DEMOGRAPHIC CHARACTERISTICS OF CANADIAN PROFESSIONS

(Census Analysis Project)

by

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Prepared for
Consumer Research Council

March 1978

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DEMOGRAPHIC CHARACTERISTICS OF CANADIAN PROFESSIONS

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PREFACE

How do occupations differ? The purpose of this study is to compare the workers in eighteen occupations whose economic and political importance placed them near the top of the occupational pyramid in the 1971 Census. The importance of this comparison is to provide some evidence in support of a new approach to economic analysis. Called "human capital analysis"(cf. another report in this series: Riera et al.), it assumes that the personal and social returns from investing in education can be measured by comparing lifetime earnings of workers to all the costs of their training, including their investment in education and the costs of their delayed entry into the labour force. This approach to social change insists that ability and effort are market commodities whose value can be evaluated and manipulated.

The returns from investing in talent, however, often have little to do with talent itself. It is frequently noted how sex, religion, or race thwart the expectations that are placed on human talent. It is not the purpose of this report to describe the details of how the social characteristics of Canadian workers might distort the lifetime profits that are derived from educational investment. Its main purpose is to show that patterns in the way that workers have been allocated to their jobs are not

the result of random happenings. These patterns are sometimes the outcome of religiously transmitted abilities; sometimes they are derived from assumptions about sexual superiority. Some of the patterns are derived from the formal relationships between an occupation and its clientele, since it is possible to sell services directly to the public or to sell them to the consumer indirectly through an employer. The immediacy of contact between an occupation and its clientele--whether a worker is salaried or self-employed--has had some effect on sex ratios and income. These factors, and many others described in the pages that follow, give human capital an irrational character that makes it impossible to analyse in strict economic terms as if it were a closed system of balanced forces. For that reason, this report is a modest first step toward full-scale human capital analysis.

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CHAPTER I

INTRODUCTION

A fundamental principle of society is its tendency to become progressively more differentiated. This process occurs in part through the development of new occupations, some of them having novel and highly precise applications of new technology. The development of new occupations arises from several factors. In some cases new occupations result from the expansion of knowledge. The application of its outer fringes will often take the form of innovations in technology or in the arts. Sometimes demand for these applications must be created artificially through market persuasion. Often an old profession will strain to hold on to its accustomed activities against a rival profession that also wants its place in the sun. When the functions of a profession change as the result of technology its prestige and social composition may also undergo a dramatic change. The major divisions of medical science explored in this report have multiplied into subspecialties, often creating rancourous rivalry with other occupations.

In some cases the new knowledge requires less talent in its application than in its discovery, enabling high school or vocational college graduates to enter para-professions like radiological technology that were unknown a generation ago. Occasionally improvements in technology will encourage a profession to relinquish some of its simpler and more routine procedures to less skilled workers, as in the case of dentists and dental hygienists; there may also be a benefit in enhanced prestige for the old profession when it is the dirtier, more dangerous, or

less remunerative services that have been relinquished.

In addition to technological change, the division of labour is shaped by the social composition of the Canadian population. While the primary division of labour occurs along occupational lines, a secondary dimension is the allocation of occupations according to the age, sex, religion, and physical distribution of the labour force. Occupations often become stamped with a character created by age, sex, religion, or other attributes fixed by birth, ascriptive characteristics that are believed to imbue workers with abilities that make them more suited to some occupations than to others. Some occupations bear a pedigree that limits the types of people who will occupy them. This report will compare professions with similar objectives but contrasting amounts of public esteem, like medicine and chiropractic or veterinary science for differences in sex, religion, and language.

The entry of new immigrants and graduates from the educational system replenishes the labour force, but this continuous process of renewal may result in upsetting the old order with new workers who are new not only in their experience but in their sex, religion, or language. As the labour force changes its character in response to technological innovations and the arrival of new workers, we find that some criteria for the allocation of occupations remain more durable than others; age and sex seem to have been more resistant to change than religious or linguistic characteristics.

An important change that has occurred in the last generation in the Canadian labour force has been created by the vast democratization of education. By making educational institutions more accessible to the native and immigrant populations in Canada, opportunities for advancement for women and other disadvantaged groups have increased. The entry of new ethnic groups into the professions, especially into the traditional professions of law and medicine, encourages them to create new methods of providing services to these groups. The opening of the professions to disadvantaged groups amounts to more than allowing each group some fair representation in the profession, because it improves the capacity of the professions to extend the benefits and control of the welfare state to groups and communities that might otherwise be insulated from social change because of their parochial interests. For example, Italian construction workers are more likely to know about their benefits from workmen's compensation laws when there is an Italian-speaking lawyer nearby. These communities are often recently urbanized agricultural communities whose assimilation in modern society may take three generations or more. Along the way these communities often face an uncomfortable dependence on their Anglo-Saxon hosts for professional services. Appendix A describes some of the major changes in the ethnic composition of the labour force in this century.

This dependence is lightened when groups new to industrialism work their way into the professions. The acceptance of immigrant or native communities into a modern society quickens when their numbers in the professions grow large enough to permit

ethnic specialization, that is, the provision of professional services in forms that are especially suited to an ethnic community. In cities like Toronto where large foreign populations live in intermittent contact with legal, educational, or welfare institutions, the formation of all-Greek or all-Italian law firms or medical clinics is as important in professional specialization as the development of new substantive sub-disciplines.

The distribution of the psychic and material rewards that people enjoy by virtue of their membership in a society is a second major principle of social organization. In this report psychic rewards are ignored and material rewards are measured in annual income. High rewards encourage the expenditure of effort, the development of ability, and the recruitment of newcomers into an occupation. Highly paid occupations -- especially the legitimate ones -- usually rest the case for their moral value on the fact of their high rewards. Unfortunately for their incumbents, some workers earn fewer rewards not because they lack ability or effort but because of their age, sex, or their other ascriptive characteristics. Occupations often became stamped with a characteristic sexual or ethnic stereotype in a way that has nothing to do with their performance. The educational system has the burden of overcoming a correspondence between the distribution of rewards in the labour force and the natural distinctions that exist in it in age, sex, and ancestry, but the responsibility must also be shared by government and religious institutions.

Population and Sample

This research is based entirely on a selective sample of the Canadian labour force. All tables in this report were derived from special data supplied by Statistics Canada from the 1971 Census and refer to 18 occupations (listed in Table 1) chosen to provide a representation of all types and degrees of self-regulated occupations as shown in the 1971 Census. It is impossible to define the population of self-regulated occupations without some arbitrary reliance on their statutory characteristics. This study includes some of the major occupations that enjoy some degree of self-government but an inspection of Table 1 will show that this list of self-regulated occupations is far from complete.

Since there are few educational requirements to enter politics, politicians' social backgrounds ought to be a fair sampling of the backgrounds of all electors because all electors may contest an opportunity to become a politician. Their inclusion is a bench mark against which other occupations may be compared. Lawyers, physicians, and dentists were chosen for their early development as professions and their freedom from government control. Optometrists and pharmacists were chosen because they take less initiative in diagnosing medical disorders and are more distant from prescribing therapy. Like veterinarians, they provide specialized medical services. Engineers and architects were included as the two rival professions that supervise the construction of buildings. Both of these professions also face competition from architectural and engineering technologists.

TABLE 1-1

PERCENTAGE DISTRIBUTION OF SAMPLE FROM FULL-TIME, FULL YEAR LABOUR FORCE POPULATION BY SELECTED OCCUPATIONS, CANADA, 1970

	Full-time, full year labour force
Total population	6,017,900
Total sample (N)	169,665
(%)	100.0
Politicians	.6
Lawyers	7.9
Physicians & Surgeons	14.6
Dentists	2.8
Optometrists	.8
Veterinarians	.8
Pharmacists	4.4
Architectural & engineering technologists	12.0
Engineers	37.3
Architects	2.0
Surveyors	3.9
Dispensing opticians	.7
Osteopaths & chiropractors	.4
Physiotherapists	2.1
Dental hygienists	4.0
Radiological technologists	2.9
Librarians	2.7
Sociologists & anthropologists	.1

Other occupations were chosen because they fell under the control of older and more established professions. These occupations provide para-professional services and include architectural and engineering technologists, dispensing opticians, dental hygienists, and radiological technicians. Osteopaths and chiropractors were included as representatives of new professions that provide competitive alternatives to conventional medicine. Physiotherapists (with occupational therapists) were included to represent a highly trained occupation that has suffered from competition from other para-medical occupations (excluded from this study) with less rigorous training in therapy, such as massage, physical education, and faith healing. Librarians and sociologists (with anthropologists) represent highly trained occupations over whom there is no government control despite the claims of these two occupations, librarians in particular, that they deserve statutory protection.

The largest population for this study consisted of all persons aged 15 years or more who worked in 1970 or 1971. Included were all full-time and part-time workers, plus persons on temporary layoff or looking for work in the week prior to the Census on May 31,1971. Census publications report figures principally from this population (known as the total labour force)

and from a slightly smaller sub-population consisting of persons who worked, or who looked for work, in the week prior to the Census. This smaller population is known as the experienced labour force because it excludes job seekers who had never worked or who had not worked since 1970. The study reported in Appendix A uses data derived from the total and experienced labour forces in describing historical changes in five professions.

Because this study contains many occupations whose services are frequently urgent and indispensable, an early decision in planning this study excluded part-time and temporary workers whose transient participation in the labour force might preclude a serious application of their expensive training or special skills. A non-random sample of eighteen occupations in this study was drawn from the total labour force only for the tables that describe hours worked per week; in all other tables, analysis is confined to the nonrandom sample of eighteen occupations drawn from the population of persons who worked full-time (35 hours or more per week) and for a full year (40 weeks or more) in the calendar year 1970.

The income reported in this study excludes transfer payments and investment income; it is income earned mainly in the occupations shown, but it may also have been earned from unreported secondary occupations.

Details for the successive limitations on the total labour force described in the above paragraphs are given in

Table 1. The full-time, full year labour force forms about 60 per cent of the total labour force. The sample of the 18 occupations in this study, including some of the most powerful persons in Canada, were a tiny fragment of the total labour force: the approximately 170,000 workers in the full-time sample formed only 1.7 per cent of the total labour force of almost 10 million persons.

CHAPTER II

THE DIVISION OF LABOUR

Sex

The full-time workers in this study can be divided into twelve industrial sectors. Table 2 shows that they were dominated by manufacturing and personal services industries. However, men were much more evenly distributed in the twelve industrial sectors of the economy than women, concentrated as they were in the service industries. As Table 3 shows, it was only in the service sector of the Canadian economy that females formed more than a fifth of the labour force. Table 4 shows that almost three-quarters (73.0 per cent) of all females in the sample were found in four occupations -- dental hygienists, physiotherapists, radiological technicians, and librarians. The four occupations in the sample in which males were concentrated (engineers, physicians, architectural technologists, and lawyers), contained 71.8 per cent of their numbers. This percentage is not much smaller than the one for females, but males were concentrated in occupations that were more widely dispersed in the industrial sectors of the economy than females were. For example, if we compare the two occupations with the largest concentrations of males and females, engineers and dental hygienists respectively, in Table 5 we find that nine out of ten dental hygienists were found in only two industries, but that engineers were spread over four industrial sectors. The four occupations in which

TABLE 3

PERCENTAGE DISTRIBUTION OF SEX WITHIN EACH INDUSTRY, SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Industry	Total		Sex	
			Male	Female
	N	%		
All industries	169,645	100.0	88.3	11.7
Agriculture	1070	100.0	97.7	2.3
Forestry	370	100.0	98.6	1.4
Fishing & Trapping	45	100.0	88.8	11.2
Mining	4615	100.0	98.9	1.1
Manufacturing	34,495	100.0	97.0	3.0
Construction	5890	100.0	99.3	.7
Transportation, Communication & other utilities	15,455	100.0	97.8	2.2
Trade	9645	100.0	90.6	9.4
Finance	1420	100.0	90.4	9.6
Community, business and personal service industries	79,395	100.0	79.6	20.4
Public administration	16,650	100.0	94.0	6.0
Unspecified	595	100.0	93.2	6.8

TABLE 2

INDUSTRY BY SEX
SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Industry	Sex		
	Male	Female	Total
Total	149,885	19,760	169,645
%	100.0	100.0	100.0
Agriculture	.8	.1	.6
Forestry	.2	.0	.2
Fishing & trapping	.1	.0	.1
Mines	3.0	.2	2.7
Manufacturing	22.3	5.2	20.3
Construction	3.9	.2	3.5
Transportation	10.1	1.7	9.1
Trade	5.8	4.6	5.7
Finance	.8	.7	.8
Community, business, & personal services	42.2	82.0	46.8
Public administration	10.4	5.0	9.8
Unspecified	.4	.3	.4

TABLE 4

OCCUPATION BY SEX,
SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Occupation		Total	Sex: Male	Sex: Female
All selected occupations	N	169,665	149,815	19,765
	%	100.0	100.0	100.0
Elected politicians		.6	.6	.2
Lawyers & notaries		7.9	8.6	2.6
Physicians & surgeons		14.6	15.4	9.0
Dentists		2.8	3.1	.7
Optometrists		.8	.8	.3
Veterinarians		.8	.9	.1
Pharmacists		4.4	4.2	6.1
Architectural & engineering technologists		12.0	13.3	2.0
Engineers		37.3	41.7	4.1
Architects		2.0	2.2	.2
Surveyors		3.9	4.4	.2
Dispensing opticians		.7	.7	.9
Osteopaths & chiropractors		.4	.5	.2
Physiotherapists, occupational therapists, and other therapists		2.1	.5	14.1
Dental hygienists, assistants, and technicians		4.0	1.4	23.9
Radiological technologists and technicians		2.9	.9	17.7
Librarians & archivists		2.7	.7	17.3
Sociologists, anthropologists, and related scientists		.1	.1	.4

TABLE 5-1

PERCENTAGE DISTRIBUTION OF INDUSTRIES FOR CERTAIN OCCUPATIONS, SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Industry	All selected occupations	Politicians	Lawyers and notaries	Physicians and surgeons	Dentists	Optometrists	Veterinarians	Pharmacists
Agriculture	.6	-	-	-	-	-	73.2	-
Forestry	.2	-	-	-	-	-	-	-
Fishing and trapping	-	-	-	-	-	-	-	-
Mines	2.7	-	.7	-	-	-	-	-
Manufacturing	20.3	-	1.0	.2	-	.8	.7	1.3
Construction	3.6	-	.1	-	-	-	-	-
Transportation	9.1	-	1.5	.2	-	-	-	-
Trade	5.7	-	.3	-	-	5.8	1.1	83.5
Finance	.8	-	2.0	.2	-	-	-	-
Services	46.8	-	86.7	95.9	96.0	92.6	3.2	14.5
Public administration	9.8	100.0	7.7	3.2	4.0	.8	21.8	.7
Unspecified	.4	-	-	.3	-	-	-	-
Total N	169,660	935	13,450	24,795	4820	1285	1400	7475
%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 5-2

Industry	Architectural and engineering technologists	Engineers	Architects	Surveyors	Dispensing opticians	Osteopaths & chiro-practors	Physio-therapists etc,	Dental hygienists etc,
Agriculture	-	-	-	-	-	-	-	.1
Forestry	.2	.4	-	.9	-	-	-	-
Fishing & trapping	.2	-	-	-	-	-	-	-
Mines	3.3	5.0	-	9.9	-	-	-	-
Manu-facturing	35.2	39.2	1.5	3.0	24.7	-	.5	20.9
Construction	4.6	5.9	1.8	17.2	-	-	-	.1
Trans-portation	21.6	15.4	2.3	12.8	-	-	-	-
Trade	3.7	2.7	.6	.4	59.5	-	.5	.8
Finance	.3	1.3	2.8	.6	-	-	-	.1
Services	14.3	18.4	83.0	31.0	15.8	100.0	93.4	73.8
Public admin-istration	16.1	11.2	7.6	23.8	-	-	5.4	4.0
Unspecified	.5	.5	.4	.4	-	-	.2	.3
Total N	20,360	63,235	3325	6580	1180	775	3595	6785
%	100%	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 5-3

Industry	Radiological technologists etc.	Librarians & archivists	Sociologists anthropologists & other social scientists
Agriculture	-	-	-
Forestry	-	-	-
Fishing & trapping	-	-	-
Mines	.2	.4	-
Manufacturing	1.9	3.6	5.0
Construction	.1	-	-
Transportation	-	3.8	-
Trade	.2	.3	-
Finance	.2	1.9	-
Services	94.6	78.8	52.5
Public administration	2.8	10.9	42.5
Unspecified	-	.3	-
Total N	4930	4535	205
%	100.0	100.0	100.0

males were concentrated also gave them more prestige and more opportunities to exercise authority over other persons than the four occupations in which women were concentrated.

The sexual division of labour we have now examined in Tables 2 to 5 show that although men were skilled in a greater variety of tasks, they were more likely than women to occupy positions in the labour force that received esteem and the freedom to command other persons (Blishen and McRoberts, 1976). It is impossible in this study to pursue this observation by comparing each of the professions because the aggregated quality of the data exclude information about their internal sexual division of labour -- information concerning the relationship between sex and specialization within any occupation, for example. However, it is possible in Table 6 to examine the factual basis for the stereotyping of some occupations as dominated by females. Table 6 shows that although women formed 11.7 per cent of the sample, they were 16.1 per cent of all pharmacists, an overrepresentation by a factor of 1.4. Among physiotherapists, dental hygienists, radiological technologists, and librarians, however, the overrepresentation factor exceeded 5.9. Hence, it is possible that if there is a popular impression that these latter occupations are dominated by females, that stereotype may have some basis in fact.

