

## **Comparative Research Approaches**

# **Orientations nouvelles de la recherche au Bureau fédéral de la Statistique**

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[See table of contents](#)

### Article abstract

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# Comparative Research Approaches

Sylvia Ostry

*In the minds of many people, the Dominion Bureau of Statistics appears as a kind of factory producing data. It is more than that. This paper shows that the Bureau is taking new leads in the field of developmental and analytical research bearing on revised and new statistical series.*

## Introduction

I am very grateful to the organisers of this Conference for the opportunity of meeting you and giving you some idea of what the Bureau is doing in the field of manpower and related research. Many people in Canada have an image of the Dominion Bureau of Statistics which has always been something of a caricature but is today a serious distortion. The image is that of the statistics factory; the input, consisting of the flow of questionnaires and survey forms, is subjected to a variety of mechanical operations and emerges as published statistical series of one kind or another. Since the Bureau's inception, however, research has occupied an important place in the range of activities although, until recently, the research has been primarily what I call (for want of a better term) *statistico-developmental* rather than analytical or interpretative, i.e. broadly concerned with the quality and organisation of the statistics themselves rather than the economic or social relationships which they reveal. But for some time now it has been recognized that it is only by *using* a statistical series that one is really able to evaluate it. Thus *analytical* research will provide a vital « feedback » resulting in the extension and improvement of existing statistics and the introduction of new series. This view is reflected in a number of areas of the Bureau's operations (although its implementation has been limited because of staff shortages and related considerations) but I am here today to talk to you about the manpower field so I will concentrate mainly on the work of my own group in the Labour Division. Just over a year and a half ago a Research and Analysis Section was established in the Labour Division

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and what follows is primarily an account of our research programme and plans.

There are four main parts to the programme and what I propose to do is list them and give you some examples of typical research projects involved in each. The four parts consist of:

- 1) The preparation of Special Labour Force Studies.
- 2) Longer-range, in-depth projects in the field of manpower, wages or other aspects of labour market activity.
- 3) Commissioned research from outside agencies.
- 4) Developmental work mainly of a conceptual nature for purposes of revising existing statistical series or the creation of new series.

### **Special Labour Force Studies**

As you know, each month the Bureau conducts a sample survey of roughly 35,000 households in Canada which produces the estimates of the current labour force and its components. The labour force sample is the only scientifically sound national sample in this country. Recently it has been redesigned and considerably improved as a consequence of several years intensive research by our Sampling and Survey Research Staff. The labour force sample, therefore, is potentially a survey instrument of unrivalled importance in Canada. Subject to certain constraints which I won't go into now (but will be happy to discuss later if you are interested) it is possible to use the Labour Force survey, at least several times a year, to collect additional information either by adding questions to the enumeration schedule or by adding another schedule to be dropped-off and mailed or collected. We plan to use the Survey as fully as possible to provide the Research Section with data on selected social, demographic and economic characteristics of the labour force which when combined with the regular current information on the adult population, will enable us to probe more deeply into the manpower situation in this country. Let me give you some examples of the kind of data we have already collected by this method and of our plans over the next year or so.

- Jan. 1965 — Work Patterns
- Feb. 1965 — Education and Immigration
- Oct. 1965 — Geographic Mobility

Jan. and Sept. 1966 — Education, including both formal education and technical and vocational training. The Sept. survey is a joint project with the Department of manpower.

Oct. 1966 — Job mobility.

Other areas of concern which will be probed further during 1967 include work patterns and income of the unemployed; work experience and characteristics of adults not in the current labour force, especially married women; hours of work of the labour force; occupational mobility.

There are several stages in the preparation of these Special Labour Force Studies which must precede the writing of the article or report. These « preliminary » stages are an essential part of the research and are perhaps what chiefly distinguish our programme from that of other agencies or groups, both inside and outside the government. What it really boils down to is that we are responsible for the creation of our own research data. In consultation with our survey experts in the Special Surveys Division of the Bureau, we design the additional questions or the supplementary questionnaire to accompany the labour force schedule and plan the tabulation specifications and the computer requirements for production of analytical tables. I have no doubt that in the future this kind of — if you like — « integrated » research approach will become more common in the Universities and elsewhere as adequate survey facilities are created. But at the present time, it is mainly confined to the Bureau and the experience which it provides is both unique and extremely valuable.

