, to talk about new plans, and discuss mutual problems. The meeting this year was held at DBS on May 16.

The reports of the various provincial delegates showed that the collection of occupational and wage rate data was of general concern. Nova Scotia, New Brunswick and Ontario are all conducting surveys in this area and other provinces expressed keen interest. It was pointed out by several

provincial delegates that the kind of studies that were being undertaken in the provinces were of a basic nature required to fill long standing gaps in labour statistics in Canada. The Ontario delegate expressed the feeling that such surveys could be more properly carried out at the federal level leaving provincial statistical bodies to perform more limited, special-purpose surveys.

Partly as a result of new survey work they are undertaking, many provinces expressed an interest in receiving lists of establishments for mailing purposes from DBS, coded by size of firms on the basis of number of employees. While lists are now currently available to provinces on request, the Statistics Act at present prevents any disclosure of the size of an establishment.

Among the items prepared by DBS for the meeting were:

I A report on recent anticipated improvements in timeliness in the production of monthly employment, hours, and earnings data from the large firm ES-1 Survey was presented by P. R. Hicks. Various operational changes cut the time taken for the first release of monthly data from almost 80 calendar days in early 1967 to about 35 days in 1968. A new computer program is being developed which will result in further improvements during 1969 and 1970.

2 Recent progress in the automation of the small firm employment survey (ES-2) was described by W. A. Campbell and A. B. Sunter. The new system results in many operational advantages, including a gain of some 20 days in timeliness, better quality data, and an increase in the amount of data publishable. In addition, the project has proven the feasibility of operating a fully automated sample survey and has prepared the way for similar systems elsewhere in DBS

3 Mr. Campbell also reported on the developments in the new survey of Employer Labour Costs. The purpose of the survey is to provide information regarding the composition of the wage package and in particular to measure for the first time the value of non-wage items such as holiday pay, employer contributions to private pension plans, etc. Data from the first survey collected in 1968 will be published this autumn. This report stimulated considerable discussion indicating provincial interest in the uses of labour costs data. A number of suggestions from provincial delegates for

future inclusions in the survey were made.

4 Mr. F. Curry reported on the developments of the job vacancy program. A major activity has been to define and locate the sources of information from which the job vacancy data will be collected. This has proved to be a large task which has necessitated setting up an entirely new reporting structure across Canada. At the end of the present experimental period in March 1969 it is expected that estimates of job vacancies at the sixth-digit DOT-3 occupational level will be available for manufacturing in Canada. The data will consist of three month moving averages of: total current vacancies, full-time current vacancies, full-time current vacancies that are vacant more than one month, and future starting date vacancies by length of time elapsed to starting date.

5 Mr. N. L. McKellar reported on the development of the Canadian Classification and Dictionary of Occupations. The classification consists of 19 major groups broken into about 88 minor groups and finally into about 400 units. Work on the classification will be completed in time for the 1971 Census.

Other reports were given by Mrs. S. Ostry, who outlined recent developments in the program of manpower research in Special Manpower Studies and Consultation Division of DBS, and by W. A. Nesbitt who outlined some of the activities of the Special Surveys Division over the past year.

Copies of the minutes of this meeting can be obtained from the secretary, P. R. Hicks, Labour Division, DBS, Ottawa.

Canadian Council on Urban and Regional Research

"Trends of Migration to Metropolitan Centres" was the topic of a paper presented by Dr. Leroy Stone at a research seminar sponsored by the Canadian Council on Urban and Regional Research May 30-31 at the Inn on the Park in Toronto. Seminar topic was, "Drift to the Metropolis".

Dr. Stone, Demographic Consultant to the Dominion Bureau of Statistics, stated that the literature on migration in Canada has given insufficient emphasis to the streams flowing among urban centres. Taken together, these streams must have assumed considerable volume several decades ago, and today they are clearly more important than the well known rural-urban migration

streams. Particularly prominent are streams flowing into or out of the Census Metropolitan Areas. For several decades the share of Canadian population within the regions of metropolitan area development has been increasing steadily. These regions have been enjoying much higher net migration ratios than the urban population as a whole; and migration has clearly been of major importance in what we may call an explosion of metropolitan area population in Canada. This population (assessed for a constant geographical area) grew twice as fast as the whole Canadian population for 1901 to 1961

For the 1956-61 period; at least 69 percent of the inter-municipal migrants moved into, out of or within Census Metropolitan Areas. Three quarters of the internal inmigrants to metropolitan areas come from other metropolitan areas or from other urban areas. Thirty-four percent came from other metropolitan areas. Forty percent of the out-migrants from metropolitan areas went to other metropolitan areas: and another 33 percent went to other urban areas.

In regard to some basic aspects of demographic composition, the migration ratios for females were slightly higher than those for males. The age profiles of migration ratios showed prominent peaks in the usual places — marked by the main ages of family formation and labour force entry, and the early ages of working life.