TABLE 6-1

OCCUPATIONS, SHOWING PERCENTAGE DISTRIBUTION BY SEX, SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Occupation		Total	Sex Male	Female
All selected occupations	N	169665		
	%	100.0	88.3	11.7
Elected politicians	N	935		
	%	100.0	94.6	5.4
Lawyers & notaries	N	13,450		
	%	100.0	96.1	3.9
Physicians & surgeons	N	24,795		
	%	100.0	92.8	7.2
Dentists	N	4820		
	%	100.0	97.2	2.8
Optometrists	N	1285		
	%	100.0	95.3	4.7
Veterinarians	N	1400		
	%	100.0	98.2	1.8
Pharmacists	N	7475		
	%	100.0	83.9	16.1
Architectural & engineering technologists	N	20,360		
	%	100.0	98.0	2.0
Engineers	N	63,235		
	%	100.0	98.7	1.3
Architects	N	3325		
	%	100.0	98.6	1.4
Surveyors	N	6580		
	%	100.0	99.3	.7
Dispensing opticians	N	1180		
	%	100.0	85.6	14.4
Osteopaths & chiropractors	N	775		
	%	100.0	94.8	5.2

TABLE 6-2

Occupation		Total	Sex: Male	Female
Physiotherapists, occupational therapists, and other therapists	N	3595		
	%	100.0	22.2	77.8
Dental hygienists, assistants, and technicians	N	6785		
	%	100.0	30.4	69.6
Radiological technologists & technicians	N	4930		
	%	100.0	29.0	71.0
Librarians & archivists	N	4535		
	%	100.0	24.5	75.5
Sociologists, anthropologists, and related social scientists	N	205		
	%	100.0	75.6	24.4

Place of residence

Professions can be expected to be concentrated in large urban centres because their specialized services require a large and diverse demand if they are to flourish. Table 7 shows that almost half of the professions included in this study (45.4 per cent) were located in centres with populations of 500,000 or more and almost two-thirds (65.5 per cent) were found in centres in excess of 100,000. There are a few exceptions to this pattern, especially for the mining industry. Table 7 shows that even among full-time professional workers in agriculture, as a result of its high concentration of veterinarians almost one out of five worked in centres of 500,000 or more. Table 8 shows that the occupations in the sample were distributed in very large cities (places of 500,000 or more) with the same proportions as they were in smaller cities.

The data were also tabulated to show the effects of both sex and occupation on the residential patterns of the full-time professional workers. In the first three rows of Table 9 there are no large differences shown between the urban distributions of males and females: almost half of each sex was concentrated in very large cities, but females were slightly more urbanized than males. The attraction that cities exerted on these professional workers increased with increases in city size. Architects were the most urbanized occupation, with 62.8 per cent of their numbers in very large cities, followed by lawyers (54.7 per cent) and engineers (47.9 per cent).

TABLE 7 -1

PERCENTAGE DISTRIBUTION OF INDUSTRY BY SIZE OF URBAN RESIDENCE, SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Industry	N	Urban residence size (in thousands)					
		Total	Rural	1-4	5-9	10-29	30-99
All industries	169,660	100.0	7.8	5.5	3.6	7.6	10.0
Agriculture	1065	100.0	26.2	15.4	5.6	7.9	13.1
Forestry	375	100.0	26.7	12.0	5.3	12.0	12.0
Fishing & trapping	50	100.0	37.5	0.0	0.0	12.5	0.0
Mines	4610	100.0	12.0	17.0	8.6	15.0	9.4
Manufacturing	34,795	100.0	7.0	4.1	3.4	9.6	12.8
Construction	5885	100.0	14.1	7.7	4.0	6.6	9.2
Transportation, communication, and other utilities	15,455	100.0	8.2	5.2	3.2	6.4	9.5
Trade	9640	100.0	6.5	8.4	3.8	8.1	9.6
Finance, insurance and real estate	1415	100.0	3.3	1.8	1.4	3.9	3.5
Community, business and personal services	79,395	100.0	6.4	4.9	3.4	7.0	9.5
Public administration and defence	16,650	100.0	10.4	5.8	3.3	6.3	8.0
Industry unspecified	595	100.0	5.2	4.3	1.7	8.6	7.8

TABLE 7-2

Industry	100-499	500+
All industries	20.1	45.4
Agriculture	12.2	19.6
Forestry	14.7	17.3
Fishing & trapping	12.5	37.5
Mines	29.8	8.2
Manufacturing	17.8	45.3
Construction	20.4	38.0
Transportation, communication, and other utilities	17.3	50.2
Trade	18.9	44.7
Finance, insurance and real estate	17.3	68.8
Community, business and personal services	21.2	47.6
Public administration and defence	21.6	44.6
Industry unspecified	19.8	52.6

TABLE 8

PERCENTAGE DISTRIBUTION OF SIZE OF URBAN RESIDENCE (500,000+ AND ALL OTHER) BY OCCUPATION, SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Occupation	Total	Urban residence size	
		500,000+	All other
All selected occupations	N 169,665	77,050	92,615
	% 100.0	100.0	100.0
Politicians	.6	.3	.7
Lawyers and notaries	7.9	9.6	6.6
Physicians and surgeons	14.6	14.5	14.7
Dentists	2.8	2.8	2.9
Optometrists	.8	.6	.9
Veterinarians	.8	.4	1.2
Pharmacists	4.4	3.8	4.9
Architectural and engineering technologists	12.0	11.7	12.2
Engineers	37.3	39.3	35.7
Architects	2.0	2.7	1.3
Surveyors	3.9	2.1	5.4
Dispensing opticians	.7	.7	.7
Osteopaths & chiropractors	.4	.3	.6
Physiotherapists etc.	2.1	2.0	2.2
Dental hygienists	4.0	3.9	4.1
Radiological technologists	2.9	2.3	3.4
Librarians and archivists	2.7	2.9	2.4
Sociologists etc.	.1	.1	.1

TABLE 9

PERCENTAGE DISTRIBUTION OF OCCUPATION BY SIZE OF URBAN RESIDENCE, BY SEX, SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Occupation		N	Total	Rural	Urban residence size (in thousands) 1-4	5-9	10-29	30-99	100-499	500+
All selected occupations	T	169,665	100.0	7.8	5.5	3.6	7.6	10.0	20.1	45.4
	M	149,880	100.0	7.7	5.7	3.7	7.8	10.0	19.8	45.3
	F	19,785	100.0	7.4	4.3	2.3	6.8	10.0	22.8	46.4
Politicians	T	935	100.0	26.7	6.9	2.1	9.6	8.6	17.8	28.3
	M	890	100.0	26.5	6.8	2.2	9.6	8.5	18.2	28.2
	F	45	100.0	22.2	0.0	0.0	0.0	22.2	11.1	44.5
Lawyers and notaries	T	13,450	100.0	4.6	4.1	3.0	6.0	8.3	19.3	54.7
	M	12,925	100.0	4.5	4.1	3.1	6.1	8.5	19.4	54.3
	F	525	100.0	6.7	2.8	1.0	4.8	2.8	16.2	65.7
Physicians and surgeons	T	24,795	100.0	6.3	5.9	3.6	7.0	10.3	22.0	44.9
	M	23,010	100.0	6.3	6.2	3.8	7.1	10.4	22.3	43.9
	F	1785	100.0	4.2	2.2	.6	4.5	8.7	18.8	61.0
Dentists	T	4820	100.0	5.4	7.2	4.8	9.1	9.3	20.0	44.2
	M	4685	100.0	5.4	7.4	4.8	9.4	9.6	20.1	43.3
	F	135	100.0	3.7	0.0	0.0	0.0	0.0	14.8	81.5
Optometrists	T	1285	100.0	3.2	8.6	5.4	13.2	14.0	18.3	37.3
	M	1225	100.0	2.8	8.6	5.7	13.9	14.2	18.0	36.8
	F	60	100.0	0.0	10.0	0.0	0.0	0.0	30.0	60.0
Veterinarians	T	1400	100.0	24.6	13.6	6.0	9.3	13.0	12.5	21.0
	M	1375	100.0	24.7	13.8	6.2	8.7	13.4	11.6	24.6
	F	25	100.0	0.0	0.0	0.0	40.0	0.0	40.0	20.0
Pharmacists	T	7475	100.0	7.2	10.0	4.3	9.0	10.5	19.3	39.1
	M	6270	100.0	7.1	11.6	4.4	9.6	10.6	17.7	39.0
	F	1205	100.0	7.9	5.4	3.7	5.8	10.0	28.2	39.0

TABLE 9-2

ccupation		N	Total	Rural	1-4	5-9	10-29	30-99	100-499	500+
rchitectural	T	20,360	100.0	9.7	5.6	3.8	7.8	9.8	19.0	44.3
nd engineering	M	19,995	100.0	9.7	5.7	3.8	7.9	10.0	18.9	44.0
echnologists	F	405	100.0	7.4	4.9	2.5	2.5	6.2	21.0	55.5
ngineers	T	63,235	100.0	6.8	4.6	3.4	7.6	10.1	19.5	47.9
	M	62,420	100.0	6.8	4.6	3.4	7.6	10.0	19.6	48.0
	F	815	100.0	7.4	3.1	1.8	6.2	8.6	13.6	59.3
rchitects	T	3325	100.0	5.0	2.3	2.0	3.8	5.3	18.8	62.8
	M	3280	100.0	5.2	2.3	2.0	3.6	5.5	18.9	62.5
	F	45	100.0	0.0	0.0	0.0	0.0	0.0	22.2	77.8
urveyors	T	6580	100.0	19.6	11.2	6.4	10.2	10.6	17.5	24.5
	M	6535	100.0	19.6	11.0	6.4	10.2	10.6	17.6	24.6
	F	45	100.0	28.6	28.6	0.0	0.0	0.0	0.0	42.8
ispensing	T	1180	100.0	4.3	1.8	2.5	6.8	12.9	25.9	45.8
pticians	M	1010	100.0	3.5	1.0	2.5	7.9	12.9	27.2	45.0
	F	170	100.0	9.4	6.3	0.0	0.0	12.5	18.8	53.0
steopaths and	T	775	100.0	4.5	11.8	6.4	13.8	12.3	22.8	28.4
hiropractors	M	735	100.0	5.4	12.2	6.1	12.9	12.2	22.4	28.8
	F	40	100.0	0.0	0.0	12.5	12.5	25.0	25.0	25.0
hysio- and	T	3595	100.0	9.0	3.1	1.9	8.1	11.0	24.1	42.8
ccupational	M	800	100.0	15.0	4.4	1.9	11.2	11.9	17.5	38.1
herapists, etc.	F	2795	100.0	7.3	2.9	2.0	7.3	10.7	25.9	43.9
ental hygienists,	T	6785	100.0	6.7	3.9	2.7	8.1	9.9	24.8	43.9
ssistants and	M	2065	100.0	5.8	1.7	3.6	8.5	9.5	23.5	47.4
echnicians	F	4720	100.0	7.2	4.9	2.3	7.8	10.2	25.2	42.4
adiological	T	4930	100.0	10.2	5.7	4.2	9.1	11.2	24.1	35.5
ssistants	M	1430	100.0	9.1	6.6	5.6	11.2	9.8	24.5	33.2
	F	3500	100.0	10.4	5.4	3.6	8.3	11.8	24.1	36.4

TABLE 9-3

Occupation		N	Total	Rural	1-4	5-9	10-29	30-99	100-499	500+
Librarians and archivists	T	4535	100.0	6.4	5.0	1.9	6.6	10.0	20.2	49.9
	M	1115	100.0	8.1	4.9	1.3	7.2	8.1	23.3	47.1
	F	3420	100.0	5.8	4.8	2.0	6.6	10.8	19.0	51.0
Sociologists, anthropologists, and related scientists	T	205	100.0	12.8	2.6	0.0	5.1	2.6	20.5	56.4
	M	155	100.0	10.7	0.0	0.0	3.5	3.5	25.0	57.3
	F	50	100.0	12.5	0.0	0.0	0.0	0.0	12.5	75.0

It often happens in data analysis that patterns at the global level will obscure contrary tendencies in the data at lower levels. In the case of Table 9, cities, especially large ones, are the favourite places for these professional workers to practice their jobs, and this preference was slightly more evident among females. The uniformity of these patterns at the aggregate level existed despite considerable diversity for the occupations in the sample when they were examined individually. Female politicians, for example, were found only in rural areas or in cities in excess of 30,000 persons. Female lawyers and doctors were found more often in large cities than their male colleagues, and eight out of ten female dentists practised in very large cities. Confining our observations to occupations with at least 100 females, higher percentages of females than of males were found in very large cities in all occupations except dental hygienists.

Class of Worker

Class of worker refers to whether a person mainly worked for someone else or mainly worked alone, with or without paid help, in the job reported to the Census. The 1971 Census tape on which this sample was drawn reported four classes of worker: persons who worked for salary, wages or commission; persons who were self-employed without paid help; persons who were self-employed with paid help; and unpaid family workers. The latter

class consisted of only ten persons in the sample and has been dropped from this study. Table 10 contains the percentage distribution of each of the three remaining classes of worker among the eighteen occupations and the percentage distribution of the occupations themselves in the sample as a whole. Several occupations appeared more often in the self-employed classes than they did in the sample as a whole, especially physicians and surgeons, but engineers occurred as self-employed workers less often than chance alone should have required.

Table 11 shows that over three-quarters of the sample were salaried workers, and that 22.5 per cent were self-employed, most of them with paid help. The highest proportions of self-employed workers were found in agriculture, trade, and community service industries. Table 12 shows the class of worker distribution within each of the eighteen occupations. If we were to rank the occupations in the sample in diminishing order of their percentages of both self-employed classes, the highest ranks would be occupied by the paramedical occupations of dentistry, osteopathy, and optometry. Law and medicine occupied fourth and fifth place, followed by veterinary medicine and architecture. Osteopaths were almost tied with dentists for first place in having the largest proportion of self-employed workers -- a large number of them worked alone without paid help.

Table 12 is important because it describes the daily working relationship between an occupation and the consumers of its services. Salaried workers provide their services to

PERCENTAGE DISTRIBUTION OF CLASS OF WORKER BY OCCUPATION,
SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

	Class of Worker			
	All classes	Salary, wages & commission	Self-employed no paid help	Self-employed with paid help
All selected occupations	169,665 % 100.0	131,350 100.0	7695 100.0	30,620 100.0
Elected politicians	.6	.7	--	--
Lawyers & notaries	7.9	3.6	11.2	25.5
Physicians & surgeons	14.6	7.5	44.0	37.6
Dentists	2.8	.5	6.6	11.8
Optometrists	.8	.2	3.8	2.6
Veterinarians	.8	.5	2.7	1.8
Pharmacists	4.4	3.4	4.0	8.8
Architectural & engineering technologists	12.0	15.4	1.4	.3
Engineers	37.3	46.6	10.4	3.9
Architects	2.0	1.3	5.3	3.9
Surveyors	3.9	4.7	.6	.9
Dispensing opticians	.7	.8	1.4	.3
Osteopaths & chiropractors	.4	.1	3.8	1.2
Physiotherapists, occupational therapists, & other therapists	2.1	2.6	1.4	.2
Dental hygienists, assistants, & technicians	4.0	4.7	3.3	1.1
Radiological technologists and technicians	2.9	3.8	--	.1
Librarians & archivists	2.7	3.4	.1	--
Sociologists, anthropologists, and related scientists	.1	.2	--	--

TABLE 11

PERCENTAGE DISTRIBUTION OF CLASS OF WORKER BY INDUSTRY, SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Industry		Total	Class of worker: Salary, wages & commission	Self-employed, no paid help	Self-employed, with paid help
All Industries	N	169,660			
	%	99.9*	77.4	4.5	18.0
Agriculture	N	1065			
	%	100.0	29.1	19.7	51.2
Forestry	N	375			
	%	100.0	96.0	-	4.0
Fishing & trapping	N	50			
	%	100.0	100.0	-	-
Mines	N	4610			
	%	100.0	99.3	-	0.7
Manufacturing	N	34,795			
	%	100.0	98.1	.7	1.2
Construction	N	5885			
		100.0	96.3	.6	3.1
Transportation, communication & other utilities	N	15455			
	%	100.0	100.0	-	-
Trade	N	9640			
	%	100.0	66.1	4.1	29.8
Finance, insurance real estate	N	1415			
	%	100.0	97.9	-	2.1
Community, business and personal service industries	N	79,395			
	%	100.0	58.0	8.6	33.4
Public administration & defence	N	16,650			
	%	100.0	100.0	-	-
Industry unspecified	N	595			
	%	100.0	100.0	-	-

* Excludes ten person who were unpaid family workers.

TABLE 12-1

PERCENTAGE DISTRIBUTION OF CLASS OF WORKER BY SEX FOR EACH OCCUPATION, SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Occupation		Total	Class of worker: Salary, wages & commission	Self-employed no paid help	Self-employed with paid help
All selected occupations	M	100.0	75.2	4.9	19.9
	F	100.0	94.3	1.8	3.9
	T	100.0	77.4	4.6	18.0
Elected politicians	M	100.0	100.0	-	-
	F	100.0	100.0	-	-
	T	100.0	100.0	-	-
Lawyers & notaries	M	100.0	34.0	6.3	59.7
	F	100.0	70.8	10.4	18.8
	T	100.0	35.4	6.4	58.2
Physicians & surgeons	M	100.0	37.9	14.0	48.1
	F	100.0	66.7	9.3	24.0
	T	100.0	39.9	13.8	46.3
Dentists	M	100.0	13.8	10.4	75.8
	F	100.0	37.0	14.8	48.2
	T	100.0	14.4	10.5	75.1
Optometrists	M	100.0	15.4	23.9	60.7
	F	100.0	72.7	-	27.3
	T	100.0	18.0	22.6	59.4
Veterinarians	M	100.0	45.6	15.6	38.8
	F	100.0	60.0	-	40.0
	T	100.0	45.7	15.4	38.9
Pharmacists	M	100.0	54.3	3.9	41.8
	F	100.0	87.1	5.0	7.9
	T	100.0	59.7	4.1	36.2
Architectural & engineering technologists	M	100.0	99.0	0.5	0.5
	F	100.0	100.0	-	-
	T	100.0	99.1	0.5	0.4
Engineers	M	100.0	96.8	1.3	1.9
	F	100.0	100.0	-	-
	T	100.0	96.8	1.3	1.9
Architects	M	100.0	51.5	12.3	36.2
	F	100.0	87.5	-	12.5
	T	100.0	51.9	12.3	35.8

TABLE 12-2

Occupation	Total	Class of worker: Salary, wages & commission	Self-employed no paid help	Self-employed with paid help
Surveyors	M 100.0	94.7	0.7	4.6
	F 100.0	100.0	-	-
	T 100.0	94.8	.8	4.4
Dispensing opticians	M 100.0	82.6	9.4	8.0
	F 100.0	97.0	3.0	-
	T 100.0	84.1	8.9	7.0
Osteopaths & chiropractors	M 100.0	13.5	38.5	48.0
	F 100.0	37.5	25.0	37.5
	T 100.0	14.8	37.4	47.8
Physiotherapists, occupational therapists and other therapists	M 100.0	83.8	10.6	5.6
	F 100.0	98.2	.7	1.1
	T 100.0	95.2	2.9	1.9
Dental hygienists, assistants, and technicians	M 100.0	71.4	12.1	16.5
	F 100.0	99.7	.1	.2
	T 100.0	91.1	3.7	5.2
Radiological technologists and technicians	M 100.0	98.6	-	1.4
	F 100.0	100.0	-	-
	T 100.0	99.6	-	.4
Librarians and archivists	M 100.0	99.6	.4	-
	F 100.0	100.0	-	-
	T 100.0	99.9	.1	-
Sociologists, anthropologists & related social scientists	M 100.0	93.5	-	6.5
	F 100.0	100.0	-	-
	T 100.0	95.1	-	4.9