### Longer-range, In-depth Projects

The distinction between this part of the research programme and the first part I have just described is not only in terms of the length of the project — these will be considerably longer, something of monograph size perhaps — but also in terms of methodology. The special labour force reports are short studies designed for rather wide distribution to the general public. They should be relatively free of technical language and employ relatively simple expository techniques of analysis. In the preparation of these longer, more intensive projects which are designed for a specialist public, such constraints do not operate, and the researcher is free to use as sophisticated methodology or technical language as is deemed appropriate.

One of the areas in which we are working is the labour market behaviour of women. We are approaching this from several different angles. One study is concerned with time series analysis testing the cyclical sensitivity of seasonally-adjusted age specific participation rates and a number of different equations are being fitted. In particular, we're exploring the possibilities of using some of the operational data of the U.I.C. and N.E.S. along with the labour force survey information. A more intensive probe of labour market behaviour is possible with cross-section studies because of the greater availability of relevant data. Three cross-section studies are currently underway. One involves area data from the 1961 Census utilising counties and census divisions as units of observation and employing 18 independent variables covering as many economic and social characteristics of the area for which it was possible to secure data. This is a rather aggregative, broad approach and should give us an overall picture of some of the major « influences » affecting the geographic variation in the labour force activity of women. A second areal study will utilise data on a municipality basis and allow us to examine labour force participation of married women in relationship to characteristics of male heads of families and some demographic characteristics of families. Finally, there is a third study based on the *family* rather than the *area* as the unit of observation. In some respects this gets closer to the heart of the matter since a woman's decision to work or not to work is strongly affected by the stage of family formation and the family income-assets position as well as by the economic environment. For this study we have been very fortunate in securing data from the 1964 Survey of Consumer Finances which provides us with an actual listing of over 4000 families with very extensive information on each family — particularly income, labour force and debt information as well as demographic characteristics. We are testing a variety of equations using dummy variables as well as actual data and the results should be interesting from a methodological as well as a substantive point of view. If this study proves successful we will try in the future to make greater use of the income surveys for labour market analysis.

I have described only one example of an « in depth » project because of limitations of time. I can only mention some other studies which are part of our current programme. These include an analysis of wages and labour turnover; gross movement data — a comparison of recall and current survey information; completion of a monograph on trends and composition of the Canadian labour force. A major task which will soon be occupying a good deal of our time is the planning

of the manpower research programme to be undertaken in connection with the 1971 Census.

### Commissioned Research

To the extent that our staff and technical capabilities permit, the Bureau is prepared to undertake research studies commissioned by outside agencies. Examples of commissioned research produced either in the Labour Division or other parts of the Bureau include two technical papers for the Economic Council in 1964 (one on labour force projection, the other on post-war unemployment); a study on the economic status of the older population for the Canadian Welfare Council; a study of low-income families for the Planning Secretariat; a report on earnings and education for the Economic Council in 1965 and on inter-regional differences in manpower utilization and earnings in 1966; a research paper on women in the labour force for the Women's Bureau of the Department of Labour.<sup>1</sup> It is hoped that an easing of staff shortages in the future will permit an expansion of commissioned research for which there is a growing demand.

### Developmental Research

A great deal of background study is required before a new series is launched or an existing one revised. One of the essential stages of planning is the precise delineation of concepts for *statistical* purposes i.e. operationally feasible concepts. Part of the research programme of the Labour Division is concerned with mapping out and exploring conceptual problems and making proposals for revising existing schedules or launching new statistical operations.

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(1) The studies referred to are :

*Population and Labour Force Projections to 1970*, Frank T. Denton, Yoshiko Kasahara and Sylvia Ostry, Economic Council, Staff Study No. 1, 1964.

*An Analysis of Post-War Unemployment*, Frank T. Denton and Sylvia Ostry, Economic Council, Staff Study No. 3, 1964.

*The Economic Status of the Aging*, Sylvia Ostry and Jenny Podoluk, D.B.S., 1966.

*Characteristics of Low Income Families*, Jenny Podoluk, D.B.S., 1965.