The streams of migration into and out of metropolitan areas are also distinctive in their socio-economic composition. Generally, they show much higher levels of educational attainment and occupational skills (in various age groups) than the other migration streams in Canada.

Three research questions - two dealing with the effects and causes of metro concentration and the third with the implications for public policy - were also considered during the seminar. Moderators were, Jean-Marie Martin, President, Conseil Superieur de l'Education, Quebec; Vice-President, C.C.U.R.R.; Baldur H. Kristjanson, Deputy Minister, Manitoba Development Authority, Winnipeg, Member C.C.U.R.R. and Philip White, Dean, Faculty of Commerce & Business, University of British Columbia, Vancouver.

Other participants in the seminar were: Alan Annstrong, Executive Officer of the C.C.U.R.R., Ottawa: Ruben Bellan, Professor of Economics, University of Manitoba, Winnipeg, Member, C.C.U.R.R.; Alistair Crerar, Atlantic Development Board, Ottawa, Member, C.C.U.R.R: Peter Honey, Director of Economic Planning, Department of the Provincial Treasurer of Ontario, Toronto: J.T. Blair Jackson, Director of Public Relations. Canadian Association of Real Estate Boards, Toronto: Baldur H. Kristjanson, Deputy Minister, Manitoba Development Authority, Winnipeg, Member, C.C.U.R.R: Harry N. Lash, Superintendent of Comprehensive Research, Montreal City Planning Department, Member, C.C.U.R.R; John MacD. Leeky. Chairman. Vancouver Town Planning Commission, Past President, Downtown Business Association, Director, Sun Publishing Co., Vancouver.

Jean-Marie Martin, Président, Conseil Supérieur de l'Education, Province of Ouébec, Member, C.C.U.R.R: Victor J. Parker, Executive Director, Lower Mainland Regional Planning Board, New Westminster. B.C. François Poulin, Directeur Technique. Conseil d'Orientation Economique Ouébec: Michael Ray, Department of Geography and Planning, University of Waterloo: Mrs. Helen Salisbury, Chief, Population and Manpower, Dept. of the Provincial Treasurer of Ontario, Toronto; Leroy O. Stone, Demographic Consultant, Dominion Bureau of Statistics, Ottawa: Philip White, Dean of the Faculty of Commerce & Business, University of British Columbia, Vancouver: W.A. Willson General Manager, Metropolitan Toronto Industrial Commission.

Canadian Sociology and Anthropology Association Annual Meeting

A special census session covering development of plans for the 1971 Census of Canada was included in the annual Canadian Sociology and Anthropology Association meeting at the University of Calgary, June 6 and 7. Professor J. Kantner of the Department of Economics and Sociology at the University of Western Ontario chaired the session.

Five papers were presented by D.B.S. representatives D. L. Ralston and Dr. I. P. Fellegi. Mr. Ralston dealt with three papers prepared by census subject specialists on (a) general demographic characteristics, (b) economic characteristics and, (c) housing,

household and family characteristics. A paper entitled, "Computer Methods for Geographical Coding and Retrieval of Data in the Dominion Bureau of Statistics, Canada", was presented by Dr. Fellegi. Details of the paper were described under Conferences in the last issue of the Statistical Observer. The fifth DBS paper, also presented by Dr. Fellegi, covered the testing program for Canada's 1971 Census. This paper is also described in the previous Observer.

In the first paper dealing with the development of census content on general demographic characteristics, prepared by F. G. Boardman, Chief, General Population Section, Census Division, it was brought out that Canadian censuses, as in those of most countries, include questions on certain standard subjects of demographic and social significance = e.g., sex, age, marital status, fertility, birthplace, language, education. Some 22 questions on demographic and social characteristics were included in the Census of 1961.

Additional questions are being tested for possible inclusion in the 1971 Census. A number of these proposed new questions are in the subject field of education, where more information is needed on types and levels of education, as well as some measure of the amount and kinds of vocational training received. Other new questions being considered have to do with such topics as the birthplace of parents, the language the person most often speaks at home, the date of birth of the last born child (for evermarried women), the length of continuous residence in present dwelling and municipality, and the number of inter-municipality moves made in the past 5-year period.

A major change in the method of collecting age data is being tested - i.e., from a question on age at last birthday to a question on date of birth. The latter approach is considered to have some important advantages, especially if selfenumeration techniques are employed more widely in the next census. At the same time, it is felt that a general census is not a suitable vehicle for collecting reliable data on physical disabilities. Data on past war service has lost much of the urgency that it once had. Therefore, questions on these items may be excluded from the 1971 Census. Finally, consideration is being given to the feasibility of enlarging the list of

subjects for sampling in 1971 to embrace most of the items in the demographic and social field, except for such basic subjects as household relationship, sex, age, and marital status.