TABLE 13-1

CLASS OF WORKER IN OCCUPATIONS BY SIZE OF URBAN RESIDENCE, SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Key to abbreviations

SWC Salary wages & commissions
SELFNO Self-employed no paid help
SELFWITH Self-employed with paid help

Occupation	Class of workers	N	%	Class of workers and urban size (in thousands) Rural	1-4	5-9	10-29	30-99	100-499	500+
All selected occupations	Total	169,655[1]	99.9	7.7	5.5	3.6	7.6	10.0	20.1	45.4
	SWC	131,345	100.0	7.7	5.1	3.4	7.5	10.0	20.3	46.0
	SELFNO	7695	100.0	8.7	7.1	4.0	6.9	9.6	17.3	46.4
	SELFWITH	30,615	100.0	7.3	7.2	4.3	8.6	10.1	20.3	42.2
Politicians	Total	935	100.0	26.7	6.9	2.1	9.6	8.6	17.8	28.3
	SWC	935	100.0	26.7	6.9	2.1	9.6	8.6	17.8	28.3
Lawyers	Total	13,450	100.0	4.6	4.1	3.0	6.0	8.3	19.3	54.7
	SWC	4770	100.0	3.1	2.3	1.9	3.7	6.9	19.4	62.7
	SELFNO	865	100.0	6.9	8.7	3.5	8.1	11.0	13.3	48.5
	SELFWITH	7815	100.0	5.3	4.5	3.8	7.1	8.8	19.8	50.7
Physicians and surgeons	Total	24,795	100.0	6.3	5.9	3.6	7.0	10.3	22.0	44.9
	SWC	9910	100.0	3.6	3.7	2.4	5.1	8.8	23.1	53.3
	SELFNO	3385	100.0	7.5	5.6	3.2	5.9	11.8	20.1	45.9
	SELFWITH	11,500	100.0	7.9	7.9	4.7	8.9	11.2	21.7	37.7
Dentists	Total	4820	100.0	5.4	7.2	4.8	9.1	9.3	20.0	44.2
	SWC	700	100.0	5.0	5.0	3.6	9.3	9.3	21.4	46.4
	SELFNO	500	100.0	5.0	15.0	7.0	11.0	6.0	12.0	44.0
	SELFWITH	3620	100.0	5.5	6.5	4.6	8.7	9.9	21.0	43.8
Optometrists	Total	1285	100.0	2.3	8.6	5.8	13.6	13.6	18.7	37.4
	SWC	225	100.0	0.0	4.4	6.7	4.4	11.1	22.2	51.2
	SELFNO	290	100.0	1.7	6.9	6.9	12.1	12.1	15.5	44.8
	SELFWITH	770	100.0	3.2	10.3	5.2	16.9	14.9	18.8	30.7

the public through an intermediate organization which has the power to restrict access to the service, to modify the service before it reaches the ultimate consumer, and to increase the price of the service as a reward for its supervision. Self-employed workers are more likely to come into direct contact with their clientele and to have more independence in arranging their practices.

Ten occupations shown in Table 12 have over 80 per cent of their numbers working in salaried positions. Without exception, higher percentages of females were salaried workers, and at the aggregate level over 90 per cent of them were salaried workers. It is safe to conclude that fewer females than males in this sample enjoyed independent authority in controlling their work.

We saw in Table 9 that there was a slight tendency toward a higher rate of urbanization for females than for males, using places of more than 100,000 persons as a criterion of urbanization. In Table 13 the highest percentage of persons in the sample who lived in centres of more than 100,000 persons occurred for salaried professionals. In the absence of sophisticated statistical techniques, it is impossible to conclude which of these two factors, sex and class of worker, shown in Tables 9 and 13 respectively, have a stronger association with residence in very large cities.

The figures in Table 13 suggest that bureaucracy and urbanization have gone hand in hand in shaping accessibility to a few crucial occupations. The largest number of salaried

TABLE 13-2

Class of workers and urban size (in thousands)

Occupation		N	%	Rural	1-4	5-9	10-29	30-99	100-499	500+
Veterinarians	Total	1400	100.0	24.6	13.6	6.0	9.3	13.0	12.5	21.0
	SWC	635	100.0	21.2	7.9	5.5	10.2	14.2	15.0	26.0
	SELFNO	215	100.0	34.9	28.0	11.6	4.6	9.3	2.3	9.3
	SELFWITH	550	100.0	22.7	15.4	4.5	10.0	14.5	12.7	20.2
Pharmacists	Total	7475	100.0	7.2	10.6	4.3	9.0	10.5	19.4	39.0
	SWC	4450	100.0	5.2	8.0	3.9	8.6	11.5	22.0	40.8
	SELFNO	310	100.0	12.9	12.9	3.2	8.1	9.7	9.7	43.5
	SELFWITH	2715	100.0	9.8	14.7	5.0	9.6	9.2	16.2	35.5
Architectural and engineering technologists	Total	20,360	100.0	9.7	5.6	3.8	7.8	9.8	19.0	44.3
	SWC	20,170	100.0	9.6	5.6	3.7	7.8	9.9	19.0	44.4
	SELFNO	100	100.0	25.0	10.0	0.0	10.0	5.0	15.0	35.0
	SELFWITH	90	100.0	11.1	0.0	11.1	5.6	5.6	16.7	49.9
Engineers	Total	63,235	100.0	6.8	4.6	3.4	7.6	10.2	19.5	47.9
	SWC	61,235	100.0	6.7	4.7	3.5	7.7	10.2	19.5	47.7
	SELFNO	805	100.0	10.6	1.2	2.4	4.8	4.3	16.8	59.9
	SELFWITH	1195	100.0	9.2	4.6	2.1	7.0	6.3	20.1	50.7
Architects	Total	3325	100.0	5.0	2.3	2.0	3.8	5.3	18.8	62.8
	SWC	1735	100.0	4.3	2.3	2.0	2.9	4.0	15.0	69.5
	SELFNO	400	100.0	6.0	2.0	1.0	4.0	4.0	19.0	64.0
	SELFWITH	1190	100.0	7.1	1.7	1.7	4.2	7.6	24.4	53.3
Surveyors	Total	6580	100.0	19.6	11.2	6.4	10.2	10.6	17.5	24.5
	SWC	6230	100.0	19.8	11.3	6.4	10.1	10.5	17.4	24.5
	SELFNO	50	100.0	30.0	0.0	0.0	10.0	0.0	40.0	20.0
	SELFWITH	300	100.0	13.3	8.3	6.7	13.3	11.7	18.3	28.4
Dispensing opticians	Total	1180	100.0	4.3	1.8	2.5	6.8	12.9	25.9	45.8
	SWC	990	100.0	4.5	2.0	2.5	7.6	13.1	27.8	42.5
	SELFNO	105	100.0	0.0	0.0	9.5	0.0	9.5	14.3	66.7
	SELFWITH	85	100.0	5.9	0.0	0.0	5.9	17.6	11.6	59.0

TABLE 13-3

Occupation		N	%	Rural	1-4	5-9	10-29	30-99	100-499	500+
Osteopaths and chiropractors	Total	775	100.0	4.5	11.8	6.4	13.8	12.3	22.8	28.4
	SWC	115	100.0	4.3	4.3	0.0	13.0	13.0	30.4	35.0
	SELFNO	290	100.0	5.2	13.8	8.6	8.6	13.8	19.0	31.0
	SELFWITH	370	100.0	5.4	12.2	5.4	14.9	12.2	24.4	25.5
Physiotherapists and occupational therapists	Total	3595	100.0	9.0	3.1	1.9	8.1	11.0	24.1	42.8
	SWC	3425	100.0	8.9	3.1	1.9	8.0	11.1	24.5	42.5
	SELFNO	100	100.0	20.0	5.0	0.0	15.0	0.0	10.0	50.0
	SELFWITH	70	100.0	14.3	0.0	0.0	7.1	14.3	14.3	50.0
Dental hygienists	Total	6785	100.0	6.7	3.9	2.7	8.1	9.9	24.8	43.9
	SWC	6195	100.0	6.9	4.1	2.5	7.7	9.8	25.3	43.7
	SELFNO	250	100.0	6.0	2.0	6.0	12.0	8.0	24.0	42.0
	SELFWITH	340	100.0	7.3	0.0	5.9	11.8	13.2	14.7	47.1
Radiological technologists	Total	4915	100.0	10.2	3.7	4.2	9.1	11.2	24.1	35.5
	SWC	4915	100.0	10.2	5.7	4.2	9.1	11.2	24.1	35.5
Librarians and archivists	Total	4535	100.0	6.4	5.0	1.9	6.6	10.0	20.2	49.9
	SWC	4535	100.0	6.4	5.0	1.9	6.6	10.0	20.2	49.9
Sociologists and anthropologists	Total	205	100.0	12.8	2.6	0.0	5.1	2.6	20.5	56.4
	SWC	205	100.0	12.8	2.6	0.0	5.1	2.6	20.5	56.4

[1]Excludes ten unpaid family workers.

professionals for any occupation is usually found in centres with over 500,000 persons, part of the tendency toward urban residence for the sample as a whole. Higher percentages of salaried professionals are found in these large centres than the percentages for the other two classes of worker for law, medicine, dentistry, optometry, veterinary science, architecture, and osteopathy. Judging from the large proportions of salaried professionals in these established occupations who have located in large urban centres, one might conclude that salaried workers benefit more from urban markets for their services than self-employed workers. The figures for income to be presented in the next chapter will contradict this conclusion.

Self-employed professionals without paid help were the smallest class of worker, containing only 4.9 per cent of the entire sample. In view of their small numbers, a comparison of geographical characteristics is more appropriate between salaried workers and self-employed workers with paid help. The difference in the distributions of these two classes shown in the detailed tabulations were often quite striking. For example, 62.7 per cent of salaried lawyers were located in very large cities, 12.0 per cent more than the percentage of self-employed lawyers with paid help who also lived in large cities. Among optometrists, over half of the salaried optometrists were located in very large cities; in the ancillary occupation of dispensing opticians, however, the opposite relationship was found: proportionately fewer salaried opticians resided in very large

cities than dispensing opticians who were self-employed with paid help.

Religion

To reduce the dozens of religious groupings provided by the 1971 Census to a manageable number, the six largest religious groupings were chosen, leaving the others as a residual group. The six religious groups shown in Table 14 represent 86.3 per cent of the sample of full-time workers included in this report. Their distribution, except for Jews, through the occupational structure showed a remarkable similarity. The typical configuration for any religion was a concentration of its members as engineers, architectural technologists, and physicians; these three occupations contained about two-thirds of each faith but Jews showed a different pattern: law and medicine took 53.5 per cent of all Jews, in contrast to 22.5 per cent of the sample as a whole, and they were under-represented as architectural technologists and engineers.

Table 15 compares the occupations so that we may decide whether any of the religious groupings were disproportionately represented in any of them. Occupations that have a disproportionate share of a religious grouping in comparison to its proportion in the whole sample are often considered to be suited to that religious grouping even when the religious grouping actually forms a small proportion of the occupation. It is often true that the smaller a group's proportion of the

TABLE 14

PERCENTAGE DISTRIBUTION OF RELIGION BY OCCUPATION, SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Occupation	Religion							
	All Religions	Roman Catholic	United Church	An-glican	No religion	Pres-byte-rian	Jewish	All other
All selected occupations	169,665	53,825	34,255	25,930	16,920	8590	6870	23,275
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Politicians	.6	.5	.7	.6	.2	.6	.1	.5
Lawyers	7.9	8.2	6.6	8.3	7.4	6.4	26.1	4.1
Physicians and surgeons	14.6	15.6	12.6	11.7	15.9	14.4	27.4	13.9
Dentists	2.8	2.6	3.2	2.0	2.3	2.6	9.2	2.5
Optometrists	.8	.8	.9	.5	.5	.7	2.4	.3
Veterinarians	.8	.8	1.3	.8	.7	.8	.2	.7
Pharmacists	4.4	4.7	5.5	3.2	2.0	3.1	11.2	3.7
Architectural technologists	12.0	13.1	11.4	12.3	12.3	11.2	1.5	13.1
Engineers	37.3	32.6	39.0	42.5	42.0	42.2	12.9	41.5
Architects	2.0	1.8	1.3	1.8	3.6	2.0	2.1	2.0
Surveyors	3.9	4.6	4.1	3.8	3.4	3.4	.1	3.5
Dispensing opticians	.7	.9	.7	.6	.4	.4	.5	.8
Osteopaths and chiropractors	.4	.4	.6	.3	.4	.3	.5	.6
Physiotherapists and etc.	2.1	1.8	2.3	2.5	2.0	2.7	1.3	2.2
Dental hygienists	4.0	4.4	4.3	4.0	2.2	3.4	2.8	5.3
Radiological technicians	2.9	3.9	2.9	2.5	1.4	2.4	.6	3.0
Librarians	2.7	3.1	2.4	2.5	3.0	3.4	1.0	2.2
Sociologists	.1	.2	.2	.1	.3	.0	.1	.1

TABLE 15-1

PERCENTAGE DISTRIBUTION OF OCCUPATION BY RELIGION, SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Occupation	All religions N	%	Religion: Roman Catholic	United Church	Anglican	No religion	Presbyterian	Jewish	All other
All selected occupations	169,665	100.0	31.7	20.2	15.3	10.0	5.1	4.0	13.7
Politicians	935	100.0	31.0	27.3	16.6	5.3	5.9	.5	13.4
Lawyers	13,450	100.0	33.2	17.0	16.0	9.3	4.1	13.3	7.1
Physicians and surgeons	24,795	100.0	33.9	17.5	12.2	10.8	5.0	7.6	13.0
Dentists	4820	100.0	29.1	22.5	10.2	8.2	4.6	13.2	12.2
Optometrists	1285	100.0	35.4	24.1	10.1	6.6	4.8	12.8	6.2
Veterinarians	1400	100.0	26.1	31.4	14.6	8.9	5.8	1.1	12.1
Pharmacists	7475	100.0	33.6	25.2	11.2	4.8	3.5	10.3	11.4
Architectural technologists	20,360	100.0	34.7	19.1	15.8	10.2	4.7	.5	15.0
Engineers	63,235	100.0	27.8	21.2	17.4	11.2	5.7	1.4	15.3
Architects	3325	100.0	29.8	13.5	15.0	18.2	5.1	4.4	14.0
Surveyors	6580	100.0	37.8	21.6	15.0	8.8	4.4	.1	12.3
Dispensing opticians	1180	100.0	40.2	20.3	12.3	6.4	3.0	3.0	14.8
Osteopaths and chiropractors	775	100.0	30.3	25.2	11.0	8.4	3.2	4.5	17.4
Physiotherapists and occupational therapists	3595	100.0	27.5	21.6	18.2	9.3	6.4	2.5	14.5
Dental hygienists	6785	100.0	32.8	21.8	15.2	5.4	4.3	2.8	17.7
Radiological technologists	4930	100.0	43.0	20.0	13.0	4.7	4.2	.7	14.4

TABLE 15-2

PERCENTAGE DISTRIBUTION OF OCCUPATION BY RELIGION, SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Occupation	All religions N	%	Religion: Roman Catholic	United Church	Anglican	No religion	Presbyterian	Jewish	All other
Librarians	4535	100.0	37.4	18.0	14.1	11.1	6.4	1.5	11.5
Sociologists and anthropologists	205	100.0	41.4	9.8	12.2	22.0	0.0	2.4	12.2

sample as a whole, the higher the likelihood of under- or overrepresentation in at least a few occupations. Representation of Catholics, who formed the largest religious grouping in the sample, did not exceed a factor for any occupation of ± 1.4. Jews, however, who were the smallest religious grouping shown in detail in Table 15, were overrepresented by a factor of 3.3 (lawyers, dentists) and underrepresented by a factor of 40 (surveyors) and 8 (politicians, architectural technologists).

On the whole, however, religious groupings were distributed through each of the occupations much as they were through the sample as a whole. Roman Catholics, the largest religious grouping in the sample, formed the largest group in each occupation except for veterinarians, where they took second place after members of the United Church. Sociologists were conspicuous in Table 15 for the absence of Presbyterians among them. Sociologists also contained a disproportionately large number of persons who claimed no religious affiliation: their overrepresentation factor of 2.2 among sociologists was second in Table 15 only to the overrepresentation of Jews among lawyers. One is tempted to conclude that Table 15 supports the popular belief that law is a "Jewish" profession and that social scientists were more likely than other occupations to contain persons who eschewed religious doctrines.

Over a quarter of all Jews in the sample were lawyers, substantiating a popular belief that there is an affinity between this religion and the practice of law. The percentages

in Table 15 for sociologists and persons with no religion were too small to permit a test of the second of these popular notions. Altogether, the figures in Tables 14 and 15 show that except for Jews, religion was of little effect in shaping the division of labour, and in comparison to the figures for sex shown in Tables 2 to 6, it has had little importance.

A comparative study of religions in Canada should never pass by an opportunity to test the hypothesis that the proclivity for hard work can be traced to religious doctrines. It is frequently assumed by sociologists that anxiety over predestined salvation is felt less keenly by Catholics than by Protestants, whose hard work is a substitute for the penance available in the confessional in obtaining assurance of divine favour (Weber, 1958). In this study, intensity of work has been measured by the number of hours worked per week. This measure extends the boundary of the sample further to include the total labour force because part-time workers must be counted when hours worked per week are used as a dependent variable. As a result, Table 17, which reports hours worked per week, is not fully comparable to other tables in this study. Since it was also expected that self-employment would increase the number of hours worked per week, it was also necessary to control for the class of worker variable.

