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STATISTICAL SERVICES

INTRODUCTION

This Chapter traces the development of the official statistical services in Victoria. In 1934, the collection of most statistics was the province of the Government Statist but as a result of wartime and post-war statistical demands, the Commonwealth Bureau of Census and Statistics (CBCS) played an increasing role in Victoria in collecting State economic statistics after the early 1940s. By 1945, the Victorian Office of the CBCS was permanently established in Melbourne and in 1958 the statistical services formerly carried out by the Victorian Government Statist were integrated with those of the CBCS in Victoria (as they were in other States under the Integration Agreements). In 1975, the CBCS became the Australian Bureau of Statistics (ABS).

The recording of statistics underwent marked changes between 1934 and 1984. In the first twenty-five years, responsibility for collecting and compiling official statistics in Victoria rested mainly with the Victorian Government Statist. From colonial times statistics relating to the various colonies (later States) and territories had been aggregated in various publications to give Australia wide totals, e.g., in T.A. Coghlan's *The Seven Colonies of Australasia*. The establishment of the CBCS, the ABS after 1975, enabled a somewhat closer degree of comparability, except for cases where incompatible legislation prevented the aggregation of State components into national totals. A small branch office of the Bureau was set up in Victoria in 1945 to perform some limited collection activities.

OFFICE OF THE GOVERNMENT STATIST, 1934 TO 1958

Mr Oswald Gawler was appointed Government Statist on 1 March 1934, almost a century after the collection of the first official statistics in Victoria, then the Port Phillip District of New South Wales. After the gold rushes of the 1850s, Victoria became a world leader in statistical recording in the nineteenth century, with impetus from renowned officers in the position of Registrar-General, such as William Henry Archer, and the first Government Statist for Victoria, Henry Heylyn Hayter. Archer had produced statistics and reports on the progress of Victoria from the founding of the Colony, and developed *Statistics of the Colony of Victoria*, which dates from 1852, and was renamed the *Victorian Statistical Register* in 1874, appearing annually until discontinued as a wartime economy in 1916. The *Victorian Year Book*, introduced in 1873 by Hayter, has continued to be produced, with some minor interruptions, as the main publication of the Office of the Government Statist and, following the integration of the statistical services in 1958, the Victorian Office of the Bureau.

The Office of the Government Statist, part of the Department of the Chief Secretary, was situated at 295 Queen Street, Melbourne, in a palatial bluestone building typical of the late Victorian style of architecture, although its foundation stone is dated 1902. With its high ceilings and courtyard, its open fireplaces and gas-light brackets still in evidence, it expressed the imperturbable influence of governmental administration in a more leisurely age. There were few changes in the tenor of office activity until the early 1950s when a greatly increased demand for statistics began to change all statistical activity in Australia. Until then, however, the historic setting of the office reflected the nature of its statistical efforts which seemed to be directed towards the painstaking recording of history.

By the 1930s the subject matter and methods employed had altered little since the early days, apart from difficulties consequent upon government restraints in the Depression. Staff and funds were not available for the expansionary and innovative collections and techniques that were to become a feature of statistical recording after the Second World War. With few modern mechanical aids, dilapidated furniture, out-of-date telephones, and little incentive, dedicated clerks produced accurate statistics in pen and ink copperplate writing on traditional pale blue foolscap or larger sheets of tabulating paper. The titles of certain collections still showed direct descent from the previous century — “interchange” instead of trade; “accumulation”, later simply finance — and the *Blue Book* of notable officials was still laboriously compiled and checked by hand for inclusion in the manuscript update of the *Victorian Statistical Register*, which was no longer printed after 1916.

As well as publishing official statistics, the one person performed the role of Government Statist and the functions of Registrar of Births, Deaths, and Marriages, as well as of State Actuary, which involved the overseeing of the State Superannuation Fund and the activities of Friendly Societies. A Chief Clerk controlled the whole office but this was later changed to place the responsibilities under three Assistant Government Statists in charge of the Statistics Branch, the Registration Branch, and the Actuarial Branch, respectively. Calculations were usually done manually and it was not until the advent of accounting machinists and a telephonist-typist that the Office employed women. Before the Second World War, the hand writing of extracts and typing of certificates were undertaken by males.