In the second paper on the development of content relating to economic characteristics prepared by T. G. Beynon, Chief, Economics Characteristics Section, Census Division Mr. Ralston reported that the term "economic characteristics" is used to describe all census statistics pertaining to income and to the size and structure of the Canadian labour force. In the post-war period, information on the economic characteristics of the population has been collected in each of the decennial censuses, and has included details concerning labour force status, occupation, industry, class of worker, hours and weeks of work, and wage and salary earnings. In 1961, the scope of the income enquiry was extended to include income from sources other than wages and salaries.

New economic topics are being suggested for inclusion in the 1971 Census. Some of these topics such as "net taxable income" are rejected because of their sensitivity and their potential prejudice to the entire census operation. Others such as consumer expenditure patterns or job mobility are rejected because of their impracticality in a general census, or because of the large number of questions required to elicit meaningful data. On the other hand, those topics which do appear to fall within the census framework are subjected to a rigorous program of testing and evaluation and are finally ranked in order of priority for inclusion in the questionnaire. In addition, the "traditional" economic topics are reviewed prior to each census to ensure that their continued presence in the document is justified. The evaluation program for the 1971 Census is by no means complete, but present indications are that 11 economic questions included in 1961 will be retained, and, in addition, a question may be added on each of the subjects of multiple job holding, place of work, and net farm income.

Finally, it might be noted that the conceptual basis for information on economic characteristics has undergone little change since 1951. However, the program of planning and development ensures that definitions and classifications are continually improved in order to permit a more effective realization of the basic concepts. For

example, one of the most important features of the 1968 testing program is to evaluate the effectiveness of alternative questions to derive optimum measures of labour force participation (employment and unemployment).

The first housing census of Canada, reported Mr. Ralston in reference to the third paper prepared by Miss M.F. Woddell, Chief, Housing and Family Section, Census Division, was taken in 1941 as part of the national decennial census program of that year. It was repeated in 1951 and 1961, the sample size being increased to 20% of all dwellings across the country, as compared to a 10% sample in 1941. Initial plans call for a 25% sample in 1971 with possibly a few basic topics (tenure, type of dwelling, number of dwelling units in building) asked for every dwelling. As in the case of population censuses, attempts have been made over the years to obtain housing information which not only provides useful basic data to users in Canada, but which is modified to reflect changing times, and finally to conform as nearly as possible to international recommendations.

Considerable time and effort have gone into a study to determine the current terminology to describe various structural types of dwellings and its variations throughout Canada. Additional questions relating to business premises in the building, and on number of dwelling units in the building, are expected to further refine the statistics on dwelling types. Testing of questions related to the number of "converted" dwellings have not been successful, chiefly due to difficulties of respondents in understanding the concept and poor response arising from the fact that tenant respondents to whom they chiefly apply often do not know the information required. Among the proposed changes in other subject areas of the housing census are attempts in the testing program to obtain more precise data on rentals including some indication of the extent to which subsidized rents affect the rental picture, and in answer to considerable demand relating to vacation (or second) homes, two questions are included on this subject for testing purposes.

The household forms the basic unit of enumeration for the census, and with the introduction of self-enumeration methods, problems have been encountered in tests to date, particularly in downtown areas where

it is sometimes difficult to determine the household correctly in pre-listing operations. Thus, it becomes all the more necessary to tie households closely to the inquiry on type of dwelling under this approach. The determination of the family unit is also derived from the enumeration of the population questionnaire, from which the relationships of individual household members are grouped into family units. In order to maintain essential comparability, the same eensus family concept (conjugal family nucleus) which has been used since 1936 will again be applied, with certain tabulations on the broader concept (all related persons in the household) being made for special needs.

Dr. Lerov O. Stone of the University of Western Ontario and Demographic Consultant for the Dominjon Bureau of Statistics chaired a session on "Differentiation and Stratification in Metropolitan Areas". This session heard two papers. The first by Anthony H. Richmond of York University was titled "Ethnic Origin, Occupational Status and Income in Metropolitan Toronto". The second, by T.R. Balakrishnan and George K. Jarvis of the University of Western Ontario was titled "Socio-Economic Differentiation in the Metropolitan Areas of Canada". Utilizing the 1961 Census data on occupation, education and income, a combined socio-economic index was constructed for each census tract in the metropolitan areas. From the socio-economic profiles thus obtained for the metropolitan areas, relationships between socio-economic differentiation and other factors like functional specialization, age of the place, and distance from the centre were examined.

Other sessions at the annual gathering were: Canadian Indian and Eskimo Communities; Party Politics; Medical Sociology; Experimental Sociology; Differentiation and Stratification in Metropolitan Areas: Deviance and Values; Community Development: Theory; Family, Schools and Behavior, Religion, Ethnic Problems, Societal Development; Roles and Occupations; Demography and Population.

Eighth Federal-Provincial Conference on Municipal Finance Statistics

The Second Session of the Eighth Federal-Provincial Conference on Municipal Finance Statistics was held in Toronto, June 12 - 14. The Conference is concerned initially with incorporating suggested changes in the Municipal Finance Reporting Manual. The manual, published by Dominion Bureau of Statistics, covers financial statements of municipal corporations, municipal accounting terminology, general municipal statistics and financial statements of municipal superannuation funds. It also sets out accounting statements approved for use by municipal corporations, with classification of items.