To simplify matters, Table 16 presents the data first without controlling for hours worked per week. Self-employment, as Table 16 shows, was itself strongly associated statistically

TABLE 16-1

MAJOR RELIGIONS OF SELECTED OCCUPATIONS IN SAMPLE OF WORKERS WHO WORKED IN 1970 OR 1971, BY CLASS OF WORKER, CANADA

Key to abbreviations

SWC	Salary wages and commissions
SELFNO	Self-employed, no paid help
SELFWITH	Self-employed, with paid help
UFW	Unpaid family worker

		All religions	Roman Catholic	Anglican	No religion	Jewish	Other
All selected occupations	N	221,585	71,705	33,000	22,430	8760	85,690
	%	100.0	99.9	99.8	99.8	99.7	100.0
SWC		79.7	80.4	81.7	81.3	48.7	81.0
SELFNO		4.9	6.6	3.4	4.0	7.9	4.0
SELFWITH		15.3	12.9	14.7	14.5	43.1	15.0
UFW		.1					
Politicians	N	1260	385	205	70	20	580
	%	100.0	100.0	100.0	100.0	100.0	100.0
SWC		100.0	100.0	100.0	100.0	100.0	100.0
Lawyers	N	16,685	5750	2645	1620	2070	5860
	%	100.0	99.9	99.6	100.0	99.5	100.0
SWC		39.8	43.7	41.0	46.6	28.0	37.1
SELFNO		8.0	13.0	6.0	3.1	5.6	5.3
SELFWITH		52.2	43.2	52.6	50.3	65.9	57.6
Physicians & surgeons	N	29,490	9850	3590	3285	2195	10,570
	%	99.9	100.0	99.9	99.9	100.0	99.8
SWC		44.0	48.0	38.7	50.2	40.1	40.5
SELFNO		14.1	20.8	9.2	9.7	11.8	11.5
SELFWITH		41.8	31.2	51.0	40.0	48.1	47.8
Dentists	N	6695	1935	715	520	865	2660
	%	99.9	100.0	100.0	99.1	100.0	100.0
SWC		18.7	22.0	21.0	21.2	16.2	16.2
SELFNO		13.5	23.5	6.3	6.7	9.8	10.7
SELFWITH		67.7	54.5	72.7	71.2	74.0	73.1
Optometrists	N	1560	560	150	105	185	560
	%	100.0	97.9	100.0	100.0	94.5	99.9
SWC		21.1	18.5	20.0	23.8	27.0	17.8
SELFNO		24.4	33.9	23.3	9.5	18.9	19.6
SELFWITH		54.5	45.5	56.7	66.7	48.6	62.5
Veterinarians	N	1755	475	225	165	20	870
	%	99.9	99.9	97.7	96.9	100.0	99.9
SWC		51.8	54.7	42.2	54.5	50.0	51.7
SELFNO		14.8	21.0	13.3	9.1	25.0	12.6
SELFWITH		33.3	24.2	42.2	33.3	25.0	35.6

TABLE 16-2

		All religions	Roman Catholic	Anglican	No religion	Jewish	Other
Pharmacists	N	10,030	3220	1235	515	920	4140
	%	99.8	99.5	98.8	99.0	99.9	100.0
SWC		66.6	65.2	69.2	79.6	51.6	68.5
SELFNO		4.4	5.9	5.3	-	4.9	3.5
SELFWITH		28.8	28.4	24.3	19.4	43.4	28.0
Architectural technologists	N	25,040	8745	3780	2645	155	9715
	%	100.0	100.0	99.9	100.0	100.0	100.0
SWC		98.9	99.0	99.1	98.5	100.0	98.9
SELFNO		.7	.5	.7	1.1	-	.7
SELFWITH		.4	.5	.1	.4	-	.4
Engineers	N	75,970	22,140	12,690	8725	1115	31,300
	%	100.0	100.0	99.0	100.0	99.5	99.9
SWC		96.6	96.5	96.9	96.0	87.4	97.0
SELFNO		1.6	1.3	1.5	2.2	5.4	1.6
SELFWITH		1.8	2.2	1.6	1.8	6.7	1.3
Architects	N	4170	1240	575	830	195	1330
	%	99.8	99.6	100.0	100.0	100.0	99.2
SWC		54.9	60.9	48.7	55.4	33.3	54.5
SELFNO		13.8	12.5	9.6	18.1	17.9	13.5
SELFWITH		31.1	26.2	41.7	26.5	48.8	31.2
Surveyors	N	11,175	4260	1665	955	25	4270
	%	100.0	100.0	100.0	99.5	100.0	100.0
SWC		96.1	95.6	95.2	94.8	100.0	97.0
SELFNO		.9	1.4	1.2	.5	-	.4
SELFWITH		3.0	3.0	3.6	4.2	-	2.6
Dispensing opticians	N	1485	590	195	100	45	555
	%	99.0	99.9	97.3	100.0	100.0	99.9
SWC		84.8	84.7	82.0	90.0	55.5	87.3
SELFNO		9.1	9.3	10.2	5.0	22.2	7.2
SELFWITH		6.1	5.9	5.1	5.0	22.3	5.4
Osteopaths & chiropractors	N	1095	345	110	115	35	490
	%	99.5	99.0	99.9	100.0	100.0	99.0
SWC		16.9	24.6	9.1	17.4	14.3	13.3
SELFNO		39.7	43.4	45.4	34.8	57.1	35.7
SELFWITH		42.9	31.0	45.4	47.8	28.6	50.0
Physiotherapists	N	7115	1800	1370	665	285	2995
	%	99.9	99.9	100.0	100.0	98.3	99.8
SWC		95.4	96.9	96.0	94.0	93.0	94.8
SELFNO		3.2	2.2	2.9	4.5	5.3	3.3
SELFWITH		1.3	.8	1.1	1.5	-	1.7

TABLE 16-3

		All religions	Roman Catholic	Anglican	No religion	Jewish	Other
Dental hygienists	N	12,350	3830	1865	800	395	5460
	%	98.5	98.5	98.4	97.4	96.1	98.8
SWC		92.6	89.9	93.8	91.2	91.1	94.4
SELFNO		2.8	4.8	1.9	3.1	2.5	1.7
SELFWITH		3.1	3.8	2.7	3.1	2.5	2.7
Radiological technologists	N	7275	3070	965	360	75	2805
	%	99.9	100.0	100.0	100.0	100.0	99.8
SWC		99.6	99.5	99.5	100.0	100.0	99.8
SELFNO		.1	-	.5	-	-	-
SELFWITH		.2	.5	-	-	-	-
Librarians	N	7935	3290	975	850	145	2675
	%	100.0	100.0	100.0	100.0	100.0	99.8
SWC		99.7	100.0	100.0	99.4	100.0	99.2
SELFNO		.3	-	-	.6	-	.6
SELFWITH		-	-	-	-	-	-
Sociologists	N	510	220	50	125	10	105
	%	99.0	100.0	100.0	100.0	100.0	95.2
SWC		97.0	100.0	100.0	100.0	100.0	85.7
SELFNO		2.0	-	-	-	-	9.5
SELFWITH		-	-	-	-	-	-

TABLE 17-1

SELECTED OCCUPATIONS IN SAMPLE OF PERSONS WHO WORKED IN 1970 OR 1971, BY HOURS OF WORK FOR CLASS OF WORKER AND RELIGION, CANADA (Percentage Distribution)

Key to abbreviations

SWC	Salary wages and commissions
SELFNO	Self-employed no paid help
SELFWITH	Self-employed with paid help
UFW	Unpaid family worker

All selected occupations

	All religions					Roman Catholic			
	Total	SWC	SELFNO	SELFWITH	UFW	TOTAL	SWC	SELFNO	SELFWITH
N	221,585	176,560	10,740	34,010	275	71,705	57,700	4700	9225
%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hours									
1-19	3.0	2.9	8.8	1.0	40.0	2.4	2.4	4.4	.8
20-39	36.0	40.8	21.2	15.5	36.4	38.2	43.2	19.8	16.2
40-44	35.1	39.2	18.9	19.0	16.4	33.7	37.3	18.9	18.8
45-49	8.0	6.8	10.8	14.0	7.2	7.9	6.5	11.2	15.0
50+	17.9	10.3	40.3	50.4	-	17.8	10.6	45.7	49.2
	Anglican					No religion			
N	33,000	26,975	1110	4865		22,430	18,235	905	3260
%	100.0	100.0	100.0	100.0		100.0	100.0	100.0	100.0
1-19	3.6	3.4	16.2	1.4		2.0	1.9	8.8	.6
20-39	36.4	40.9	26.1	14.2		38.0	42.6	24.3	16.2
40-44	36.2	40.1	18.0	18.9		33.1	36.5	18.8	18.1
45-49	7.6	6.5	7.2	13.6		8.2	7.2	11.0	13.0
50+	16.2	9.1	32.5	51.9		18.7	11.8	37.1	52.1
	Jewish					Other			
N	8760	4270	695	3775		85,690	69,390	3430	12,885
%	100.0	100.0	100.0	100.0		100.0	100.0	100.0	100.0
1-19	3.5	4.9	7.9	.8		3.4	3.3	15.4	1.2
20-39	22.9	31.5	17.3	13.9		34.7	38.8	20.8	15.8
40-44	26.8	30.9	24.5	22.4		37.3	41.7	17.5	18.5
45-49	13.8	10.8	14.4	17.1		7.8	6.7	10.2	12.8
50+	33.0	21.9	35.9	45.8		16.8	9.5	36.1	51.7

TABLE 17-2

Politicians

	All religions Total	SWC	SELFNO	SELFWITH	Roman Catholic Total	SWC	SELFNO	SELFWITH
	N 1260	1260	-	-	385	385	-	-
Hours	% 100.0	100.0	-	-	100.0	100.0	-	-
1-19	10.3	10.3	-	-	6.5	6.5	-	-
20-39	15.4	15.4	-	-	16.9	16.9	-	-
40-44	14.8	14.8	-	-	16.9	16.9	-	-
45-49	7.9	7.9	-	-	6.5	6.5	-	-
50+	51.6	51.6	-	-	53.2	53.2	-	-
	Anglican				No religion			
	N 205	205	-	-	70	70	-	-
	% 100.0	100.0	-	-	100.0	100.0	-	-
1-19	14.6	14.6	-	-	14.3	14.3	-	-
20-39	14.6	14.6	-	-	14.3	14.3	-	-
40-44	17.1	17.1	-	-	14.3	14.3	-	-
45-49	4.9	4.9	-	-	7.1	7.1	-	-
50+	48.8	48.8	-	-	50.0	50.0	-	-
	Jewish				Other			
	N 20	20	-	-	580	580	-	-
	% 100.0	100.0	-	-	100.0	100.0	-	-
1-19	-	-	-	-	11.2	11.2	-	-
20-39	25.0	25.0	-	-	14.6	14.6	-	-
40-44	25.0	25.0	-	-	12.1	12.1	-	-
45-49	-	-	-	-	10.3	10.3	-	-
50+	50.0	50.0	-	-	51.8	51.8	-	-

Lawyers and notaries	All religions				Roman Catholic			
	N 16,685	6645	1330	8705	2645	1085	160	1390
Hours	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	2.1	1.3	12.4	1.1	1.7	.8	9.4	1.8
20-39	22.1	28.0	26.7	16.9	28.3	37.8	46.9	16.2
40-44	26.7	29.9	23.7	24.7	25.7	27.6	21.9	26.6
45-49	18.5	19.0	15.4	18.7	17.8	16.7	9.4	17.6
50+	30.6	21.8	21.8	38.6	26.5	17.1	12.4	37.8

TABLE 17-3

Lawyers and notaries cont'd	Anglican Total	SWC	SELFNO	SELFWITH	No religions Total	SWC	SELFNO	SELFWITH
	N 2645	1085	160	1390	1620	755	50	815
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	2.8	2.3	9.4	1.8	.6	.7	10.0	.6
20-39	20.2	23.0	46.9	16.2	23.1	28.5	30.0	16.6
40-44	27.8	30.9	21.9	26.6	25.6	29.1	10.0	22.7
45-49	18.1	20.7	9.4	17.6	17.0	17.9	20.0	16.0
50+	31.1	23.1	12.4	37.8	33.7	23.8	30.0	44.1
	Jewish				Other			
	N 2070	580	115	1365	4600	1710	260	2650
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	1.0	.9	8.7	.4	3.0	2.0	26.9	1.7
20-39	11.6	11.2	21.7	10.6	19.6	22.2	17.3	17.9
40-44	28.3	31.9	34.8	26.7	27.0	32.2	17.3	24.0
45-49	23.9	25.0	26.1	23.1	17.7	19.9	15.4	16.6
50+	35.2	31.0	8.7	39.2	32.7	23.7	23.1	39.8
Physicians and surgeons	All religions							
					Roman Catholic			
	N 29,490	12,975	4170	12,335	9850	4725	2045	3085
Hours	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	2.5	2.9	5.8	1.0	1.8	2.0	2.4	1.1
20-39	9.3	12.2	10.4	5.8	10.4	14.5	8.6	5.7
40-44	11.9	17.3	10.8	6.7	12.8	17.2	11.7	6.8
45-49	9.2	9.7	9.1	8.6	9.2	9.4	8.6	9.2
50+	67.1	57.9	63.9	77.9	65.8	56.9	68.7	77.2
	Anglican				No religion			
	N 3590	1425	330	1830	3285	1650	320	1315
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	3.2	3.8	10.6	1.1	2.6	2.1	12.6	.8
20-39	8.8	14.8	10.6	3.6	9.2	9.7	10.9	8.0
40-44	9.9	15.4	7.6	6.0	12.0	17.2	6.3	6.8
45-49	7.8	6.7	9.1	8.5	10.8	11.5	10.9	9.9
50+	70.3	59.3	62.1	80.8	65.4	59.5	59.3	74.5

TABLE 17-4

Physicians and surgeons cont'd	Jewish Total	SWC	SELFNO	SELFWITH	Other Total	SWC	SELFNO	SELFWITH
	N 2195	885	260	1055	10,570	4290	1215	5050
Hours	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	2.0	2.8	5.8	1.4	3.0	4.0	8.2	.8
20-39	8.4	9.1	9.6	7.6	8.6	10.5	13.6	5.8
40-44	14.1	20.9	13.5	9.0	11.4	17.4	10.7	6.3
45-49	10.5	7.9	11.5	12.3	8.8	10.8	9.1	7.1
50+	65.0	59.3	59.6	69.7	68.2	57.3	58.4	80.0
Dentists								
	All religions				Roman Catholic			
	N 6695	1255	905	4530	1935	425	455	1055
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	3.6	7.6	12.7	.9	3.1	5.9	5.5	.9
20-39	39.0	43.0	41.4	37.3	36.2	40.0	40.6	33.2
40-44	32.0	29.0	23.2	34.5	33.1	31.8	26.4	36.5
45-49	12.6	9.6	9.9	14.0	12.4	8.2	11.0	14.7
50+	12.8	10.8	12.8	13.3	15.2	14.1	16.5	14.7
	Anglican				No religion			
	N 715	150	45	520	520	110	35	370
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	4.2	6.7	33.3	1.9	1.0	4.5	-	-
20-39	43.3	53.3	66.7	39.4	44.2	54.5	57.1	39.2
40-44	30.1	23.3	-	33.6	26.9	27.2	28.6	28.4
45-49	11.2	6.7	-	13.5	13.5	4.5	-	16.2
50+	11.2	10.0	-	11.6	14.4	9.3	14.3	16.2
	Jewish				Other			
	N 865	140	85	640	2660	430	285	1945
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	2.9	7.1	11.8	1.6	4.7	10.5	22.8	.5
20-39	32.9	28.6	41.2	32.8	41.0	44.2	36.8	40.1
40-44	35.8	39.3	29.4	36.7	31.4	25.6	19.3	34.2
45-49	15.6	10.7	17.6	16.4	12.0	12.8	8.8	12.6
50+	12.8	14.3	-	12.5	10.9	6.9	12.3	12.6

TABLE 17-5

Optometrists

	All religions				Roman Catholic			
	Total	SWC	SELFNO	SELFWITH	Total	SWC	SELFNO	SELFWITH
	N 1560	330	380	850	560	105	190	255
Hours	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	2.0	6.1	3.9	.6	1.8	4.8	-	2.0
20-39	33.6	43.9	36.8	28.8	35.7	42.8	42.1	29.4
40-44	31.4	27.3	34.2	31.2	28.6	28.6	31.6	31.4
45-49	15.4	12.1	11.8	18.2	15.2	9.5	10.5	19.6
50+	17.6	10.6	13.3	21.2	18.7	14.3	15.8	17.6
	Anglican				No religion			
	N 150	35	35	85	105	25	10	70
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	3.3	-	28.6	-	-	-	-	-
20-39	33.3	57.1	-	35.3	38.1	100.0	50.0	35.8
40-44	30.0	14.3	28.6	41.2	33.3	-	-	42.8
45-49	10.0	28.6	-	5.9	4.8	-	50.0	7.1
50+	23.4	-	42.8	17.6	23.8	-	-	14.3
	Jewish				Other			
	N 185	50	35	90	560	115	110	350
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	-	-	-	-	3.6	13.0	4.5	-
20-39	10.8	30.0	14.3	11.1	38.4	34.8	45.4	30.0
40-44	29.7	20.0	42.8	27.8	34.8	39.1	40.9	27.1
45-49	21.6	30.0	28.6	16.7	17.0	4.3	9.2	22.9
50+	37.9	20.0	14.3	44.4	6.2	8.8	-	20.0

Veterinarians

	All religions				Roman Catholic			
	N 1755	910	260	585	475	265	100	115
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	2.0	2.2	3.8	1.7	2.1	-	5.0	-
20-39	18.2	30.8	7.7	5.1	24.2	41.5	-	8.7
40-44	17.4	26.4	9.6	6.8	20.0	26.4	10.0	13.0
45-49	9.1	8.8	1.9	12.0	10.5	11.3	5.0	13.0
50+	53.3	31.8	77.0	74.4	43.2	20.8	80.0	65.3

TABLE 17-6

Veterinarians cont'd	Anglican Total	SWC	SELFNO	SELFWITH	No religion Total	SWC	SELFNO	SELFWITH
N	225	95	30	95	165	90	15	55
%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hours								
1-19	2.2	-	-	-	3.0	5.6	-	-
20-39	13.3	26.3	-	10.5	18.2	27.8	-	9.1
40-44	15.6	31.6	-	5.3	12.1	22.2	-	9.1
45-49	13.3	15.8	-	15.8	12.1	16.7	-	9.1
50+	55.6	26.3	100.0	68.4	54.6	27.7	100.0	72.7
	Jewish				Other			
N	20	10	-	10	870	450	110	310
%	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0
1-19	-	-	-	-	1.7	3.3	4.5	3.2
20-39	-	-	-	-	16.7	26.7	18.2	1.6
40-44	50.0	100.0	-	-	16.7	24.4	13.6	4.8
45-49	-	-	-	-	6.9	4.4	-	11.3
50+	50.0	-	-	100.0	58.0	41.2	63.7	79.1