*Earnings and Education*, Jenny Podoluk, D.B.S., 1965.

*An Analysis of Inter-Regional Differences in Manpower Utilization and Earnings*, Frank T. Denton, Economic Council, Staff Study No. 15, 1966.

*The Female Worker: Labour Force and Occupational Trends*, Noah Meltz and Sylvia Ostry, Department of Labour, Ottawa, 1966.

Two examples of our current developmental work will interest you since both concern important gap areas in our network of economic intelligence in the labour field. One is a measure of supplementary labour cost or as it is popularly (but erroneously) termed « fringe benefits ». This work has been carried on in cooperation with the Department of Labour and a feasibility survey is now in progress. The other project, in an early planning stage, is the development of a measure of job vacancies by area and occupation. This, as you will appreciate, is a major and complex undertaking and will require a lengthy and carefully controlled planning and developmental phase. It is being carried out jointly by the D.B.S. and the Department of Manpower.

There are a number of other developmental projects which I unfortunately cannot take the time to describe but might just mention a few examples. We are involved, jointly with the Department of Manpower, in a long-run occupational research programme which we hope will ultimately lead to a standard occupational classification system in Canada. A variety of methods analysis projects in the labour force survey field are also on the programme as are projects concerned with improvement of the labour turnover measure and of operational statistics from the N.E.S.

As is apparent from this account of our developmental research, the Bureau works very closely with other Federal Government Departments. Cooperation and coordination of research activity is, of course, a matter of vital concern under any circumstances but especially under conditions of extreme scarcity of qualified professional personnel. I hope that today's session will serve to delineate areas in which such cooperation and coordination might be strengthened and expanded.

## **ORIENTATIONS NOUVELLES DE LA RECHERCHE AU BUREAU FÉDÉRAL DE LA STATISTIQUE**

Une image assez répandue du Bureau fédéral de la Statistique est celle d'une usine où l'on fabrique des données statistiques sur les sujets les plus divers. Mais le véritable travail du Bureau Fédéral s'étend au delà de la collection et du traitement des données. La recherche sur l'amélioration des séries a toujours occupé une

place importante. Depuis quelque temps, cependant, elle a pris une autre orientation, analytique celle-là. Des études sur l'usage des séries statistiques ont permis de les évaluer et d'en développer de nouvelles. Des projets en marche portent sur les points suivants :

#### ETUDES SPÉCIALES SUR LA MAIN-D'ŒUVRE

L'addition de quelques questions à l'enquête périodique sur la main-d'oeuvre permettra d'obtenir des données sur la caractéristique économique, démographique et sociale de la force de travail. Une attention spéciale sera accordée au travail féminin.

#### PROJETS DE LONGUE PÉRIODE

Des études de nature plus technique pour un public spécialisé portent sur le comportement des femmes dans le monde du travail. Une d'entre elles tente d'explorer la relation entre les taux de participation par âge spécifique et le cycle économique. Elle utilise des séries temporelles et les taux sont désaisonnalisés. D'autres études sur le même sujet utilisent des données croisées et différentes unités d'observation telles que la famille, les municipalités, les comtés et les divisions du recensement.

#### RECHERCHE COMMANDITÉE

Tenant compte du personnel de la technologie disponible, le Bureau peut entreprendre des projets commandités par des agences extérieures. Des travaux pour le Conseil Economique du Canada, le Conseil canadien du Bien-être et pour le Ministère du travail ont déjà été effectués.

#### RECHERCHE SUR LA REVISION DES SÉRIES EXISTANTES ET SUR LE DÉVELOPPEMENT DE NOUVELLES DONNÉES

Deux exemples de ce type de recherche intéresseront ceux qui veulent enrichir leur connaissance du monde du travail. Une mesure adéquate des coûts additionnels du travail encourus par la croissance des avantages sociaux constitue un premier exemple. Le développement d'une mesure concernant les emplois disponibles par région et occupation est un autre exemple.

Ces nouvelles orientations nous amènent à souligner que le Bureau travaille en étroite relation avec d'autres ministères fédéraux. Sans doute, la coopération et la coordination demeurent toujours une nécessité, mais elles prennent encore plus d'importance à un moment où le personnel qualifié se fait rare.