The first edition of the manual, reflecting the work of the First, Second and Third Conferences of 1937 and 1940, was published in 1942. The second edition, published in 1950 stemmed from the work of the Fourth and Fifth Conferences of 1947 and 1948 while the Third Edition, published in 1960, resulted from the Sixth and Seventh Conferences of 1953 and 1958.

The need for the new edition, to reflect developments since 1960 in organization, financial responsibilities and the economic impact of local governments was established at the 1966 Conference on Municipal Finance Statistics held at Queen's University.

Recommendations contained in Governmental Accounting, Auditing and Financial Reporting, published recently by the Municipal Finance Officers Association of the United States and Canada, will be fully considered in developing the new manual edition. This association publication was prepared by the National Committee on Governmental Accounting.

Emphasis will also be given to the provision of statistics, through local government finance reporting, in forms comparable with existing forms, or those planned, by federal, provincial and territorial governments.

The Eighth Conference is a continuing one, meeting twice a year, and is convened by the Dominion Bureau of Statistics with representation from provincial and territorial departments of Municipal Affairs and Quebec Bureau of Statistics. Observers from the federal Department of Finance, the Bank of Canada, and other provincial departments also participate.

The First Session, convened in Victoria, B.C. in April 1967, attempted to identify basic problem areas for study and to establish procedures.

In Toronto the Conference considered proposals for revised expenditure classification systems by function and by object.

A Third Session, to be held in Fredericton, New Brunswick starting November 6, 1968, will complete the expenditure classification study and also review existing revenue classifications.

Conference chairman is George A. Wagdin, director general of the DBS financial statistics branch.

In the Provinces

New Publications

Ontario

Early in 1968, the office of the Chief Economist of Ontario was reorganized and integrated into the Department of the Provincial Treasurer. The structure of the new economic wing in the Treasury Department (Finance and Economics) is comprised of two major divisions: the Policy Planning Division and the Economic and Statistical Services Division.

As part of the latter division in the new organization, the primary role of the Ontario Statistical Centre will be to supply the specific statistical information required for policy planning and economic analysis. In addition, the centre will provide, as directed by the Treasury Board, a coordinating function upon the statistical activities conducted throughout the Ontario Government services and associated agencies.

Newfoundland

The Statistics Branch of the Economics and Statistics Division, Department of Finance, has been very active since its inception on October 1, 1967. Since the last issue of the Statistical Observer the branch has spent considerable time on the preparation of economie and financial data for use in budgetary decisions and for inclusion in both the budget and throne speeches. Currently, most efforts are being directed towards the completion of an historical statistical review of Newfoundland and Labrador. The review will contain approximately 200 statistical tables and will cover about 25 subject areas with particular emphasis on the government finance area.

The Statistics Branch is supplying statistics to the Economics Branch of the Department of Finance and other government departments. The Branch is also providing technical assistance to the Tourist Development Office of the Department of Economic Development which is now establishing a statistics unit within its operation.

Facts on Alberta's Population and Economy

The Alberta Bureau of Statistics has published the 1968 edition of Alberta Industry and Resources. This publication, consisting of maps, tables, graphs, and narrative is a collection of the most up-to-date and relevant data pertaining to the industrial development of Alberta.

Also published was a study entitled Purchases of Selected Raw Materials and Supplies by Alberta Manufacturers. This report presents a list of materials purchased by Alberta manufacturers, which materials it is hoped can be provided by other Alberta manufacturers.

This Bureau has now completed a forecast of population to the year 1986. Entitled *Population - Alberta 1961 and 1966 Forecast 1971 - 1976 - 1981 - 1986* it presents a population breakdown by sex and single years of age for Alberta to 1986.

The population projection is based on the Dominion Bureau of Statistics publications:

- 1 Population by Single Years of Age, 1966
- 2 Regional Life Tables, 1960 1962.

Conference on Government Information Systems Published by Economic Council

Rapid escalation in government needs for more and better information and analysis as a basis for policy formulation, implementation and appraisal has resulted from a substantial increase in the relative scope and importance of government. Dramatic possibilities for helping to meet these needs arise from swiftly expanding capabilities for developing computer-based information systems.

So, in effect, says the foreword to Conference on Government Information Systems, published by the Economic Council of Canada. The volume comprises mainly an edited collection of addresses to a closed conference, by men experienced in the concept, potential and problems associated with computer programs designed to store, retrieve and organize economic and social information to be used for many important aspects of analysis relevant to good decision - making. The main objective of the Economic Council of Canada in sponsoring the conference was to clarify for senior government officials these basic concepts, potential

and problems, and to describe some of the information systems now in operation.