Pharmacists

	All religions				Roman Catholic			
N	10,030	6675	445	2885	3220	2100	190	915
%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	7.8	9.6	21.3	1.0	5.0	6.2	10.5	.5
20-39	23.1	30.4	11.2	8.3	27.8	37.1	10.5	11.5
40-44	32.4	39.8	11.2	18.7	28.9	37.3	15.8	12.6
45-49	12.3	10.1	13.5	17.3	12.8	10.8	13.1	18.6
50+	24.4	10.1	42.8	54.7	25.5	8.6	50.1	56.8
	Anglican				No religion			
N	1235	855	65	300	515	410	-	100
%	100.0	100.0	100.0	100.0	100.0	100.0	-	100.0
1-19	13.4	16.4	30.8	-	6.8	7.3	-	5.0
20-39	22.7	28.1	15.4	6.7	27.2	31.7	-	-
40-44	33.6	39.2	7.8	23.3	35.9	40.2	-	25.0
45-49	8.9	5.8	23.0	15.0	12.6	12.2	-	15.0
50+	21.4	10.5	23.0	55.0	17.5	8.6	-	55.0

TABLE 17-7

Pharmacists cont'd	Jewish All religions	SWC	SELFNO	SELFWITH	Other Total	SWC	SELFNO	SELFWITH
	N 920	475	45	405	4140	2835	145	1165
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	4.9	7.4	22.2	1.2	9.1	10.7	31.0	1.3
20-39	14.1	21.0	-	7.4	21.1	27.5	13.8	7.3
40-44	31.0	40.0	11.1	22.2	34.7	41.8	6.9	20.6
45-49	14.1	16.8	-	13.6	12.4	9.7	13.8	18.4
50+	35.9	14.8	66.7	55.6	22.7	10.3	34.5	52.4
Architectural and engineering technologists								
	All religions				Roman Catholic			
	N 25,040	24,765	170	100	8745	8655	45	40
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	.8	.6	20.6	-		.6	11.1	-
20-39	42.8	43.0	23.5	10.0	43.6	43.9	11.1	-
40-44	47.8	48.1	20.6	20.0	47.2	47.4	33.3	12.5
45-49	4.4	4.2	14.7	25.0	4.6	4.4	11.1	50.0
50+	4.2	4.1	20.6	45.0	4.0	3.7	33.4	37.5
	Anglican				No religion			
	N 3780	3745	25	5	2645	2605	30	15
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	.7	.5	40.0	-	.6	.2	33.3	-
20-39	46.6	46.9	20.0	-	42.2	42.2	50.0	-
40-44	45.0	45.1	40.0	-	46.9	47.2	16.7	66.7
45-49	3.7	3.6	-	-	4.2	4.2	-	-
50+	4.0	3.9	-	100.0	6.1	6.2	-	33.3
	Jewish				Other			
	N 155	155	-	-	9715	9605	70	40
	% 100.0	100.0	-	-	100.0	100.0	100.0	100.0
1-19	-	-	-	-	1.0	.9	14.3	-
20-39	38.7	38.7	-	-	40.8	41.0	21.4	25.0
40-44	51.6	51.6	-	-	49.6	50.0	7.1	12.5
45-49	3.2	3.2	-	-	4.5	4.3	28.6	12.5
50+	6.5	6.5	-	-	4.1	3.8	28.6	50.0

TABLE 17- 8

Engineers

	All religions				Roman Catholic			
	Total	SWC	SELFNO	SELFWITH	Total	SWC	SELFNO	SELFWITH
	N 75,970	73,390	1230	1345	22,140	21,355	285	495
Hours	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	.6	.5	8.1	1.1	.6	.5	5.3	-
20-39	46.6	47.5	26.8	18.6	48.2	49.1	22.8	22.2
40-44	38.8	39.2	29.3	23.0	36.9	37.3	24.6	25.2
45-49	6.8	6.6	10.2	14.9	6.5	6.2	14.0	11.1
50+	7.2	6.2	25.6	42.4	7.8	6.9	33.3	41.5
	Anglican				No religion			
	N 12,690	12,295	190	205	8725	8380	190	160
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	.6 .6	.4	15.8	-	.6	.7	5.3	3.1
20-39	45.4	45.9	31.6	22.0	49.2	50.5	23.7	12.5
40-44	40.1	40.8	28.9	17.1	35.7	35.7	36.8	34.4
45-49	7.2	7.1	7.9	17.1	6.8	6.7	7.9	12.5
50+	6.7	5.8	15.8	43.8	7.7	6.4	26.3	37.5
	Jewish				Other			
	N 1115	975	60	75	31,300	30,375	505	410
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	.9	.5	-	-	.6	.5	8.9	2.4
20-39	52.0	55.9	25.0	26.7	45.1	45.8	28.7	13.4
40-44	26.0	27.7	25.0	6.7	40.9	41.3	29.7	22.0
45-49	8.5	8.7	-	13.3	6.7	6.5	10.9	19.5
50+	12.6	7.2	50.0	53.3	6.7	5.9	21.8	42.7

Architects

	All religions				Roman Catholic			
	N 4170	2290	575	1295	1240	755	155	325
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	1.8	1.3	5.2	.8	.4	-	-	-
20-39	47.1	63.1	31.3	25.9	49.2	64.2	35.4	24.6
40-44	24.0	23.4	21.7	26.2	24.2	23.8	16.1	27.7
45-49	10.7	5.9	13.9	18.1	9.7	6.0	19.4	13.8
50+	16.4	6.3	27.9	29.0	16.5	6.0	29.1	33.9

TABLE 17- 9

Architects cont'd	Anglican Total	SWC	SELFNO	SELFWITH	No religion Total	SWC	SELFNO	SELFWITH
	N 575	280	55	240	830	465	150	220
Hours	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	2.6	-	18.2	4.2	1.2	-	6.7	-
20-39	42.6	60.7	9.1	27.1	50.6	64.5	36.7	31.8
40-44	19.1	21.4	27.3	18.8	22.9	22.6	23.3	25.0
45-49	15.6	7.1	9.1	29.2	8.4	4.3	10.0	18.2
50+	20.1	10.8	36.3	20.7	16.9	8.6	23.3	25.0
	Jewish				Other			
	N 195	65	35	95	1330	725	180	415
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	5.1	-	14.3	-	2.6	4.1	2.8	-
20-39	35.9	61.5	28.6	26.3	46.6	62.1	30.6	22.9
40-44	28.2	30.8	28.6	26.3	25.9	23.4	22.2	30.1
45-49	10.3	7.7	-	10.5	10.9	6.2	16.7	16.9
50+	20.5	-	28.5	36.9	14.0	4.2	27.7	30.1
Surveyors								
	All religions				Roman Catholic			
	N 11,175	10,740	100	335	4260	4075	60	135
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	2.3	2.2	15.0	1.5	1.6	1.5	16.7	-
20-39	21.6	21.9	25.0	10.4	25.7	25.9	25.0	14.8
40-44	58.7	60.0	15.0	29.8	57.0	58.8	8.3	25.9
45-49	8.1	7.8	5.0	21.0	7.5	7.0	8.3	22.2
50+	9.3	8.1	40.0	37.3	8.2	6.8	41.7	37.1
	Anglican				No religion			
	N 1665	1585	20	60	955	905	5	40
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	3.9	3.5	-	8.3	2.1	1.6	-	-
20-39	20.4	20.8	25.0	8.3	20.4	20.4	100.0	12.5
40-44	59.2	60.9	25.0	41.7	60.7	62.4	-	50.0
45-49	8.1	7.9	-	8.3	8.4	7.7	-	25.0
50+	8.4	6.9	50.0	33.4	8.4	7.9	-	12.5

TABLE 17-10

Surveyors cont'd	Jewish Total	SWC	SELFNO	SELFWITH	Other Total	SWC	SELFNO	SELFWITH
	N 25	25	-	-	4270	4150	15	100.0
Hours	% 100.0	100.0	-	-	100.0	100.0	100.0	100.0
1-19	-	-	-	-	2.4	2.5	33.3	-
20-39	40.0	40.0	-	-	18.3	18.7	-	5.0
40-44	20.0	20.0	-	-	60.1	60.7	33.3	20.0
45-49	20.0	20.0	-	-	8.7	8.6	-	25.0
50+	20.0	20.0	-	-	10.5	9.5	33.4	50.0
Dispensing opticians	All religions				Roman Catholics			
	N 1485	1260	135	90	590	500	55	35
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	2.0	2.0	-	-	.8	1.0	-	-
20-39	19.9	20.2	22.2	16.7	22.0	24.0	18.2	14.3
40-44	52.2	56.7	29.6	27.8	47.4	53.0	18.2	14.3
45-49	13.8	14.3	11.1	16.7	14.4	15.0	18.2	-
50+	12.1	6.8	37.1	38.8	15.4	7.0	45.4	71.4
	Anglican				No religion			
	N 195	160	20	10	100	90	5	5
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	5.1	6.2	-	-	-	-	-	-
20-39	10.2	12.5	-	50.0	15.0	11.1	-	-
40-44	59.0	65.6	25.0	50.0	55.0	66.7	-	-
45-49	7.7	9.4	-	-	30.0	22.2	100.0	100.0
50+	18.0	6.3	75.0	-	-	-	-	-
	Jewish				Other			
	N 45	25	10	10	555	485	45	30
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	11.1	20.0	-	-	1.8	1.0	-	-
20-39	-	-	-	-	23.4	21.6	44.4	16.7
40-44	44.4	40.0	50.0	-	55.0	56.7	44.4	50.0
45-49	22.2	20.0	-	50.0	11.7	13.4	-	16.7
50+	22.3	20.0	50.0	50.0	8.1	7.3	11.2	16.6

TABLE 17-11

Osteopaths and chiropractors

	All religions Total	SWC	SELFNO	SELFWITH	Other Total	SWC	SELFNO	SELFWITH
	N 1095	185	435	470	345	85	150	110
Hours	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	1.8	-	3.4	-	1.4	-	-	-
20-39	41.0	54.0	41.4	36.2	52.2	64.7	46.3	50.0
40-44	24.2	24.3	25.3	23.4	21.7	11.8	20.0	27.3
45-49	14.6	10.8	12.6	18.1	13.0	5.9	13.7	13.7
50+	18.4	10.9	17.3	22.3	11.7	17.6	20.0	9.0
	Anglican				No religion			
	N 110	10	50	50	115	20	40	55
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	-	-	-	-	-	-	-	-
20-39	36.4	50.0	40.0	30.0	39.1	25.0	37.5	36.4
40-44	40.9	50.0	40.0	30.0	13.0	25.0	-	18.2
45-49	9.1	-	-	20.0	21.7	25.0	12.5	18.2
50+	13.6	-	20.0	20.0	26.2	25.0	50.0	27.2
	Jewish				Other			
	N 35	5	20	10	490	65	175	245
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	-	-	-	-	3.1	-	8.6	-
20-39	14.3	100.0	25.0	-	36.7	46.2	40.0	32.6
40-44	42.8	-	75.0	50.0	23.5	38.5	25.7	20.4
45-49	28.5	-	-	-	14.3	15.3	17.1	20.4
50+	14.4	-	-	50.0	22.4	-	8.6	26.6

Physiotherapists & occupational therapists

	All religions				Roman Catholic			
	N 7115	6790	225	90	1800	1745	40	15
	% 100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	12.2	11.3	37.7	11.1	8.9	8.6	12.5	33.3
20-39	46.7	47.9	17.8	16.7	54.7	55.9	12.5	-
40-44	36.5	37.2	17.8	38.9	31.1	31.5	12.5	-
45-49	2.4	2.0	15.4	11.1	2.5	2.3	12.5	33.3
50+	2.2	1.6	11.3	22.2	2.8	1.7	58.0	33.4

TABLE 17-12

Physio- and occupational therapist cont'd	Anglican Total	SWC	SELFNO	SELFWITH	No religion Total	SWC	SELFNO	SELFWITH
N	1370	1315	40	15	665	625	30	10
%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	15.0	13.3	62.5	33.3	12.0	12.0	16.7	-
20-39	46.3	47.1	37.5	-	42.1	44.8	16.7	50.0
40-44	35.4	36.5	-	66.7	39.8	39.2	50.0	50.0
45-49	2.2	1.9	-	-	3.8	3.2	16.6	-
50+	1.1	1.2	-	-	2.3	.8	-	-
	Jewish				Other			
N	285	265	15	-	2995	2840	100	50
%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	21.0	18.9	66.7	-	12.0	11.3	40.0	-
20-39	50.9	52.8	33.3	-	42.6	43.7	10.0	20.0
40-44	26.3	28.3	-	-	40.6	41.4	20.0	40.0
45-49	-	-	-	-	2.5	1.8	25.0	10.0
50+	1.8	-	-	-	2.3	1.8	5.0	30.0

Dental hygienists

	All religions				Roman Catholic			
N	12,350	11,440	350	380	3830	3445	185	145
%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	9.9	9.7	8.6	-	8.4	8.3	5.4	-
20-39	31.0	31.8	24.3	15.8	30.0	31.0	27.0	10.3
40-44	48.4	49.7	35.7	36.8	49.2	50.8	37.8	41.4
45-49	6.8	6.4	10.0	17.1	6.5	5.8	8.1	24.1
50+	3.9	2.4	21.4	30.3	5.9	4.1	21.7	24.2
	Anglican				No religion			
N	1865	1750	35	50	800	730	25	25
%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	11.3	10.3	28.6	-	5.0	5.5	-	-
20-39	32.7	34.3	28.6	10.0	33.1	32.9	40.0	-
40-44	45.8	46.6	42.8	40.0	49.4	51.4	40.0	40.0
45-49	6.4	6.3	-	10.0	8.1	7.5	-	-
50+	3.8	2.5	-	40.0	4.4	2.7	20.0	60.0

TABLE 17-13

Dental hygienists cont'd	Jewish Total	SWC	SELFNO	SELFWITH	Other Total	SWC	SELFNO	SELFWITH
N	395	360	10	10	5460	5155	95	150
%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-19	13.9	13.9	-	-	10.9	10.8	10.5	-
20-39	32.9	34.7	-	-	30.7	31.1	15.8	26.7
40-44	43.0	44.4	100.0	-	48.9	50.0	21.0	33.3
45-49	6.3	7.0	-	-	7.0	6.7	21.0	16.7
50+	3.9	-	-	100.0	2.5	1.4	31.7	23.3

Radiological technologists

Hours	All religions				Roman Catholic			
N	7275	7250	-	15	3070	3055	-	15
%	100.0	100.0	-	100.0	100.0	100.0	-	100.0
1-19	6.0	6.0	-	-	5.4	5.4	-	-
20-39	47.5	47.5	-	-	56.0	56.4	-	-
40-44	41.0	41.0	-	33.3	33.4	33.2	-	66.7
45-49	3.4	3.3	-	-	2.8	2.8	-	-
50+	2.1	2.2	-	66.7	2.4	2.2	-	33.3
	Anglican				No religion			
N	965	960	-	-	360	360	-	-
%	100.0	100.0	-	-	100.0	100.0	-	-
1-19	8.3	7.8	-	-	4.2	4.2	-	-
20-39	43.5	43.8	-	-	51.4	51.4	-	-
40-44	44.0	43.8	-	-	38.9	38.9	-	-
45-49	3.1	3.1	-	-	2.8	2.8	-	-
50+	1.1	1.5	-	-	2.7	2.7	-	-
	Jewish				Other			
N	75	75	-	-	2805	2800	-	-
%	100.0	100.0	-	-	100.0	100.0	-	-
1-19	13.4	13.4	-	-	5.9	6.1	-	-
20-39	33.3	33.3	-	-	39.4	38.9	-	-
40-44	53.3	53.3	-	-	48.1	46.6	-	-
45-49	-	-	-	-	4.3	4.1	-	-
50+	-	-	-	-	2.3	2.3	-	-

TABLE 17-14

Librarians & archivists

	All religions Total	SWC	SELFNO	SELFWITH	Roman Catholic Total	SWC	SELFNO	SELFWITH
	N 7935	7910	20	-	3270	3290	-	-
Hours	% 100.0	100.0	100.0	-	100.0	100.0	-	-
1-19	8.4	8.4	-	-	7.8	7.8	-	-
20-39	65.4	65.4	50.0	-	69.3	69.3	-	-
40-44	21.6	21.6	25.0	-	18.5	18.5	-	-
45-49	2.8	2.8	25.0	-	2.6	2.6	-	-
50+	1.8	1.8	-	-	1.8	1.8	-	-
	Anglican				No religion			
	N 975	975	-	-	850	845	5	-
	% 100.0	100.0	-	-	100.0	100.0	100.0	-
1-19	7.7	7.7	-	-	6.5	6.5	-	-
20-39	65.1	65.1	-	-	64.7	64.5	100.0	-
40-44	25.1	25.1	-	-	20.6	20.7	-	-
45-49	1.0	1.0	-	-	4.1	4.1	-	-
50+	1.1	1.1	-	-	4.1	4.2	-	-
	Jewish				Other			
	N 145	145	-	-	2675	2655	15	-
	% 100.0	100.0	-	-	100.0	100.0	100.0	-
1-19	17.2	17.2	-	-	9.7	9.8	-	-
20-39	62.1	62.1	-	-	61.1	61.2	33.3	-
40-44	20.7	20.7	-	-	24.1	24.1	33.3	-
45-49	-	-	-	-	3.6	3.6	33.4	-
50+	-	-	-	-	1.5	1.3	-	-

Sociologists and anthropologists

	All religions				Roman Catholic			
	N 510	495	-	10	220	220	-	-
	% 100.0	100.0	-	100.0	100.0	100.0	-	-
1-19	5.9	5.0	-	-	4.5	4.5	-	-
20-39	44.1	45.4	-	-	45.4	45.4	-	-
40-44	37.2	36.4	-	50.0	36.4	36.4	-	-
45-49	5.9	6.1	-	-	6.8	6.8	-	-
50+	6.9	7.1	-	50.0	6.9	6.9	-	-

TABLE 17-15

Sociologists & anthropologists cont'd		Anglican Total	SWC	SELFNO	SELFWITH	No religion Total	SWC	SELFNO	SELFWITH
	N	50	50	-	-	125	125	-	-
Hours	%	100.0	100.0	-	-	100.0	100.0	-	-
1-19		10.0	10.0	-	-	4.0	4.0	-	-
20-39		30.0	30.0	-	-	56.0	56.0	-	-
40-44		50.0	50.0	-	-	28.0	28.0	-	-
45-49		10.0	10.0	-	-	4.0	4.0	-	-
50+		-	-	-	-	8.0	8.0	-	-
		Jewish				Other			
	N	10	10	-	-	105	90	-	10
	%	100.0	100.0	-	-	100.0	100.0	-	100.0
1-19		50.0	50.0	-	-	4.8	-	-	-
20-39		50.0	50.0	-	-	33.3	38.9	-	-
40-44		-	-	-	-	47.6	44.4	-	50.0
45-49		-	-	-	-	4.8	5.6	-	-
50+		-	-	-	-	9.5	11.1	-	50.0

with religion: at the aggregate level, approximately half as many Jews as other members of the sample were in salaried positions. Over half of all Jews were self-employed, far more than in the other religions.