Until the 1950s, the statistical functions were separated into five sections : agricultural and pastoral; factories; public finance, private finance, trade, and transport; vital, population, and social; and municipal. The distribution of forms for the collection of the agricultural and pastoral census was carried out by members of the Victoria Police in the various country areas. They entered such items as area under crops and numbers of livestock into field books provided by the Office, and summarised them into collectors books, which were forwarded to the Office when all necessary information had been completed. The details were checked and the information tabulated by counties and districts. Cards were later forwarded to individual farmers requesting them to supply particulars of the yield from certain crops such as potatoes and onions.

For factory statistics details were collected, again with the assistance of the Police, from all factories in Victoria on a form seeking such information as the number of persons employed, and output. Public finance statistics utilised the Treasurer’s Finance Statement and the Report of the Auditor-General, augmented by further data from these offices, where necessary. Private finance included information on Fire, Marine, and General Insurance, Building Societies, and various Co-operative Societies. Trade statistics were obtained from details collected from the Department of Customs and prepared by the Commonwealth Statistician, and transport statistics depended on published reports of relevant authorities, including the Victorian Railways, the Melbourne and Metropolitan Tramways Board, and the harbour trusts.

Statistics on births, deaths, and marriages were based on registrations, after transcription of data including usual residence, sex, and age, on to summary sheets or cards. Deaths were classified according to cause of death on cards which were sorted, counted, and recorded by hand on tabulation sheets. Details of Victorian population were available as a result of census collections by the CBCS. Labour statistics included wage rate indexes and average weekly earnings, from 1913 and 1941, respectively, and statistics on industrial disputes and trade unions from 1913. For municipal statistics a form was sent to each city, town, borough, and shire in Victoria and the details of local government activities, such as building permits issued, provided further useful indicators about social and economic conditions in the State.

In the early 1940s, the preface to a *Victorian Year Book* stated that it aimed at presenting information to assist “legislators, publicists, and others in formulating policy for the further development of the natural resources of the State and for promoting the welfare of the people; to provide essential data for economists, sociologists and students generally in their researches; to furnish producers with facts and figures relating to their own and allied industries, and to inform the public on matters associated with the life and industry of the people in general and of Victoria in particular”. Comparability was given prominence.

"If changes are made, due regard is paid to this feature, which is preserved as far as practicable, or discarded only because a new form of presentation possesses merits which outweigh the advantage of comparability." (*Victorian Year Book* 1941-42). Apart from the *Victorian Year Book*, other publications were produced, including *Municipal Statistics* (annually), *Building Permits* (monthly), and *Fire, Marine and General Insurance* (annually). The *Quarterly Abstract of Statistics*, embracing a brief summary of a range of statistics, was published between 1946 and 1958.

The Second World War added considerably to the burdens of the Office. Before the war, the Agricultural and Pastoral section had a staff of about eight, Factories section six, and the other three sections two each. Some permanent officers served with the Armed Forces and were replaced with juniors or temporary assistants. In 1934 the statistical staff numbered fewer than eighteen, in 1939 and 1940 seventeen, and thereafter remained below twenty, with individuals absent for various periods of war service. In 1944, for instance, three were with the Forces and two on loan to the Commonwealth. Another effect of the war was that some information, such as the statistics of overseas trade and shipping movements, was restricted by censorship and publication of data was delayed for a variety of reasons. The *Victorian Year Book* 1941-42 did not appear until 1944 and the Preface explained that "at various stages of collection and compilation, statistical work has necessarily been deferred for special wartime tasks of greater urgency. Suppliers of information, including Government Departments, companies, firms and individuals all experience staff difficulties. Pressure of other work in this office has fallen upon a depleted staff..." There was a gradual return to the normal pattern in the decade following the war although the *Year Book* fell progressively behind schedule in the 1950s, requiring a combined edition for 1952-53 and 1953-54, and a single issue embracing the years 1954-55 to 1957-58.

In 1954, Mr Gawler retired and Mr V.H. Arnold became the Government Statist, at a time when the Commonwealth moves to integrate the State and Commonwealth statistical services were already under discussion.

Apart from some changes to questionnaires, the adoption of new international classifications in some areas (e.g., the Sixth [1948] Revision of the International List of Causes of Death), and some relaxation of wartime restrictions which curtailed trade and shipping and other statistics, the post-war period remained one of recovery and restoration of the statistical service. Between 1954 and 1958 several changes occurred, including the development of new collections relating to mortgages, industrial accidents, and hospital morbidity. A *Victorian Pocket Year Book* was first published in 1956 and new publications were developed to meet the emerging demand for up-to-date data.

