

## DISCUSSION

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Under the terms of a recently negotiated international agreement, I will concentrate my attention upon the papers given by Mr. Marshall and Mr. Lemieux. I should like to say at the outset that I believe that both the authors have done an excellent job in dealing with their subjects and it is difficult to be at all critical about either paper. As might be inferred from Mr. Marshall's statements regarding our close working relationships, the papers are of particular interest to us because they bring to date our information concerning a number of subjects that have been taken up in repeated inter-agency conferences.

For a considerable number of years the Dominion Bureau of Statistics (DBS) and the Bureau of the Census have had an extremely cordial and productive series of relationships concerned with the various operations of common interest to the two organizations. Our joint working committees in a number of subject and administrative areas have been able to keep closely in touch with the experimental work and testing on both sides of the border. We have observed each other's pretests and have welcomed each other in review and evaluation sessions aimed at determining how well a particular operation went off and what changes ought to be made next time. For example, two of our staff members were privileged to participate in the most recent meeting of the Canadian field organization, at which the Canadian staff undertook a very frank and full evaluation of their experiences in taking the 1961 censuses.

I might note that there is one question which has never been settled to our satisfaction. We have never been able to determine whether the Canadian censuses, taken in the years ending in "1" and "6", are pretests for our census taken in the years ending in "0", or whether our decennial census is really a pretest for theirs which is taken 14 months later.

Mr. Marshall's paper makes a real contribution in providing a compact summary of the differences between the census concepts used in Canada and those used by the United States. This represents the results of much careful study and should be a useful reference document for both bureaus, and even more so, for outside organizations.

The close working relationships between our bureaus insure that the differences are not due to ignorance or indifference. Our professional people are fully aware of the differences and are

prepared to support the concepts used in each country as being most appropriate in view of national needs. For example, in connection with the choice of census date, the method of enumerating college students, the delineation of standard metropolitan areas, and the attitude toward questions on ethnic origin and religion - there are well-known factors which provide the basis for the differences in approach that have been used.

The Canadian procedures for setting up standard metropolitan areas involve the use of smaller civil divisions than is the case in the United States. As a matter of fact, their present procedure resembles one we used in 1940 to delineate metropolitan districts. As Mr. Marshall notes, the definitions used in Canada lead to relatively small differences between the metropolitan areas and the urbanized areas. We note that the reason for not using counties as building blocks for metropolitan areas is that the counties in Canada are so much larger. Nevertheless, one wonders whether the use of counties would bring in enough rural population to affect the statistics for a metropolitan area. It seems possible that in a great many cases the counties are so sparsely settled that the addition of a whole county with only a small fraction of the total area closely tied to the central city might not significantly affect the metropolitan area population total and its distribution by economic and social characteristics.

The discussion of differences between the United States and Canada in the treatment of the family unit is particularly interesting. I would raise a question as to whether Mr. Marshall is correct in referring to the United States as employing the "economic family" approach. This would seem to imply that the United States concept corresponds closely to the spending unit concept. Perhaps it is closer than the Canadian concept to the spending unit, but it is doubtful whether the agreement is close enough to support Mr. Marshall's terminology. In any case, the differences in practice between the concepts for the two countries prove not to be very great, and with supplemental information available on primary and secondary families, the problems of international comparisons seem not to be serious.

One important difference between the two countries is involved in the timing of the census of agriculture. In both of the last two U. S. censuses of agriculture the traditional "April 1"

date was replaced by a fall date, with the advantage that the farmers are reporting at about the end of the crop year. The Canadians, on the other hand, retain the combination of agriculture, population, and housing in the spring of the year. Possibly, they might gain even more than we from shifting the agriculture census to the autumn, for under such a plan, the Canadian census of agriculture could readily be extended to cover production data.

Mr. Lemieux's paper contains a very valuable and clear statement of some of the major problems that affected the taking of the 1961 census in Canada. One cannot read it without being impressed with the highly progressive attitude of the DBS as shown by their willingness to adopt major innovations. This willingness reflects the continuation of an imaginative approach which has characterized the work of the DBS. During the past decade they have taken such steps as the introduction of document sensing for a major census, the decentralization of processing work, a major re-organization of field structure, and the transition from conventional equipment to electronic equipment. In every case the changes introduced have been skillfully adapted to meet their needs, and the effectiveness of the advance planning to insure orderly operations under a new system has been truly remarkable.