Self-employed persons, as the first page of Table 17 shows, worked longer hours than salaried persons. Self-employed persons with paid help, contrary to one's expectations, worked longer hours than self-employed persons without paid help. By confining the comparisons of religious groupings to the percentage of each grouping, at the aggregate level, who worked 50 or more hours per week, Table 17 shows that one-third of Jews worked more than 50 hours per week, a higher percentage than the other groups in Table 17, whose joint percentage was 16.6 per cent, or about one-half of the figure for Jews. If the overlap between the Christian groupings is ignored in Table 17 (the Anglican grouping may contain some persons with doctrinal similarities with Roman Catholic groups) one may conclude that differences in work ethic between Protestants and Catholics have been superseded by differences between Jews and all other members of the labour force.

The absence of income data for religious groupings makes it impossible to pursue these differences in work habits by examining their effects on income of the religious groupings.

Table 17 also shows that the occupation with the highest percentage who worked more than 50 hours per week was physicians and surgeons. Veterinarians and politicians held

second and third place, followed by lawyers, pharmacists, and optometrists. This ordering can be compared to the rankings noted for urbanization (Table 9) and self-employment (Table 12). With the exception of politicians, this ordering resembles the one noted in Table 12: the hardest-working occupations are also the ones who contain the largest proportions of self-employed workers; the association between hard work and living in large cities is less marked. Comparisons like this that cover two or more variables are unwieldy and should rely on more concise statistical instruments, especially in tables as large as Table 17. In the absence of more concise statistical treatment, the data permit a tentative inference that hard work is tied more strongly to self-employment than to urbanization.

Education

The 1971 Census included three separate measures of education: years of non-university post-secondary schooling (trade or business schools, community colleges, CEJEPS, etc.); years of post-secondary university schooling, and highest university degree attained. Percentage distributions for these data are given in Tables 18 to 20 for the sample drawn from the population of full-time professionals.

Professional occupations are synonymous with high educational attainment, especially when it is obtained from universities and other institutions of higher learning. As the model for all professions, it can be taken for granted, as Table 18 shows, that all members of the medical and dental

TABLE 18

OCCUPATION BY YEARS OF UNIVERSITY TRAINING, SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Number of years of university training

Occupation	N	%	None	1	2	3	4	5	6 or more
All selected occupations	169,665	100.0	36.2	3.1	3.4	4.6	14.7	12.0	26.0
Politicians	935	100.0	48.1	4.3	4.3	5.3	11.2	6.4	20.4
Lawyers	13,450	100.0	3.6	.3	.7	7.5	14.7	9.0	64.2
Physician & surgeons	24,795	100.0	0.0	0.0	.6	.5	3.1	9.0	86.8
Dentists	4820	100.0	0.0	0.0	.8	.3	11.2	36.2	51.5
Optometrists	1285	100.0	7.8	1.2	6.6	22.6	26.8	17.1	17.9
Veterinarians	1400	100.0	0.0	0.0	0.0	.4	23.9	46.1	29.6
Pharmacists	7475	100.0	9.5	2.1	11.2	13.4	42.8	11.6	9.4
Architectural technologists	20,360	100.0	80.9	6.2	5.0	3.5	2.6	1.0	.8
Engineers	63,235	100.0	37.1	3.0	3.0	4.5	23.6	17.2	11.6
Architects	3325	100.0	10.7	1.2	.9	2.6	11.0	35.2	38.4
Surveyors	6580	100.0	77.6	7.1	5.8	2.3	3.6	2.4	1.2
Dispensing opticians	1180	100.0	85.2	3.8	3.8	3.8	1.7	.8	.9
Osteopaths & chiropractors	775	100.0	27.1	4.5	1.9	4.5	39.4	9.7	12.9
Physiotherapists	3595	100.0	39.8	4.0	7.8	27.4	12.1	5.3	3.6
Dental hygienists	6785	100.0	87.7	4.3	4.3	1.5	1.0	.7	.5
Radiological technologists	4930	100.0	82.2	8.4	5.3	2.2	.8	.3	.8
Librarians & archivists	4535	100.0	35.5	5.7	4.3	6.2	18.0	15.3	15.0
Sociologists & anthropologists	205	100.0	19.5	0.0	0.0	7.3	9.8	9.8	53.6

TABLE 19

OCCUPATION BY UNIVERSITY DEGREE,
SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970 (Percentage Distribution)

Occupation	N	%	University degree: None	Diploma below Bachelor	Bachelor	First professional degree	Master's or doctorate
All selected occupations	169,665	100.0	41.8	4.9	12.2	28.1	13.0
Politicians	935	100.0	55.1	4.3	13.4	16.0	11.2
Lawyers	13,450	100.0	4.4	1.1	10.4	70.3	13.8
Physicians and surgeons	24,795	100.0	.5	1.2	2.8	50.1	45.4
Dentists	4820	100.0	.6	.8	.9	75.6	22.1
Optometrists	1285	100.0	11.2	13.2	1.9	58.0	15.7
Veterinarians	1400	100.0	1.1	1.8	2.5	77.1	17.5
Pharmacists	7475	100.0	13.4	14.4	29.9	35.8	6.5
Architectural technologists	20,360	100.0	92.5	4.0	1.9	1.0	.6
Engineers	63,235	100.0	43.5	4.6	21.7	21.8	8.4
Architects	3325	100.0	14.0	3.8	20.9	52.0	9.3
Surveyors	6580	100.0	89.9	3.7	2.7	3.2	.5
Dispensing opticians	1180	100.0	92.8	3.8	1.3	2.1	0.0
Osteopaths and chiropractors	775	100.0	32.9	5.8	3.2	43.2	14.9
Physiotherapists	3595	100.0	44.4	37.6	8.2	6.5	3.3
Dental hygienists hygienists	6785	100.0	92.8	5.5	.4	.7	.6
Radiological technologists	4930	100.0	92.6	5.2	.7	1.0	.5
Librarians	4535	100.0	42.7	6.7	14.3	20.5	15.8
Sociologists & anthropologists	205	100.0	24.4	0.0	22.0	0.0	53.6

TABLE 20

OCCUPATION BY NON-UNIVERSITY POST-SECONDARY SCHOOLING, IN SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970 (Percentage Distribution)

Occupation	N	%	Non-university post-secondary schooling: None	1 year	2 years	3+ years
All selected occupations	169,665	100.0	74.5	6.0	6.8	12.7
Politicians	935	100.0	85.0	8.0	3.7	3.3
Lawyers	13,450	100.0	85.5	3.5	1.1	9.9
Physicians and surgeons	24,795	100.0	92.2	1.6	.8	5.4
Dentists	4820	100.0	94.5	2.8	.8	1.9
Optometrists	1285	100.0	87.9	4.3	3.1	4.7
Veterinarians	1400	100.0	95.0	2.5	.7	1.8
Pharmacists	7475	100.0	88.5	4.6	3.2	3.7
Architectural technologists	20,360	100.0	48.4	10.2	16.0	25.4
Engineers	63,235	100.0	73.8	5.6	5.2	15.4
Architects	3325	100.0	85.0	2.6	3.0	9.4
Surveyors	6580	100.0	72.5	8.9	9.5	9.1
Dispensing opticians	1180	100.0	71.6	7.6	11.4	9.4
Osteopaths and chiropractors	775	100.0	63.3	3.2	1.9	31.6
Physiotherapists	3595	100.0	69.8	9.0	5.0	16.2
Dental hygienists	6785	100.0	72.3	12.5	6.1	9.1
Radiological technologists	4930	100.0	28.3	9.3	47.8	14.6
Librarians	4535	100.0	69.3	14.6	8.7	7.4
Sociologists and anthropologists	205	100.0	82.9	7.3	0.0	9.8

professions will have attended university. The handful of them without a university degree (less than 1 per cent, shown by Table 19) can be blamed on error. The small percentages of lawyers who had neither university training nor university degrees are remnants of the years when lawyers were trained with apprenticeships; the same explanation may be true for the 1.1 per cent of the veterinarians who had no university degree.

The educational backgrounds of the 18 occupations fall into two patterns. Table 21 shows these patterns by consolidating the information in Tables 18 to 20. The first and second columns list the ten occupations with the highest percentages of non-university and university post-secondary training, respectively; the third column shows the ten occupations with the highest percentages of at least one university degree. The two patterns are evident in the different occupations that compose the non-university group in comparison to the university group. Only four occupations in the non-university group (osteopaths, librarians, surveyors, and sociologists) also appear in the university groups. The other six non-university occupations, with relatively few of their numbers having university schooling or university degrees, are largely recruited either through vocational schools or through informal on-the-job training. To varying degrees, they lack a statutory delegation of the powers of professional self-government. As a result, unlike most of the occupations in the university group, they lack both statutory protection over an exclusive clientele and complete authority in setting their own entrance requirements, and in some cases they are under the authority of older professions.

TABLE 21

OCCUPATIONS IN TEN HIGHEST RANKS OF THE SAMPLE FOR SCHOOLING (UNIVERSITY AND NON-UNIVERSITY) AND UNIVERSITY DEGREES

	Percentage with . . .					
	Some non-university post-secondary schooling		Some university schooling		At least one university degree	
1.	Radiological technologists	71.1	Physicians	100.0	Physicians	100.0
2.	Architectural technologists	51.6	Dentists	100.0	Dentists	99.4
3.	Osteopaths	36.7	Veterinarians	100.0	Veterinarians	98.9
4.	Librarians	30.7	Lawyers	100.0	Lawyers	95.6
5.	Physiotherapists	30.2	Surveyors	92.4	Pharmacists	86.6
6.	Dispensing opticians	28.4	Optometrists	92.2	Optometrists	88.8
7.	Dental hygienists	27.7	Pharmacists	90.5	Architects	86.0
8.	Surveyors	27.5	Architects	89.3	Sociologists	75.6
9.	Engineers	26.2	Sociologists	80.5	Osteopaths	67.1
10.	Sociologists	17.1	Osteopaths	72.9	Librarians	57.3

Language

The 1971 Census recorded language in two ways. In Table 22, language refers to the language spoken most frequently in the home and therefore represents the result of a choice that some respondents were forced to make between their own mother tongue and one of the two official languages of Canada. Table 23 refers to official language, defined for census purposes as the ability to carry on a conversation of some length in either English or French.

Over three-quarters of the sample spoke English at home, one out of six spoke French, and only a few spoke other languages. Except for sociologists, who included fewer English-speaking and more French-speaking persons than the sample as a whole, there were no departures from this pattern. None of the occupations in this study has been associated with an incentive for its members to isolate themselves in their private lives from the domination of English or French and in some cases (e.g., optometrists, osteopaths, sociologists) there is almost no representation of other languages at all.

In view of the fact that most French-speakers live in Quebec, it is necessary to examine the data for official languages separately for Quebec and the other provinces in Canada. A comparison of Tables 23 and 24 shows that the proportion of bilingual workers was almost six times larger in the Quebec

TABLE II-1

OCCUPATION BY LANGUAGE OF THE HOME,
IN SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970 (Percentage Distribution)

Occupation	Total N	%	Home language: English	French	German	Chinese	Magyar	Ukrainian	Other
All selected occupations	169,665	100.0	77.8	16.2	1.0	1.0	1.0	.4	2.6
Politicians	935	100.0	81.3	15.5	0.0	0.0	0.0	0.0	3.2
Lawyers	13,450	100.0	79.2	19.3	.1	0.0	.1	.4	.9
Physicians and surgeons	24,795	100.0	71.6	21.2	.7	1.1	.6	.5	4.3
Dentists	4820	100.0	79.6	17.1	.3	.1	.1	.7	2.1
Optometrists	1285	100.0	71.6	27.6	0.0	0.0	0.0	.8	.0
Veterinarians	1400	100.0	78.7	15.4	1.4	0.0	.7	1.0	2.8
Pharmacists	7475	100.0	74.4	21.6	.2	.9	.2	.9	1.8
Architectural technologists	20,360	100.0	76.7	17.5	1.5	.4	.4	.5	3.0
Engineers	63,235	100.0	81.0	11.3	1.2	.8	.7	.4	4.6
Architects	3325	100.0	70.8	19.4	1.6	1.0	.6	.6	6.0
Surveyors	6580	100.0	77.4	19.5	.5	.1	.2	.2	2.1
Dispensing opticians	1180	100.0	76.7	18.2	3.0	0.0	0.0	.4	1.7
Osteopaths and chiropractors	775	100.0	77.4	21.9	0.0	0.0	0.0	0.0	.7
Physiotherapists & occupational therapists	3595	100.0	81.9	13.8	.7	.3	1.1	.1	2.1

TABLE 22-2

Home language

Occupation	Total N	%	English	French	German	Chinese	Magyar	Ukrainian	Other
Dental hygienists	6785	100.0	80.8	12.2	1.5	.4	1.0	.4	3.7
Radiological technologists	4930	100.0	77.0	20.5	.4	.3	.4	.1	1.3
Librarians and archivists	4535	100.0	71.8	23.3	.4	1.3	.6	.3	2.3
Sociologists and anthropologists	205	100.0	56.1	41.5	0.0	0.0	0.0	0.0	2.4

TABLE 23

OCCUPATION BY OFFICIAL LANGUAGE,
IN SAMPLE OF FULL-TIME LABOUR FORCE, QUEBEC, 1970 (Percentage Distribution)

Occupation	N	%	Official language: English only	Official language: French only	Official language: Both English and French
All selected occupations	40,555	100.0	18.2	12.2	69.6
Politicians	120	100.0	4.2	8.4	87.4
Lawyers	3425	100.0	3.5	6.4	90.1
Physicians and surgeons	6950	100.0	9.1	6.8	84.1
Dentists	1040	100.0	6.9	10.5	82.6
Optometrists	385	100.0	2.6	13.0	84.4
Veterinarians	205	100.0	7.3	12.2	80.5
Pharmacists	1910	100.0	5.2	15.2	79.6
Architectural technologists	4885	100.0	18.6	15.6	65.8
Engineers	14,655	100.0	31.5	6.0	62.5
Architects	945	100.0	18.5	9.5	72.0
Surveyors	1325	100.0	4.9	39.2	55.9
Dispensing opticians	235	100.0	10.6	29.8	59.6
Osteopaths and chiropractors	180	100.0	2.8	8.3	88.9
Physiotherapists and occupational therapists	700	100.0	17.8	25.0	57.2
Dental hygienists	1065	100.0	18.8	27.7	53.5
Radiological technologists	1180	100.0	14.4	43.2	42.4
Librarians and archivists	1255	100.0	10.8	35.4	53.8
Sociologists and anthropologists	95	100.0	5.3	5.3	89.4

[1]No individuals in category "Neither English nor French".

portion of the sample than it was in the other provinces. One out of eight workers in Quebec could speak only French but in other provinces they were nonexistent. The five occupations in Quebec with the largest percentages of bilingual members were politicians, sociologists, and librarians, followed by doctors and lawyers.

Table 25 ranks the occupations according to the sizes of their bilingual memberships, in Quebec and the other provinces in Canada, respectively. In the absence of a strong demand in English-speaking provinces for services in French it is necessary to account for the fact that occupations outside of Quebec contained over 10 per cent of their numbers who were bilingual. No doubt the entry of bilingual French Canadians accounts for a large part of this occurrence. It must also be noted, however, that almost one-fifth (18.8 per cent) of the five occupations in the English-speaking provinces in the sample with the highest percentages of bilingual members (politicians, sociologists and anthropologists, librarians, doctors, and lawyers) were also occupations that are concerned with broad social issues that transcend activities in their own localities. Bilingualism may be inherent in occupations that require a cosmopolitan awareness of social and technological changes as part of their successful performance.

TABLE 24

OCCUPATION BY OFFICIAL LANGUAGE[1] IN SAMPLE OF FULL-TIME LABOUR FORCE, PROVINCES OTHER THAN QUEBEC, 1970
(percentage distribution)

Occupation	Official language N	%	English only	Both English and French
All selected occupations	129,110	99.9	88.1	11.8
Politicians	815	100.0	76.1	23.9
Lawyers	10,025	99.9	82.2	17.7
Physicians and surgeons	17,845	100.0	81.0	19.0
Dentists	3780	100.0	88.6	11.4
Optometrists	900	100.0	87.2	12.8
Veterinarians	1195	100.0	90.4	9.6
Pharmacists	5570	100.0	92.6	7.4
Architectural technologists	15,475	99.9	91.9	8.0
Engineers	48,580	99.9	89.8	10.1
Architects	2385	100.0	83.8	16.2
Surveyors	5255	99.8	91.0	8.8
Dispensing opticians	950	100.0	91.6	8.4
Osteopaths	595	100.0	95.0	5.0
Physiotherapists and occupational therapists	2895	100.0	89.3	10.7
Dental hygienists	5705	99.7	93.8	5.9
Radiological technologists	3750	100.0	89.1	10.9
Librarians	3285	100.0	79.9	20.1
Sociologists and anthropologists	105	100.0	76.2	23.8

[1] Excludes 40 individuals who spoke neither English nor French, and 35 individuals who spoke French only.

TABLE 25

OCCUPATIONS RANKED BY PERCENTAGE OF BILINGUAL MEMBERSHIP, IN SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

	Quebec	%	Outside Quebec	%
1.	Lawyers	90.1	Politicians	23.9
2.	Sociologists & anthropologists	89.4	Sociologists & anthropologists	23.8
3.	Osteopaths	88.9	Librarians	20.1
4.	Politicians	87.4	Physicians & surgeons	19.0
5.	Optometrists	84.4	Lawyers	17.7
6.	Physicians & surgeons	84.1	Architects	16.2
7.	Dentists	82.6	Optometrists	12.8
8.	Veterinarians	80.5	Dentists	11.4
9.	Pharmacists	79.9	Radiological technologists	10.9
10.	Architects	72.0	Physiotherapists	10.7
11.	Architectural technologists	69.8	Engineers	10.1
12.	Engineers	62.5	Veterinarians	9.6
13.	Dispensing opticians	59.6	Surveyors	8.8
14.	Physiotherapists	57.2	Dispensing opticians	8.4
15.	Surveyors	55.9	Architectural technologists	8.0
16.	Librarians	53.8	Pharmacists	7.4
17.	Dental hygienists	53.5	Dental hygienists	5.9
18.	Radiological technicians	42.4	Osteopaths	5.0

CHAPTER III

THE REWARDS OF LABOUR

Financial income has sociological importance because it gives an assurance of physical survival, and because it commonly and frequently becomes a measure of moral worth. High income is a promise of comfort, privacy, and health. It also reflects the prestige of the activities that earn income. A strong connection exists, in the abstract, between psychological and material rewards and it is often difficult to detect which of them is more important in affecting the distribution of political power in society. In addition, high incomes are often assumed to be accurate measures of the value attached to highly trained or risky entrepreneurial skills. Because of the connection between income and other social characteristics of occupations, it is not possible to be precise about the causal relationship between income and another occupational characteristic without holding the remaining characteristics constant. Table 26 gives an illustration of the methodological difficulties we face in understanding how multiple relationships operate.