The volume of data could only be handled efficiently by mechanical data processing methods and in 1958 the Government Statist decided to use the Powers-Samas system for tabulating factory returns. After integration of the Commonwealth and State statistical services in 1958, the Office was equipped with Hollerith machines and output was produced at a greatly increased speed in what was a transition phase before a computer was installed in 1965.

Population censuses had been traditionally held in the years ending in 1 but that intended for 1931 had been delayed by the Depression until 1933, and that for 1941 by the war. Therefore, a Census was held in 1947, and another in 1954, midway between 1947 and 1961, in order to space more appropriately the measurement of the rapidly changing population characteristics in the post-war era of high migration and mobility, and return to the normal year ending 1. Since 1961 Censuses of population and housing have been held at 5-yearly intervals.

COMMONWEALTH BUREAU OF CENSUS AND STATISTICS, 1945 TO 1958

The year 1945 marked the beginning of a new era in Australian statistics with the publication of the first official set of Australian National Accounts in *Estimates of National Income and Public Authority Income and Expenditure*. This was the forerunner of the present day system of Australian National Accounts.

Estimates of Australian national income for the period 1929-30 to 1935-36 had already been published by Clark and Crawford in 1938. The development of new collections of

data, e.g., retail statistics, investment (including building) and other "business" statistics, made possible the production of estimates of gross domestic product based on the expenditure approach.

The need for representation close to the main centres of economic activity led to establishment of branch offices of the Commonwealth Bureau of Census and Statistics in State capitals. In July 1945, the Victorian Office was established and occupied two floors of a building at 8 Elizabeth Street, Melbourne (an ex-department store then known as Craig's Building). A staff of 72 clerks (mostly temporaries) processed the Occupation Survey 1945, a quasi-census of persons aged 18-64 years, which was aimed at assisting the Commonwealth Government to redeploy the labour force in the immediate post-war period. Punching of the data for processing in Canberra was undertaken by staff situated in the basement of an office at the north-west corner of Queen and Little Collins Streets, Melbourne.

On completion of the survey, six permanent male clerical members of the survey staff moved to that Office, but returned to Elizabeth Street in 1947. Except for a period of four years from 1949 when the Bureau was located in the Nicholas Building at 37 Swanston Street, Melbourne, while major reconstruction was undertaken, and for a short period from 1968 at 200 Little Collins Street, Melbourne, when Craig's Building was demolished and the Commonwealth Banks Building constructed, the Victorian Office remained on the Elizabeth Street site.

Among the tasks undertaken by the small group of Commonwealth staff that developed under the Officers-in-charge, first, Mr S. Begley and then Mr F.W. Sayer, was the processing of returns relating to post-war reconstruction training courses for ex-service personnel, the establishment of a building operations collection direct from contract builders at quarterly intervals, a collection of important items of monthly production, and the supervision of staff engaged in the collection of prices data. Prior to integration with the State statistical service in 1958, further developments occurred in the measurement of business and economic activities. The quarterly building operation statistics were extended to include owner builders; and a monthly building approvals collection was established. The first retail census was undertaken in respect of the year ended 30 June 1948 and the quarterly sample investment surveys (stocks and capital expenditure) commenced. Some collections sought to provide an understanding of current economic conditions; such information as monthly new motor vehicles registered became regarded as important economic indicators.

Following the precedents (consequent upon Federation) such as centralising overseas trade statistics based on uniform Customs legislation, and the transferring of postal administration to the Commonwealth, the Prime Minister (Rt. Hon. J.B. Chifley) began discussions with the Premiers in 1949 to integrate the statistical services of the Commonwealth and States by agreement. Tasmania had already transferred its statistical service to the Commonwealth Bureau of Census and Statistics in 1924 and the other State Governments now agreed progressively to the arrangement that their statistical needs would be similarly met as a condition of relinquishing direct control of their own statistical offices. After further negotiations the Statistics (Arrangement with States) Act became law on 12 May 1956. Integration was finally accomplished when the Integration Arrangement with Victoria came into effect on 15 September 1958, the date on which the Victorian Government Statist became Deputy Commonwealth Statistician and Government Statist. Former State staff engaged on statistical duties were given the option of becoming Commonwealth officers or remaining State officers.