The conference concentrated particularly on a single type of system having several important characteristics: first, it should be primarily designed to deal with economic and social statistics collected almost entirely by DBS. Second, the data should be mainly time series relevant for use by economists and other scientists in appraising economic and social issues, problems and practices. Third, it should be designed to facilitate the compilation, manipulation, analysis and publication of these statistics far more efficiently and at lower cost in terms of both manpower and financial resources than other methods of handling such data.

The 140-page book presents eight papers, and the moderator's summary of a panel discussion. As well, there is a five page forward by Arthur J. Smith. Chairman, Economic Council of Canada.

Papers presented are:

- 1 The Administrator and the Computer: Rights and Responsibilities by M.H. Schwartz, Vice-President, First National City Bank, New York;
- 2 The Bureau of Labour Statistics Data Bank and Information System by Rudolph C. Mendelssohn, Chief, Division of System Development, Bureau of Labour Statistics, Washington;
- 3 The Current Canadian Time Series Data Bank by H.J. Adler, Director, National Accounts, Production and Productivity Division, DBS, Ottawa;
- 4 The Problems of Hardware and Software or How You Can Learn to Live with The Computer by Aaron Drutz, Manager, Army Applications Department, System Development Corporation, Washington.
- 5 The Bureau of Labour Statistics Computer Language for Quantitative Economic Research by Rudotph C. Mendelssohn;
- 6 Data Administration in an Information System by M.C. McCracken, former member of the staff of the Economic Council of Canada:
- 7 The Information System as a Tool for Economic Analysis by George Sadowsky, Director, Computer Center, Brookings Institution, Washington;
- 8 The Need for Information Systems as a Tool for Better Government by Ronald S. Ritchie, Director, Imperial Oil Limited;

The Conference moderator was T.J. Vander Noot, member of the Economic

Council of Canada and an advisor to DBS.

"Conference on Government Information Systems", is available from the Queen's Printer, Ottawa, or at Canadian Government bookshops, Catalogue EC 22-1168, \$1.50.

Special Labour Force Studies

Three new publications in the series of the Special Labour Force Studies are being published during the summer months. All are in the non-technical series which is designed to provide an insight into the operation of the Canadian labour market to as wide an audience as possible. Previous studies in this series were described in the last issue of the Statistical Observer.

Labour Force Characteristics of Post-War Immigrants and Native-born Canadians 1956-67, by N. H. W. Davis and M. L. Gupta, compares these two population groups with respect to their age, sex, marital status, place of residence and education, and attempts to see to what extent differences between the two populations in these demographic and social characteristics explain differences in their labour force participation rates.

Educational Attainment in Canada: Some Regional and Social Aspects, by M. D. Lagacé, examines regional differences in the educational attainment of the population, the relationship between inter-regional migration and education, and intergeneration changes in educational attainment

Women Who Work, Part II. by J. D. Allingham of the University of Western Ontario and the Australian National University, and B. G. Spencer of McMaster University, examines the relative importance of age, education of the wife, education of the husband, child status and residence as factors influencing the participation of married women in the labour force.

These studies are prepared under the direction of Dr. Sylvia Ostry.

Further information concerning these publications can be obtained from Dr. S. Ostry, Director, Special Manpower Studies and Consultation, DBS, Ottawa.

Voluntary Group Stores Subject of New DBS Reports

The second of two "first-time" reports on voluntary group activities in Canada will be published shortly by the Merchandising and Services Division of DBS. The first report, dealing with the grocery and combination trade over the three-year period 1963-65, was released in March 1968 (DBS Catalogue No. 63-215). The second will provide a detailed statistical analysis of voluntary group activities in a number of other trades, including drugs, hardware, general merchandise, auto accessories and variety stores, during 1964 and 1965.

Voluntary groups have been defined for the surveys as: "A type of affiliation in which the relationship between a wholesaler and retailer is described in a formal written agreement. Such agreements usually provide a participation in group advertising activities and for the use of group signs or symbols by member-retailers. In addition, retailers may obligate themselves to do such things as to promote the sale of private brands furnished by the wholesaler, concentrate a substantial portion of their purchases with the sponsor. use standardized accounting systems, and cooperate in the sale of advertised merchandise at stipulated prices for the period covered by the advertising. For their part, wholesalers - in addition to providing all the regular wholesaling services - may agree to provide merchandising advice, assist in store modernization, furnish merchandise for use as sales leaders, prepare advertising and sales promotion campaigns and provide uniform accounting systems and services for the members".

The main table in the two publications is devoted to an analysis of number, and sales of voluntary group stores by kind of business, by province and by "purchase factor". Purchase factor represents the degree to which affiliated stores patronize their group suppliers, expressed in percentage terms. Other tables provide details on voluntary group stores (number and sales) by type of wholesaler and by size of group.

An interesting feature of the second report is the reconciliation which it contains for stores affiliated with food wholesalers, whether in the grocery and combination trade or in other kinds of business, i.e., general stores, confectionery stores, fruit and vegetable stores, meat and fish markets, etc.