Sex, occupation, urban size, and class of worker

The large size of Table 26 results from controlling income along four separate dimensions: sex, occupation, class of

TABLE 26-1

AVERAGE EMPLOYMENT INCOME (TO NEAREST HUNDRED DOLLARS) OF OCCUPATIONS BY CLASS OF WORKER, BY SIZE OF URBAN RESIDENCE AND BY SEX, IN SAMPLE OF FULL-TIME LABOUR FORCE, CANADA, 1970

Key to abbreviations

SWC Salary wages and commissions
SELFNO Self-employed no paid help
SELFWITH Self-employed with paid help

Occupation and class of worker		Urban size (in thousands)							
		Total	Rural	1-4	5-9	10-29	30-99	100-499	500+
All selected occupations	Total	14,500	12,200	14,200	14,600	14,200	14,900	14,800	14,700
	Male	15,500	13,000	15,000	15,300	15,000	16,000	16,000	15,700
	Female	7,000	6,000	5,700	6,200	6,600	6,800	6,500	7,700
SWC	Total	11,100	9,400	10,500	11,000	10,800	11,100	10,900	11,600
	Male	11,900	10,000	11,100	11,600	11,600	12,000	11,900	12,300
	Female	6,500	5,800	5,600	6,000	5,800	6,200	6,000	7,000
SELFNO	Total	20,700	16,400	19,300	18,800	19,800	24,000	22,900	20,500
	Male	21,100	16,700	19,800	19,100	20,200	24,600	23,300	20,900
	Female	12,700	10,300	2,600	5,300	9,000	12,800	14,300	14,000
SELFWITH	Total	27,400	23,600	24,000	25,700	25,600	28,400	29,500	27,800
	Male	27,600	24,000	24,300	26,000	25,700	28,700	29,800	28,000
	Female	18,500	9,300	11,500	9,100	24,100	18,400	18,400	19,700
Politicians	Total	14,900	8,900	12,400	15,600	13,300	15,400	19,900	18,400
	Male	15,300	9,100	12,400	15,600	13,600	16,400	20,400	19,000
	Female	7,000	4,800	-	-	-	4,900	8,700	9,300
SWC	Total	14,900	8,900	12,400	15,600	13,300	15,400	19,900	18,400
	Male	15,300	9,100	12,400	15,600	13,600	16,400	20,400	19,000
	Female	7,000	4,800	-	-	-	4,900	8,700	9,300

TABLE 26-2

		Total	Rural	1-4	5-9	10-29	30-99	100-499	500+
Lawyers	Total	21,700	17,500	18,900	19,400	19,700	22,000	22,000	22,500
	Male	22,000	18,100	19,100	19,500	20,000	22,100	22,400	23,000
	Female	10,700	7,400	6,100	12,900	11,800	7,400	10,500	11,200
SWC	Total	15,300	11,800	12,600	12,600	15,800	15,200	14,000	16,000
	Male	15,700	12,400	12,900	12,500	16,500	15,400	14,300	16,500
	Female	10,300	8,400	6,900	-	6,300	6,300	10,500	10,800
SELFNO	Total	15,400	10,900	14,000	11,100	12,000	20,700	17,000	15,500
	Male	16,000	12,400	14,800	11,100	11,700	21,000	17,600	15,900
	Female	7,500	5,000	5,300	-	14,500	-	5,700	7,900
SELFWITH	Total	26,000	20,400	21,900	22,200	21,900	25,400	27,100	28,000
	Male	27,300	20,500	21,900	22,400	22,000	25,400	27,300	28,000
	Female	14,300	-	-	-	19,600	-	11,900	14,300
Physicians and surgeons	Total	28,000	29,900	29,100	31,200	31,800	31,500	28,800	25,900
	Male	29,000	28,600	29,400	31,300	32,400	32,400	29,800	27,100
	Female	14,900	14,300	15,800	19,600	21,100	18,000	13,500	14,400
SWC	Total	19,000	20,200	22,600	25,500	27,100	25,100	17,700	17,100
	Male	20,000	21,100	22,900	25,600	28,200	26,300	18,600	18,100
	Female	11,400	13,800	17,400	27,700	15,500	14,300	9,500	10,900
SELFNO	Total	30,200	24,300	26,800	31,400	32,000	31,500	31,600	30,300
	Male	30,700	24,400	26,800	31,400	32,100	32,100	32,100	31,200
	Female	18,600	20,400	-	-	-	20,000	20,800	18,600
SELFWITH	Total	35,200	32,000	32,200	33,600	34,200	35,800	38,200	35,000
	Male	35,700	32,400	32,500	33,700	34,400	36,300	38,600	35,700
	Female	23,100	12,400	13,700	-	28,100	24,000	23,600	23,700

TABLE 26-3

		Total	Rural	1-4	5-9	10-29	30-99	100-499	500+
Dentists	Total	24,000	23,200	21,400	20,200	21,600	23,500	25,600	24,800
	Male	24,300	23,300	21,400	20,200	21,600	23,600	25,900	25,300
	Female	15,400	13,900	-	-	-	-	16,700	15,500
SWC	Total	18,700	17,500	18,600	19,900	16,400	18,000	19,500	18,900
	Male	19,200	18,400	18,600	19,900	16,400	18,000	19,900	19,800
	Female	12,200	-	-	-	-	-	9,700	12,900
SELFNO	Total	16,700	17,400	18,000	12,700	16,000	12,500	23,000	16,700
	Male	17,400	18,000	12,700	16,000	13,100	23,000	16,600	17,100
	Female	16,600	-	-	-	-	-	-	18,200
SELFWITH	Total	26,000	24,800	22,900	21,900	23,700	25,400	27,000	27,100
	Male	26,100	24,800	22,900	21,900	23,700	25,400	27,300	24,400
	Female	17,700	-	-	-	-	-	19,000	16,900
Optometrists	Total	17,700	19,300	19,100	14,300	19,600	20,800	20,000	14,800
	Male	18,100	19,300	20,000	14,800	19,800	20,800	20,400	15,300
	Female	8,500	-	4,300	-	-	-	15,000	6,800
SWC	Total	14,300	-	11,000	9,900	13,300	14,300	13,800	15,000
	Male	16,100	-	17,700	12,000	13,300	14,300	14,600	17,100
	Female	6,600	-	4,400	-	-	-	11,200	4,900
SELFNO[1]	Total	13,900	7,200	16,400	17,600	15,200	18,500	17,500	10,700
SELFWITH	Total	17,000	21,600	21,000	14,400	21,200	22,800	23,000	17,000
	Male	17,100	21,600	21,000	14,400	21,500	22,800	23,000	17,100
	Female	12,800	-	-	-	-	-	-	12,800
Veterinarians	Total	16,600	14,200	15,900	16,300	14,400	21,200	16,500	17,800
	Male	16,600	14,200	15,900	10,300	14,200	21,400	16,800	17,900
	Female	13,800	-	-	-	18,500	-	11,700	13,100
SWC	Total	14,600	14,000	13,800	15,400	13,400	15,900	14,200	15,200
	Male	15,300	14,000	13,800	14,400	13,300	15,900	14,500	15,300
	Female	11,900	-	-	-	-	-	8,700	13,100

(Veterinarians cont.)

TABLE 26-4

		Total	Rural	1-4	5-9	10-29	30-99	100-499	500+
SELFNO[1]	Total	15,100	13,200	18,900	13,200	15,500	8,300	21,300	18,100
SELFWITH	Total	19,400	15,000	15,100	21,100	15,700	29,800	19,400	21,600
	Male	19,500	15,000	15,100	21,100	15,200	30,700	19,500	21,600
	Female	16,000	-	-	-	19,700	-	-	16,000
Pharmacists	Total	12,300	10,800	12,200	13,700	13,600	13,100	11,800	12,100
	Male	13,100	11,800	12,800	14,900	14,300	14,000	12,900	12,800
	Female	8,000	6,500	6,500	6,700	7,900	7,700	8,000	8,600
SWC	Total	10,600	9,000	10,200	11,800	10,800	10,600	10,200	10,800
	Male	11,300	10,100	10,700	12,800	11,600	11,200	11,200	11,400
	Female	8,100	6,400	7,300	7,800	7,000	8,000	8,000	8,800
SELFNO	Total	11,200	8,800	12,000	6,000	15,500	13,800	7,800	11,300
	Male	13,100	9,200	14,600	8,900	18,600	18,400	11,700	12,300
	Female	3,000	6,500	300	-	2,700	2,300	2,100	4,400
SELFWITH	Total	15,200	12,800	14,100	16,800	17,500	18,000	15,600	14,600
	Male	15,400	13,400	14,200	17,500	17,300	18,500	15,900	14,800
	Female	9,200	6,600	6,400	2,700	-	8,600	11,200	9,000
Architectural and engineering technologists	Total	9,000	8,600	9,200	9,000	9,100	8,800	8,900	9,100
	Male	9,100	8,600	9,200	9,000	9,100	8,800	9,000	9,000
	Female	5,900	5,600	6,000	8,000	5,900	6,400	4,900	6,100
SWC	Total	9,000	8,600	9,200	9,000	9,000	8,800	8,900	9,100
	Male	9,100	8,700	9,200	9,000	9,100	8,800	9,000	9,200
	Female	5,900	5,600	6,000	8,000	5,900	6,400	4,900	6,100
SELFNO[1]	Total	8,300	7,400	8,300	-	8,900	10,100	7,800	8,500
SELFWITH[1]	Total	10,000	5,500	-	8,600	12,900	7,000	12,100	10,500

TABLE 26-5

		Total	Rural	1-4	5-9	10-29	30-99	100-499	500+
Engineers	Total	12,000	10,600	11,400	11,900	11,300	11,600	12,100	12,500
	Male	12,100	10,700	11,400	11,900	11,300	11,700	12,200	12,600
	Female	7,700	5,900	6,500	7,100	6,300	6,700	6,300	8,600
SWC[1]	Total	11,900	10,600	11,400	11,600	11,200	11,600	11,900	12,300
SELFNO[1]	Total	11,600	8,100	3,900	14,600	8,200	9,800	11,100	12,800
SELFWITH[1]	Total	19,100	12,200	13,800	19,100	14,100	17,600	20,700	21,000
Architects	Total	15,800	16,300	14,000	15,000	16,100	20,300	15,100	15,700
	Male	15,900	16,300	14,000	15,000	16,100	20,300	15,200	15,800
	Female	9,700	-	-	-	-	-	10,400	9,600
SWC	Total	13,500	12,500	12,100	11,900	15,000	15,600	13,700	13,500
	Male	13,600	12,500	12,100	11,900	15,000	15,600	13,700	13,500
	Female	9,400	-	-	-	- -	-	-	9,600
SELFNO[1]	Total	12,500	12,600	11,800	5,200	11,300	11,800	12,100	13,000
SELFWITH	Total	20,300	20,300	19,800	22,200	18,700	25,500	17,200	20,900
	Male	20,300	20,300	19,800	22,200	18,700	25,500	17,300	20,900
	Female	11,500	-	-	-	-	-	11,800	-
Surveyors	Total	7,900	6,700	7,500	7,500	7,900	7,800	8,500	8,900
	Male	8,000	6,800	7,500	7,500	7,900	7,800	8,600	8,900
	Female	5,300	4,500	6,800	-	-	-	-	5,600
SWC	Total	7,600	6,600	7,400	7,000	7,600	7,500	7,900	8,500
	Male	7,600	6,600	7,400	7,000	7,600	7,600	7,900	8,500
	Female	5,300	4,500	6,800	-	-	-	-	5,700
SELFNO[1]	Total	13,000	10,100	-	-	6,800	-	16,000	13,700
SELFWITH[1]	Total	14,300	12,100	9,400	15,200	12,900	12,800	18,800	14,900

TABLE 26-6

		Total	Rural	1-4	5-9	10-29	30-99	100-499	500+
Dispensing opticians	Total	7,800	6,100	5,100	5,100	7,500	7,700	8,000	8,200
	Male	8,300	7,000	6,700	5,500	7,700	8,000	8,200	8,800
	Female	5,000	4,600	3,300	-	-	5,400	6,100	4,900
SWC	Total	7,200	6,000	5,100	5,800	7,300	6,800	7,800	7,300
	Male	7,700	7,100	6,700	6,200	7,500	7,000	8,000	7,800
	Female	5,100	4,600	3,300	-	-	5,400	6,100	5,200
SELFNO	Total	8,400	-	-	1,800	-	15,700	7,200	8,600
	Male	8,900	-	-	2,000	-	15,700	7,200	9,400
	Female	1,900	-	-	-	-	-	-	2,100
SELFWITH[1]	Total	13.600	10,800	-	-	10,000	12,300	13,500	14,600
Osteopaths and chiropractors	Total	18,000	23,000	19,000	16,700	17,700	18,900	19,300	15,400
	Male	18,500	23,000	19,000	17,900	18,300	20,100	19,800	15,600
	Female	8,200	-	-	7,900	5,900	3,600	12,300	8,000
SWC	Total	15,200	24,400	13,600	-	15,200	11,800	19,100	12,000
	Male	16,700	24,400	13,600	-	15,200	16,000	21,400	13,200
	Female	4,200	-	-	-	-	-	4,400	5,400
SELFNO[1]	Total	14,400	24,500	16,800	8,500	12,100	16,500	17,600	11,700
SELFWITH[1]	Total	21,700	22,300	23,800	27,500	20,800	23,200	20,500	20,100
Physiotherapists and occupational therapists	Total	7,200	7,600	6,100	6,900	7,500	6,700	6,800	7,400
	Male	8,600	10,800	7,000	6,000	9,800	7,900	7,900	8,300
	Female	6,800	5,700	5,800	7,100	6,500	6,300	6,600	7,200
SWC	Total	6,800	6,200	5,800	6,900	6,900	6,700	6,700	7,100
	Male	7,600	7,400	6,100	7,200	9,000	8,100	7,700	7,200
	Female	6,600	5,700	5,800	6,800	6,100	6,300	6,500	7,100

TABLE 26-7

Physiotherapists cont'd		Total	Rural	1-4	5-9	10-29	30-99	100-499	500+
SELFNO	Total	11,500	20,000	11,500	-	13,200	-	7,100	9,700
	Male	12,600	20,000	11,500	-	15,900	-	5,300	10,900
	Female	7,300	-	-	-	-	-	9,300	6,000
SELFWITH	Total	15,900	20,300	-	-	-	8,400	13,600	16,200
	Male	16,700	20,300	-	-	-	-	-	15,000
	Female	14,800	-	-	-	-	8,600	12,000	20,300
Dental hygienists	Total	5,400	5,700	4,200	5,400	5,400	5,500	5,100	5,600
	Male	8,200	10,500	7,800	8,140	9,100	9,100	7,400	7,900
	Female	4,200	4,000	3,600	3,700	3,700	4,100	4,200	4,400
SWC	Total	4,900	4,800	4,000	4,500	4,600	4,800	4,800	5,200
	Male	7,200	8,600	7,100	6,700	7,700	7,600	6,700	7,200
	Female	4,200	4,000	3,600	3,700	3,700	4,100	4,200	4,400
SELFNO[1]	Total	8,900	10,800	5,300	9,500	10,300	12,700	8,900	7,600
	Male								
SELFWITH[1]	Total	11,700	15,700	-	10,300	11,600	11,500	11,100	11,200
Radiological technologists	Total	6,600	6,100	6,200	6,700	6,400	6,200	5,900	6,600
	Male	8,100	7,300	7,700	8,100	8,000	7,700	7,800	8,100
	Female	6,000	5,700	5,500	5,900	5,600	5,600	5,200	6,000
SWC	Total	6,300	6,100	6,200	6,700	6,400	6,200	5,900	6,400
	Male	7,800	7,200	7,700	8,100	8,000	7,700	7,800	7,800
	Female	5,600	5,700	5,500	5,900	5,600	5,600	5,200	6,000
SELFWITH[1]	Total	15,900	-	-	-	-	-	-	18,100
Librarians and archivists	Total	7,700	7,400	6,800	7,300	7,400	7,600	7,400	7,900
	Male	8,800	8,300	9,500	9,800	9,300	9,300	8,400	8,700
	Female	7,300	7,000	5,800	6,700	6,800	7,200	7,100	7,700
SWC	Total	7,700	7,400	6,800	7,300	7,400	7,600	7,500	7,900
	Male	8,800	8,300	9,500	9,800	9,300	9,300	8,500	8,700
	Female	7,300	7,000	5,800	6,700	6,800	7,200	7,100	7,700

TABLE 26-8

		Total	Rural	1-4	5-9	10-29	30-99	100-499	500+
Sociologists and anthropologists	Total	9,800	8,700	8,800	-	9,900	12,100	8,300	10,300
	Male	10,600	9,500	-	-	9,900	12,100	8,200	11,500
	Female	7,200	6,800	-	-	-	-	8,900	7,300
SWC	Total	9,100	6,700	8,800	-	9,900	12,100	8,300	9,600
	Male	9,800	6,600	-	-	9,900	12,100	8,200	10,500
	Female	7,200	6,800	-	-	-	-	8,900	7,300

[1] Class of worker contains no females.

worker, and urban size. Tabulation with four dimensions adds precision to the analysis of the factors that widen or narrow income differences.

Analysis will start with the income differential associated with sex. For the entire sample, females earned 45.2 per cent of male incomes. At the aggregate level, females who were self-employed with paid help came closer to parity with male incomes than the other classes of worker, but in this group they earned only two-thirds of male incomes. As for urban size, the income margin, i.e., the difference between male and female incomes, was smallest (51 per cent) in centres with over 500,000 persons. The smallest sex differences in income at the aggregate level occurred for self-employed females with paid help in centres between 10,000 and 29,999 persons, where they earned only 6.2 per cent less than males.