An example of this is provided by the dramatic transition to electronic equipment in 1961 described in so matter-of-fact a fashion by Mr. Lemieux. This transition included the full range of applications of such equipment to data processing, including document reading, editing, tabulating, and high-speed printing. It was a very formidable task for any statistical organization to undertake such a transition in advance of a decennial census and it is clear that the extremely competent and careful planning of the DBS personnel has made possible marked improvements in the timeliness of census reports in Canada and presumably will benefit the quality also.

There is one difference between the two countries which I find particularly interesting. In our 1960 census perhaps 80 percent of our population questions were a part of the 25 percent sample schedule, whereas the Canadians put fewer than half of their 1961 questions on a sample basis. Can the difference be explained by variations in the statistical requirements of the two countries, or are sample statistics less acceptable north of the border?

Mr. Lemieux's remarks about the maximum tolerable limit of the population schedule seems to imply greater confidence than we would have

that the 1961 Canadian Census was close to the point of overloading. It would be interesting to know whether the statement was based primarily on a priori judgment or whether there has been some experimental work in measurement of public cooperation on schedules of varying length.

One of the most interesting and at the same time troublesome problems that the Canadians faced in 1961 was the question of "ethnic origin". Here the Canadians have a special problem which we are happy not to have shared. On both sides of the border statisticians would agree that in countries like ours the measurement of "ethnic origin" as a part of a census is very rough, at best. Responses are very uncertain for the older stock of the country, who long ago may have lost all identification with the ethnic group of the original male immigrant. Nevertheless, the very strong feelings of the Canadian-French and other groups make it extremely difficult to settle the matter solely on the basis of statistical considerations. The strength of the feelings involved is indicated by the fact that the DBS staff was forced to reprint the schedules at a time when such a task was certainly sure to jeopardize the Census. We can understand the intensity of feeling in Canada, for we encountered a somewhat similar campaign in the United States. The dispute over a proposed question on religion at one stage threatened to affect our census planning substantially and it is quite possible that had we not suspended further consideration of this question the excitement here would have been as great as that which took place in Canada over ethnic origin. This might be hard for them to understand, in view of the fact that they have been asking a question on religion for many decades and doubtless would encounter serious protests if they tried to drop the question.

It is appropriate to pay particular tribute to our Canadian friends for the very important change in field organization introduced as a part of their 1961 Census. Mr. Lemieux described this simply as removing one level of supervision. Essentially, this change meant that the eight regional offices recruited a staff of specialists who were directly in touch with the commissioner, the first line supervisors of the entire body of enumerators. This step is similar to one which we have adopted for our current field operations in the Bureau of the Census, but have never undertaken for a decennial census. Headquarters had to arrange for the appointment of well over a thousand census commissioners, but this seems to have worked out quite well and would work out even better in the future if more time were allowed. We believe that this step that the Canadians have introduced represents a real gain in field organization and shall certainly give it very careful study for future censuses in this

country.

I would also like to note with approval the Canadian use of a postal check in order to improve the coverage of the population census. We had hoped to use a similar device in this country as a part of our 1960 census, but because of the budgetary restrictions under which we operated, it was impossible to add this improvement without jeopardizing the continuation of some of the basic features of the census. The number added by the postal check (about 2/10ths of one percent of the population) was undoubtedly less than had been hoped for on the basis of their field test in Galt, Ontario. Indeed, it may have been low enough to raise some questions about the quality of the post-office check. We wonder if the operation included any built-in safeguards to measure the thoroughness of the postal check. Nevertheless, the cost per unit for the persons added was somewhat less than one dollar. Since any means of catching the last percent or two of the population must involve disproportionately high costs, we conclude that this was

a profitable outlay on the part of the Canadians. It was, in addition, a good public relations device to help deal with claims of undercounting. We hope to make full use of this experience as we plan for our next census, regardless of whether we follow the Canadian 5-year plan or the traditional United States 10-year plan.

Finally, the pattern of population change in urban areas in Canada seems to be similar to that in the United States. In both countries a disproportionately large percentage of the national growth between 1950 and 1960 is concentrated in metropolitan areas. In these areas the central cities have grown much less rapidly than the peripheral areas. The 1951-61 decline of population in Toronto reminds one of similar developments in a number of our large cities and we are sure that the earlier publication of data regarding declines in many of our central cities must have considerably reduced the number of complaints that otherwise would have come from Toronto officials and others.