The collection of data on voluntary group stores was accomplished in three general stages:

1 The names of voluntary group wholesalers and suppliers were obtained through a

special survey undertaken in conjunction with the 1961 Census of Merchandising and Service Establishments.

2 Details of voluntary group membership lists were then supplied by these wholesalers on written request.

3 Information on sales and purchases was obtained directly from the voluntary group members. Respondents were also asked to supply details of their group operation (advertising and display of group identification).

Voluntary Group Stores - Grocery and Combination Trade 1963-65, Catalogue No. 63-215, (50¢), is available from the Publications Distribution Unit, DBS, Ottawa, Voluntary Group Stores - Selected Trades, Catalogue No. 63-217, (50¢), is available as of early August.

Price Indexes of Electrical Utility Construction

Those concerned with electric utilities or with the development of price indexes for capital expenditures, will be interested in the publication *Price Indexes of Electrical Utility Construction*, 1956-65.

The publication introduces a new series of annual input price indexes which measure the movement through time of materials, labour, and equipment used in the construction of some electric utility distribution systems, transmission lines and stations in Canada. The index provides an estimate of how much more, or less, it would cost to reproduce the base-period program of construction in another period, using the same construction technology as in the base period (1961) and assuming rates of profit and productivity in construction to be the same in both periods.

Descriptions of methodology, problems encountered and definitions used in preparing these indexes are included in the report. Uses and limitations are also covered. Annual indexes from 1956 to 1965 are presented in the report; subsequent indexes will be published in *Prices and Price Indexes*, DBS Catalogue No. 62-002.

Price Indexes of Electrical Utility Construction marks completion of the first stage of development of indexes covering total expenditure on electric utility construction. Indexes for hydro-electric generating stations and for steam-electric generating stations are now being developed. Throughout the development of these indexes, DBS has received the close cooperation of the Canadian Electrical Association.

Price Indexes of Electrical Utility Construction 1956-65, Catalogue No. 62-526, 75c, is available from the Publications Distribution Unit, DBS, Ottawa.

Additional Studies in the 1961 Census Monograph Program Released

More penetrating analysis of census data as embodied in the 1961 census monograph series was mentioned in the previous *Statistical Observer*. Since then, a number of studies in the series have been released. These are:

1 The Occupational Composition of the Canadian Labour Force - Catalogue 99-550/1967 - \$1.00. A large part of this, the second in the 1961 Census Monograph series dealing with selected aspects of the Canadian labour force, is devoted to tracing the changes in occupational deployment of the working population over the first six decades of this century. This long-run analysis is necessarily confined to the level of broad occupational categories and, insofar as data permit, an attempt is made to expose and explain the growth or decline in numbers within these broad groups. This 90-page study was prepared by Dr. Sylvia Ostry, Director, Special Manpower Studies and Consultation, DBS.

2 Provincial Differences in Labour Force Participation – Catalogue 99-551/1968 – 75¢. The purpose of this 40-page monograph also by Dr. Ostry, is to expose the extent of geographic (inter-provincial) variation in labour force participation in Canada in 1961 and to trace some of the historical changes that have occurred in respect to this phenomenon.

3 Unemployment in Canada — Catalogue 99-552/1968 - \$1.00. Unemployment in Canada contains a review of the composition of unemployment. In it, Dr. Ostry attempts to answer the question "Who are the unemployed?", and also considers the extent and nature of "underemployment" in Canada. The last two sections of the study examine the impact of unemployment on the family, particularly with regard to the resultant financial loss.

4 Urban Development in Canada — Catalogue 99-542/1967 - \$3.00. Existing Canadian urban studies have left undone a great deal of basic spadework in the compilation

and synthesis of fundamental information. It is appropriate therefore that "Urban Development in Canada", by Dr. Leroy O. Stone, DBS Consultant on Demographic Research and Assistant Professor of Sociology, University of Western Ontario, should concentrate on such fundamentals as growth, demographic structure and areal distribution. The study of these requires analysis of the demographic processes of fertility. mortality and migration and careful investigation of the relevant rates of these processes for sub-groups of population. The study also includes information on ruralurban differentials in population change and the distribution of urban population among urban size groups and major regions, partial analysis of the components and factors underlying selected patterns of urban population change, and partial analysis of population growth in census metropolitan areas.

Most of the data in this 300-page monograph are based on published tabulations of the 1961 Census of Canada. The aim of the study is not to produce definite analysis but to open further the doors to some of the information on urban development that can be found in DBS statistics, to contribute to synthesis and dissemination of this information, to stimulate further research in this field, and to point up some areas in which the statistical output of DBS may be made more responsive to the growing demands being made upon it.

Part I deals mainly with the urban population, describing and partially analysing its growth, geographical distribution and sexage composition. Part II is mainly a discussion of some demographic aspects of metropolitan growth in Canada. It is understood that demographic patterns and trends are not the basic dimensions of metropolitan development. However, demographic patterns and trends are important aspects of metropolitan development and the great bulk of the existing data that provide indications of this development are demographic.