INTEGRATED STATISTICAL SERVICES, 1959 TO 1983

Introduction

The staff in 1958 numbered about 100 across four divisions: two — Primary and Secondary Production; and Demography, Social Conditions, Finance, Trade, and Transport — having been absorbed from the old Government Statist's Office; one — Business Statistics, Building, and Employment — maintaining the activities of the former State Office of the Bureau; and the fourth — Research, Development, and Publications — supporting the overall subject matter service capability of the new organisation. The ABS

strove to keep pace with the many rapid economic and social developments. The broad acceptance of the recommendations in the *Report of the Committee on Integration of Data Systems*, April 1974 (the Crisp Report) resulted in the creation of the ABS in 1975 as a statutory authority, and in the establishment of the Australian Statistics Advisory Council. During the 1970s, it also became increasingly apparent to the Victorian Government that there was a need for greater co-ordination of the statistical efforts of State Government agencies. A Statistics Co-ordinating Group was established in 1977 to advise on State statistical priorities and to improve the co-ordination of data collection activities of State agencies. At the same time there has been a concerted attempt to rationalise statistical resources and make greater use of administrative data available to both Commonwealth and State agencies.

Mr V.H. Arnold was succeeded by Mr N. Bowden, as Deputy Commonwealth Statistician in 1974, who was in turn succeeded by Mr W. McLennan, in 1979. Mr I.M. Cowie, was appointed Deputy Commonwealth Statistician in 1980 and held this position until his untimely death in August 1982. He was succeeded as Deputy Commonwealth Statistician in November 1982 by Mr Erle Bourke.

Economic statistics

Conceptual changes to existing collections and innovations, particularly in business statistics, came very soon after 1958. The development and use of sample survey theory and techniques enabled the Bureau to improve the data service it provided. As surveys need only collect information from some of the respondents required to participate in a corresponding census, they can provide more timely information with acceptable levels of accuracy at less cost than a census.

Business statistics, originally compiled by a staff of two, largely comprised capital expenditure, stocks, and new capital raisings. After 1958 the surveys were expanded both in scope and size, and were held at quarterly intervals. A sample of businesses provided data on capital expenditure on plant and equipment and buildings during the preceding quarter and an estimate of anticipated expenditure for the following quarter. This produced information for ascertaining an important component of investment for National Accounts purposes, while the anticipated expenditure indicated the confidence felt by Australian business. Similarly, stock surveys were undertaken concurrently, the details showing the degree of processing undertaken (finished goods, work in progress, etc.). In addition, the Office of the Registrar of Companies furnished details of the names of firms with the total amounts of capital raised or intended to be raised. Surveys subsequently introduced included overseas investment in Australia; private finance surveys; anticipated imports; surveys of interest, rent, and royalties; private superannuation funds; and others. The development in business statistics largely reflected the continual refinement of techniques to estimate National Accounts, the balance of payments, and the flow of funds estimates. Further data on retail sales and other indicators at quarterly intervals made possible the Quarterly Estimates of National Accounts. Retail sales in particular commenced to be used as a significant economic indicator and as such were compiled at monthly intervals. The broadening range of economic and business statistics illustrated the search for greater scope and further refinements of statistics. However, major problems in the presentation of statistics were then becoming apparent.

In retrospect, official statistics while widely used lacked a cohesive conceptual framework. There were many influences, however, which suggested the need for a completely revised approach to economic statistics. Economists and other planners in advanced countries were developing models of the economy which could be expressed in mathematical terms. These models required more detailed understanding of the relationships that exist between the sectors of the economy than was available from previous collections. It was becoming more difficult to accept the demarcation between the previously defined sectors of mining, farming, factory production, retail, etc. For the most part collections commenced in a different century retained concepts for comparability of presentation at the State level that were no longer appropriate.

Thus was initiated the development of a system of integrated economic statistics as then existed in countries such as USA and Canada. The 1963-64 exploratory wholesale census demonstrated some of the difficulties that required to be overcome in developing an

integrated system. The Census of Group Employers conducted in 1965 not only made possible the Industry and Destination Zone Coding of the 1966 Population Census, but also provided a data bank of detail on corporate relationships and activities conducted at various locations. This information was used in developing the Australian Standard Industrial Classification and a central register of businesses as the base for most economic collections commencing with the 1968-69 Integrated Economic Censuses. These censuses collected data on enterprises and establishments engaged in mining, manufacturing, electricity and gas, wholesale, retail, and selected service industries. Except for the mining and manufacturing censuses and the agricultural commodity census which have generally been held annually, sectors have been approached on a rotating basis to relieve the burden on respondents. (See pages 369-89 of the *Victorian Year Book* 1971, for a full description of the 1968-69 Integrated Economic Censuses.)