5 Trends in Canadian Marketing — Catalogue 99-543/1967 - \$4.00. "Trends in Canadian Marketing" attempts to identify and explain long run changes in Canada's distribution system as revealed mainly by DBS data.

Marketing or distribution employs almost as many people as the manufacturing industries in Canada, and accounts for about one half of the cost of goods bought by Canadian consumers. Yet, distribution, as this study points out, is "the economy's dark continent". The remedy lies in research of a fundamental nature.

Through its decennial Census of Distribution and its continual program of interim statistics DBS has become a rich storehouse of information on marketing in Canada. This information has been widely used, but most marketing research is for specific, immediate purposes. Few researchers have had the time or the resources to examine the panoply of Canadian distribution over the entire period for which data are available. *Trends in Canadian Marketing* is designed to serve that larger purpose.

The emphasis in the study is on Canada's retail trade, although reference is also made to the marketing activities of manufacturers, whole salers, consumers and "outside" agencies.

Chapter 1 shows how the development of an elaborate distribution system has been related to Canada's industrial progress and economic maturity, and attempts to measure the magnitude of distribution in terms of cost and employment. Chapter 2 traces how the various tasks involved in marketing have shifted among retailers, wholesalers, manufacturers, consumers, governments and other agencies. Chapters 3 through 9 examine major trends in Canada's retail trade, especially since the first census of distribution in 1930. Chapter 10 shows how trends in Marketing Management are part of a comprehensive movement towards a total marketing process which is more fully rationalized and more responsive to our mutual needs.

The over 300-page study was prepared by M. S. Moyer, Professor, Faculty of Administrative Studies, York University and G. Snyder, Director, Merchandising and Services Division, DBS.

6 Tendances et Facteurs de la Fécondité au Canada — Catalogue 99-541 F/1968 - \$4.50. The various factors influencing fertility residence, age at time of marriage, religion, income, schooling and whether or not a woman works outside of the home - are analysed in a 425-page study by Jacques Henripin of the University of Montreal, prepared at the request of DBS and with the eooperation of Jean-Charles Desjardins, a demographer on the DBS staff, Particular attention is drawn to the practical results of fluctuating birth rate. For example, aging of

the population raises costs of social security programs; population mix determines such important needs as housing, schools and hospitals. The monograph begins with a brief demographical history of New France (1608-1760) and of the Catholic population in Quebec from 1760 to 1880, based on figures obtained from parish registers.

Well illustrated with tables and charts Tendances et facteurs de la fécondité au Canada (Trends and Factors of Fertility in Canada) is intended not only for specialists in demography, but for those of the general public also who want to know more about their own milieu.

Copies of studies in the 1961 Census Monograph Series described above can be obtained from the Queen's Printer, Ottawa, or from Canadian Government Bookstores.

Manpower Projections in Ontario

The first volume of an extensive study on manpower trends and future manpower requirements in Ontario has been published by the Ontario Institute for Studies in Education. This study makes a detailed analysis of trends for many of the major professional and technical occupations in Ontario and contains projection tables for these occupations to 1986. In providing material and assistance, staff of the Census, Labour, Education and other Divisions of DBS were involved.

Copies of the study "Qualified Manpower in Ontario, 1961-68" are available from the Ontario Institute for Studies in Education, 102 Bloor St. W., Toronto 5, for \$6.00.

Ontario Trade Statistics

The Ontario Department of Economics and Development has issued its latest edition of Statistics for Profit, a brochure designed to bring to the attention of businessmen considering exports or manufacturing development in Ontario, the names of products for which there is both an export and domestic market. Besides the usual sections showing major imports by SITC groups for the last two years, and Canadian exports to the U.S., a new section providing Ontario exports to all countries and percentage of Ontario exports to Canadian exports shows these statistics for the year 1965. This table results from special tabulations made for the department by DBS and does not appear in the regular DBS trade statistics publications.

The Department of Economics and Development was reorganized at the beginning of 1968 and renamed the Department of Trade and Development. Copies of the brochure are available on request from the Department at its address: 950 Yonge St., Toronto 5, Ontario.

Ontario Estate Statistics

A tabular analysis of personal wealth held in estates for which Ontario succession duties were paid has been published, as one of the studies for the Ontario Committee for Taxation. The statistics cover estates for which duties were levied in the fiscal year 1963-64. Included are extensive statistics on assets by estate size; age and sex of deceased; income of deceased, and so on. This is the first time that such detailed statistics on estates as a means of determining personal wealth have been published.

This report is obtainable from the Ontario Queen's Printer.

Sources of Economic Growth

A new study on the sources of economic growth has been published as No. 24 of the studies of the Royal Commission on Taxation. This study was done by Thomas A. Wilson of the Institute for Policy Analysis of the University of Toronto and Professor Harvey Lithwick of the Department of Economics of Carleton University.

It extensively studies the period 1926 to 1961 and discusses the sources for analysis of GNP for this period. There are extensive chapters on the labour force contribution to economic growth, the role played by capital formation and savings, demand, and the tax structure's effect on economic growth.

Of interest are tables showing the actual GNP and potential GNP for the years 1926 to 1963 and projections of GNP to 1975.

The report is for sale by the Queen's Printer for \$2.50. Their Catalogue No. Z1-1962/1-1/24 should be cited.

Survey of Psychologists

The Science Secretariat of the Privy Council Office has commissioned a number of studies in the various disciplines and fields of science in Canada. These are studies dealing mainly with manpower in the professions and the requirements to support

research in the field. A recently issued study deals with psychologists.

This survey was made by the Canadian Psychological Association to determine the number of psychologists in Canada, the nature of their work, the number of graduate students in the field and the future requirements of manpower. The subject of research and studies in Canadian universities is also dealt with.

Detailed characteristics of age, sex, educational qualifications, income and nature of work of psychologists was collected and anlyzed. The nature of financial sources for research was studied in detail and information on students and academic staff in this field obtained.

The report titled "Psychology in Canada" issued as Special Study No. 3 by the Science Secretariat is available from the Queen's Printer at \$2.50 a copy. Q.P. Catalogue No. \$\$\$21-1/3 should be cited.

Long-Term Wage and Salary Trends

The Federal Department of Labour has issued a chart study on longterm wages and salaries trends titled *The behaviour of Canadian wages and salaries in the post war period.* The majority of charts show trends from the period 1949 to 1965, although there is also a "current picture" section which gives analytical charts for 1965. The charts are accompanied by explanatory material.

Unique to this publication is a series of charts showing "skill differentials" or the changes in wage rates related to various skilled trades. Also there is a section on professional and executive salaries which was obtained from results of surveys by a private research firm. Supplementing the charts is a series of tables showing trends in salaries and wages.

This report can be obtained from the Queen's Printer for \$1.50. Quote Catalogue No. 1.41-567.

Canadian Nursing Statistics

Facts and analyses of nursing salaries, staffing, and nursing education are contained in *Countdown 1967*, a 106-page annual released by the Canadian Nurses' Association

Countdown 1967 is described by the CNA as an easy-to-use research tool, designed for

the bookshelf of all nursing planners. One hundred statistical tables display both national and provincial data in fifteen topical sections. Each section has a commentary on sources of data as well as a summary of highlights and trends.

A cross reference between Countdown 1967 and Facts About Nursing issued by the American Nurses' Association is available from the CNA to assist readers in comparing Canadian nursing data with similar U.S. data.

Some of the Material in *Countdown 1967* was processed and provided by the Health and Welfare Division and the Education Division of DBS.

"Countdown 1967" is available from the Canadian Nurses' Association, 50 The Driveway, Ottawa 4, Canada, at \$4.50.

Report on Foreign Ownership

A major study titled Foreign Ownership and Structure of Canadian Industry and popularly known as the Watkins Report is now available. This report was prepared by a task force headed by Melville H. Watkins, who was commissioned by the Hon. Walter Gordon, former President of the Privy Council, to head the team which made the survey and recommendations included in the report.

This report is not a source of statistical material on the subject: statistical material is available in the DBS publications on the international balance of payments and the CALURA annual report on corporations. Rather, the report is a detailed analysis of the trends as shown by the statistics, from which conclusions are drawn and policies proposed.

Of interest to statisticians, economists and others, who may be studying this subject are the recommendations which propose the creation of a special agency to collect information on foreign ownership under the guiding principles program, and, analyze it for government use. The report also recommends that all federally incorporated private companies and public companies. regardless of nationality of ownership, file returns with the Department of Consumer and Corporate Affairs and that this information be made public. Should adequate information not be obtained in this manner, it is suggested that the financial statements and schedules filed under the Corporations and Labour Unions Returns Act Administration, which are presently confidential, be made available to the public.

The report in both English and French editions may be obtained from the Queen's Printer in Ottawa for \$4.00 a copy. Queen's Printer's Catalogue No CP22-868 should be cited.

Historical Catalogue of DBS Publications

Statisticians engaged in research, and librarians have long felt the need of historical bibliographical guide to DBS publications. The Historical Catalogue of Dominion Bureau of Statistics Publications, 1918-1960 in conjunction with the current catalogues of 1960 and 1964, is designed not only as a bibliographical guide to the publications issued by DBS since its inception in 1918, but also as a means whereby a library collection of Bureau publications can be physically organized, classified and catalogued.

The 300 page catalogue lists all publications designed to provide statistical information for the public with the exception of special statements, press releases and preliminary or advance statements which were issued ahead of regularly scheduled final reports.

Historical Catalogue of Dominion Bureau of Statistics Publications 1918-60, Catalogue No. 11-504, \$2.50, is available from the Publications Distribution Unit, DBS, Ottawa, or at Canadian Government Bookstores.

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