Social statistics

During the 1960s and 1970s while output of most types of social statistics continued, some problems were encountered. For example, difficulties were experienced with crime data, and the publication of hospital morbidity data was suspended in 1975. Furthermore, the compilation of certain national statistics was hindered by differences between the States' administrative and legal arrangements. The CBCS also assisted in research into many social issues including the preparation of a report for the hearings of the 1965 Royal Commission of Inquiry on Liquor in Victoria, and a report in 1973 on the Effectiveness of Seat Belts in Motor Vehicle Accidents.

While maximum use has been made of available information, developments in the use of household surveys to provide estimates of population characteristics have helped to overcome some of these problems arising from State differences. Quarterly household surveys of the population in six capital cities in Australia, which commenced in November 1960, were expanded to cover all areas of Australia in 1964, and have been conducted monthly since February 1978. While this population survey system was originally designed mainly to collect labour force data, such as employment, unemployment, and related characteristics, it has since been used to collect many other population statistics. In the 1970s it has been extensively used to enable the Bureau to expand and improve, particularly in terms of comparability between States, the range of social statistics produced. Important surveys included the 1972 Immigration Survey, a survey of incomes conducted in 1973 for the Henderson Poverty Inquiry, the Household Income and Expenditure Surveys for 1974-75 and 1975-76, and the General Social Survey in 1975. The success of using population surveys, which involve trained interviewers personally interviewing household members to collect the required information, has resulted in a comprehensive survey programme covering many social topics during the 1980s. The flexibility of the personal interview has been further demonstrated by its application in many of the ABS's surveys of business including the Agricultural Finance Survey, and the Construction Industry Survey.

Computing facilities

The Victorian Office acquired its first computer, a Control Data 3200 in 1965, and replaced its mechanical tabulation equipment which had been used to process data on punchcards from 1959. By early 1966, because a number of other government departments were using the CBCS computing facilities, a Control Data 160A computer was installed to handle non-computing functions such as printing and transfer of data on punchcards and papertape to magnetic tape. In 1967, a Control Data 3300 computer was installed because of the increased demands of the CBCS and government departments.

In the meantime, the CBCS's computing facilities in Canberra were being increased and updated with the installation of a Control Data 3500 in 1972 and a Control Data Cyber 72 in 1974. At that time, the Cyber 72 was the largest computer installed in the Southern Hemisphere. These two machines were linked via DATEL lines to the Victorian Office.

By the mid-1970s, computing equipment was available which meant the CBCS computers were virtually obsolete and plans were prepared for updating its computing facilities. In May 1980, these plans came to fruition when a FACOM M200 was installed in Canberra, and subsequently linked to all State Offices by a communications network.

By 1983, the Victorian Office had on-line access to up-to-date computer facilities including data base and data manipulation software. This was designed to enable the Victorian Office to offer a more timely response to requests for statistical information.

Victorian Year Book

The *Victorian Year Book* has featured two major series of special articles since 1961 when it was restructured and brought up to date by covering the years since 1958. From 1961 to 1975 the theme was Victoria's Physical Environment, and since 1976 it has been Victoria's Environment and Man. Under the editorship of Mr H.L. Speagle since 1958, special articles (many contributed by eminent experts), photographs, and maps were introduced, as was an expanded statistical and textual coverage. Mr Speagle also edited the two special editions of the Year Book, for 1973 and 1984, respectively, each being an eight year project. In 1973, the whole edition was given over to commemorating the centenary of the publication of the first *Victorian Year Book* in 1873 by tracing the history of the State's development since early settlement.

CONCLUSION

As in so many other areas of community activity where technological progress has been dramatic over the last 50 years, statistical activity in Victoria has shown many significant changes. Essentially it has grown from a manual to an electronic operation underwritten by the historic developments in microchip and computer technology. The approach of the ABS has likewise changed from concentration on production of statistics to a wider consultative process with users and respondents. The ABS by the 1980s was regularly consulting with user groups, initiating user reviews, accessing data, and encouraging statistical liaison. It had also been using the methodology of sampling techniques since the 1960s to augment its census collections. As far as statistical output was concerned, the new technology enabled the ABS to present data on magnetic tape and microfiche as well as on various new forms of the printed image.