It is not easy to find common threads passing through the occupations where females came closest to earning incomes as high as incomes earned by males. The most obvious hypothesis, that female incomes will approach parity with male incomes in occupations where females have bargaining strength through large numbers, fails to explain the narrowest occupational income margin, among veterinarians where it was only 16.9 per cent but where females formed only 1.8 per cent of the occupation. The hypothesis is more appropriate with librarians and

physiotherapists, whose income margins were narrow (16.9 and 17.0 per cent, respectively) and among whom over three-quarters of their numbers were female (Table 6). The unusually high incomes of female veterinarians who were self-employed with paid help, in urban centres with populations between 10,000 and 29,999, cannot account for the small income margin for veterinarians, because only ten females belonged in that category.

It is fruitless to pursue hypotheses too far about the income margin between the sexes because most of the income margins between the sexes were so large (in excess of 20 per cent) that no distinctions could be made among the margins meaningfully. It is best to turn instead to an income comparison of the occupations. Explaining income ranks of the occupations is largely beyond the means of this study, principally because monopoly power in the professional markets and opportunity cost of education have not been counted here. For that reason a crude distinction among occupations according to their training, relationship to the medical profession, and length of time they have been autonomous must suffice for the purposes of this study.

The highest paid occupations were also, with the possible exception of osteopaths, the most highly trained. The six occupations earning more than $16,000 were, in order of diminishing income: physicians and surgeons, dentists, lawyers,

osteopaths, optometrists, and veterinarians. Hence, with the exception of lawyers, the most highly paid occupations in this sample were in the medical field. A close relationship with the medical profession did not, however, assure inclusion in the ranks of the most highly paid occupations. Table 26 shows that pharmacists were only at the midpoint of the income distribution of the 18 occupations, while dispensing opticians, physiotherapists, radiological technicians, and dental hygienists, all para-medical professions, were at or near the bottom.

Graphs 1 to 4, derived from Table 26, describe the relationship between urban size and income. A rising curve indicates that a positive correlation would have resulted if it had been calculated with urban size and income both as continuous variables. Income has instead been expressed with $500 intervals and urban size has been reduced to seven ordinal classes of unequal width. Earlier it was shown that the numerical distribution of the professions in this sample was skewed toward large urban centres, but since Graphs 1 to 4 refer to mean incomes, the urban bias in the distribution of their physical locations does not affect the results.

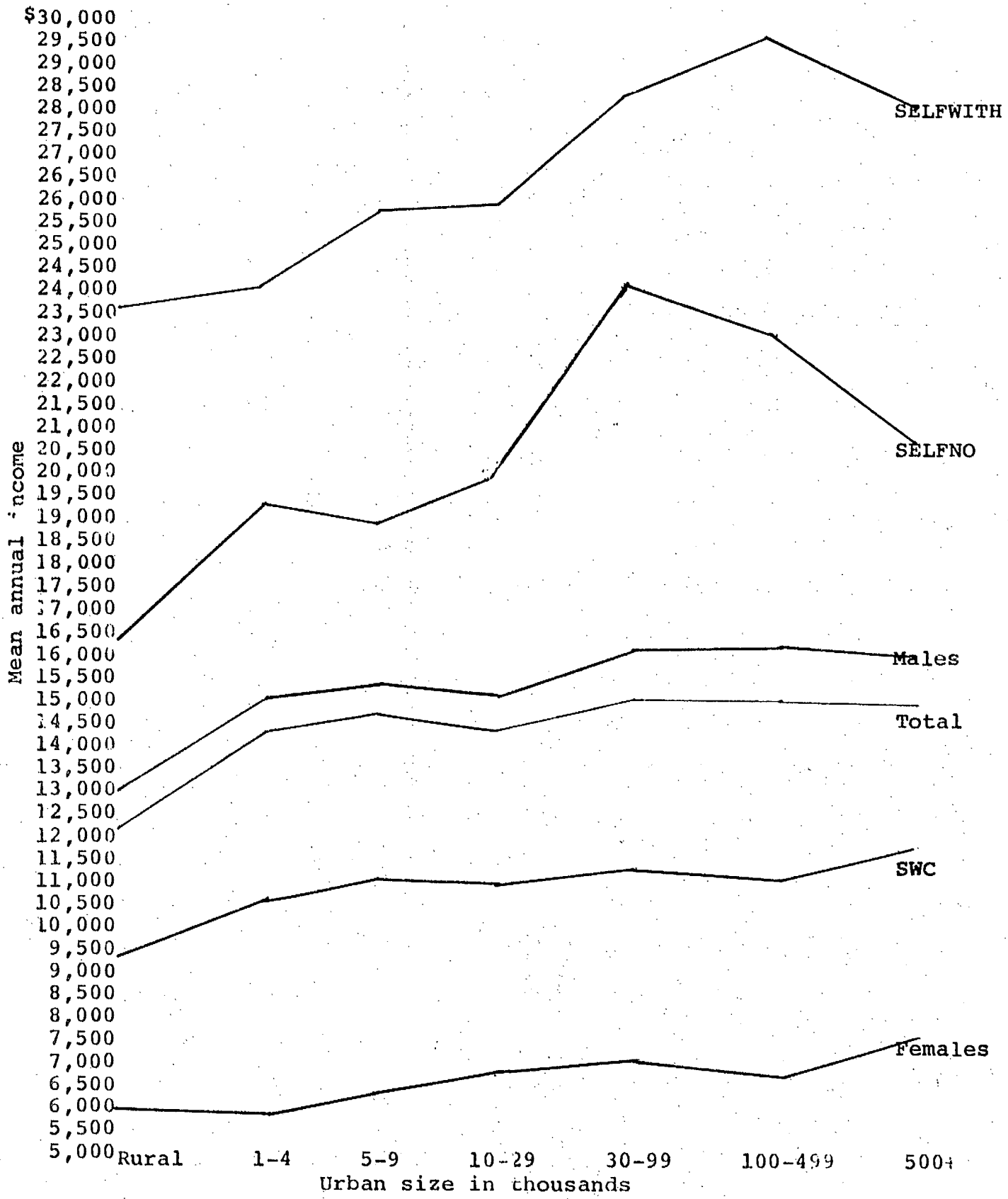
It cannot be assumed that there is a one-way causal relationship between urban size and mean annual income. Persons who work in large urban centres are likely to have higher mean incomes than persons who work in small towns because cities provide more opportunities for workers with specialized skills to bid up the price of their scarce skills. Cities

become the magnets for professional talent, and as they grow in size they become more magnetic and therefore more capable of sustaining high incomes for their workers.

Graph 1 shows that for all occupations there was a dramatic rise in mean income as population increased from zero to 4999. Mean income increments for subsequent urban class sizes were smaller, and although the upward slope of the Total curve suggests a positive correlation between income and urbanization, the relationship was by no means a strong one. The highest mean income occurred not for workers in very large cities (defined in this study as places of 500,000 or more), as one might expect, but for workers in places with populations of 30,000 to 99,999. A positive relationship between income and urbanization was also weakened by a slight dip in the income curve for places with populations of 10,000 to 29,999. Furthermore, the slope of the curve was slightly negative after it reached the urban class size of 30,000 to 99,999 because there were income decrements of $100 for each successive urban class size after that point. The data in this study do not explain why the interaction of demand and supply for professional manpower results in diminishing mean incomes when population size exceeds 100,000 persons. As a result, it is not possible within the scope of this study to explain why urban size seems to have had its most positive effect on income in places with populations of 30,000 to 99,999.

INCOME CURVES FOR SEX AND CLASS OF WORKER BY URBAN SIZE, SAMPLE OF FULL-TIME WORKERS, CANADA, 1970

GRAPH 1



Graph 1 also shows income curves by sex and by class of worker. The space between the Total curve and the male curve was narrower than the space between the total curve and the female curve as a result of the numerical predominance of males in the sample. The shape of the female curve closely resembles the shape of the curve for salaried workers because many more females worked in salaried positions, as shown in Table 12. Throughout their lengths, the income curves for self-employed workers were several thousand dollars higher than the income curves for the salaried workers. More than any other large group of workers in this study, self-employed workers suffered considerable losses in income as population size approached or exceeded approximately 100,000 persons. Although self-employed workers made up only 24.8 per cent of the sample, the diminution of their incomes after approximately the 30,000 urban class size had sufficient weight in the aggregate to depress the curve for the total sample after the 30,000 urban class size

When an income curve drops in relation to urban size after an initial rise the total effect is to reduce the magnitude of the positive correlation. If the drop is steep enough the correlation can become negative. It is important to keep these guides in mind when making visual comparisons of the

income curves in Graph 1. It is also important to remember that Graphs 1 to 4 contain nothing more than lines drawn from midpoint to midpoint of urban class size intervals. Intervening points were interpolated along the straight line until it was corrected at the next midpoint. There may therefore be some inaccuracies in cases where incomes were not homogeneous within any interval.

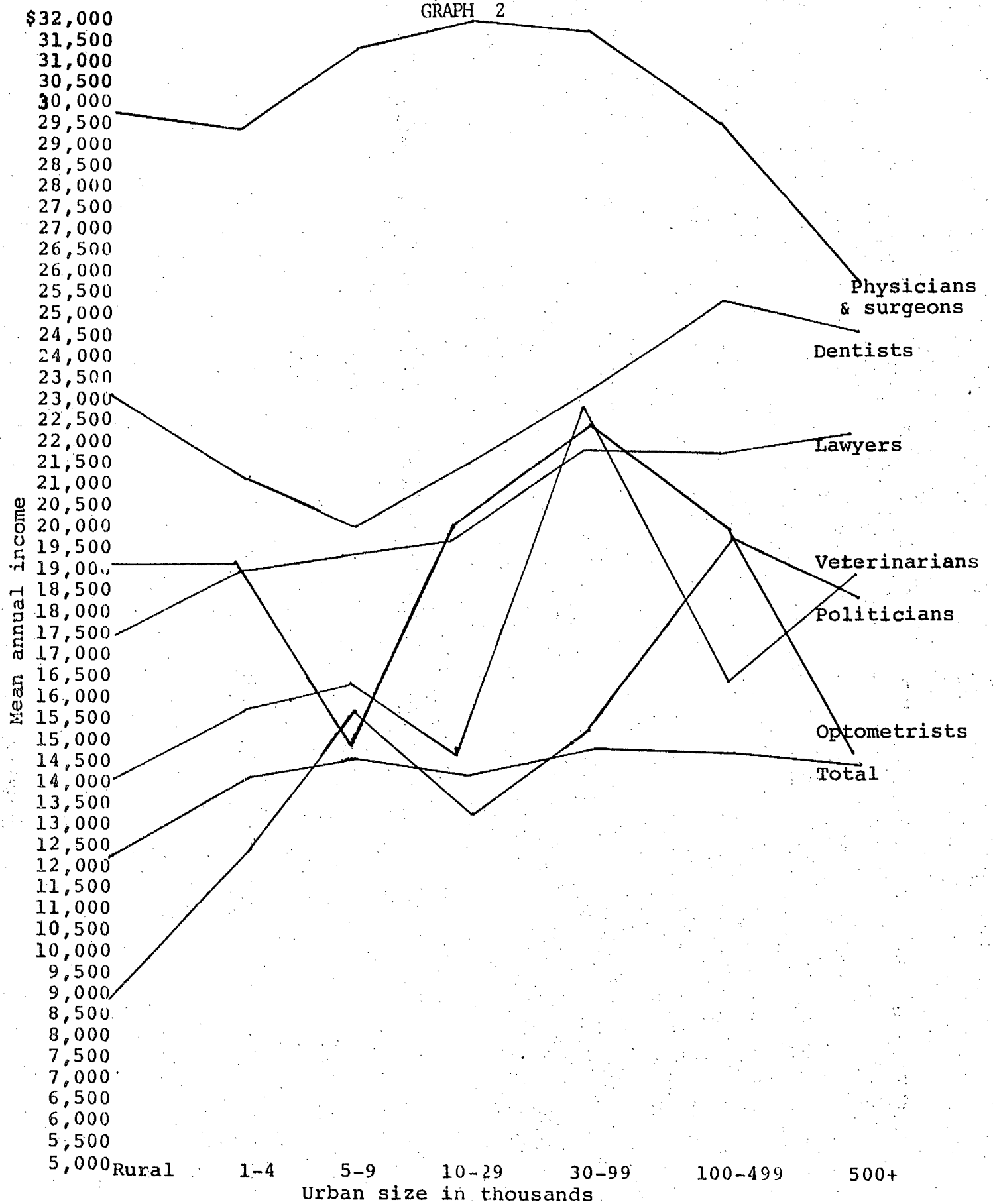
The two curves for self-employed workers rose more steeply than the curve for salaried workers, but they also dropped after about 100,000 persons was reached on the horizontal scale. The effect of this drop on the correlation, if it had been possible to calculate it, would have been to reduce it closer to zero than if there had been an uninterrupted rise in the curves. However, the income curve for the salaried workers rose so gently that its correlation too would have been near zero. In both cases a near-zero correlation would have obscured an important difference between the relationship between urban size and class of worker. For self-employed workers the relationship was roughly curvilinear; for salaried workers it was more nearly linear. In other words, for each increase in urban size there was an increase in income for salaried workers, but for self-employed workers the relationship between income and urban size became negative for places larger than about 100,000 persons.

It has already been shown in Table 13 that more than half of each class of worker, including the self-employed, lived in places with more than 100,000 persons. After the urban class size exceeded the 30,000 to 99,000 interval the number of self-employed professionals without paid help increased by 63.7 per cent, as Table 13 shows. At the same time, the income curve for self-employed professionals without paid help dropped some $3,500. This inconsistency can in part be attributed to the fact that as the numbers of a profession increase, their incomes will drop as a result of competition. For salaried workers however, incomes rose slightly after the urban class size exceeded 500,000 persons, but their numbers, as Table 13 showed, did not diminish over the same interval. The reasons for these conflicting patterns cannot be discovered within the limited data resources of this study. Professionals have not been distributed in towns and cities in a simple relationship with their incomes, but in accordance with variables that are hidden from view.

When several key variables are held constant in simple tabulations, interpretation of the data is difficult without a succinct summarizing measure. In its absence one is forced to rely on impressions formed from visual examination of the data. These provisions must be considered in examining Graphs 2 to 4, where the income curves of the eighteen occupations are shown in relation to urban size. The income curve for all occupations was included in each graph as a bench mark. The occupational rank order of incomes, and hence the space between their respective curves, has already been discussed. Graphs 2 to 4 are useful in showing the relationship between urban size and income.

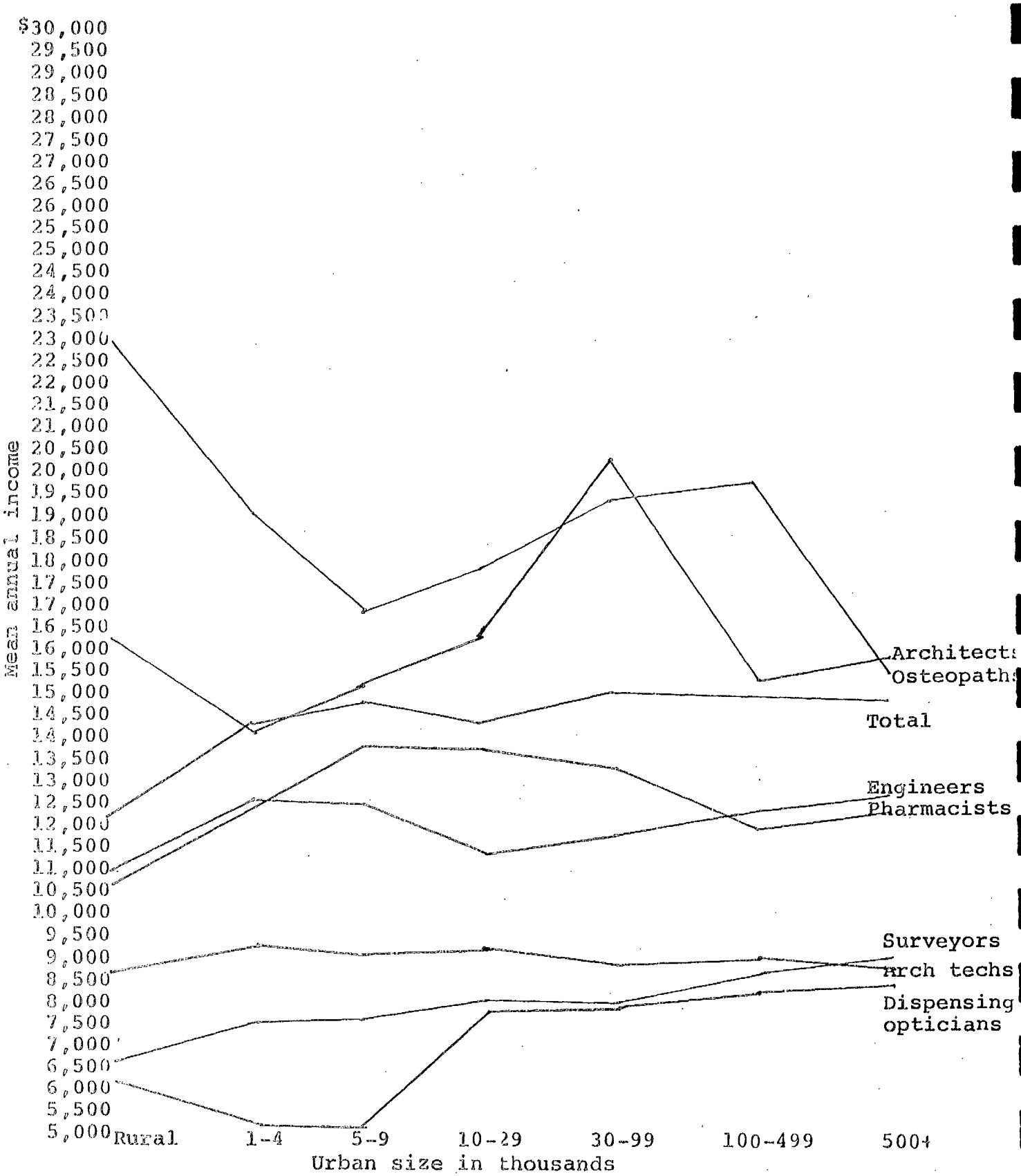
INCOME CURVES FOR SIX FULL-TIME OCCUPATIONS BY URBAN SIZE, CANADA, 1970

GRAPH 2



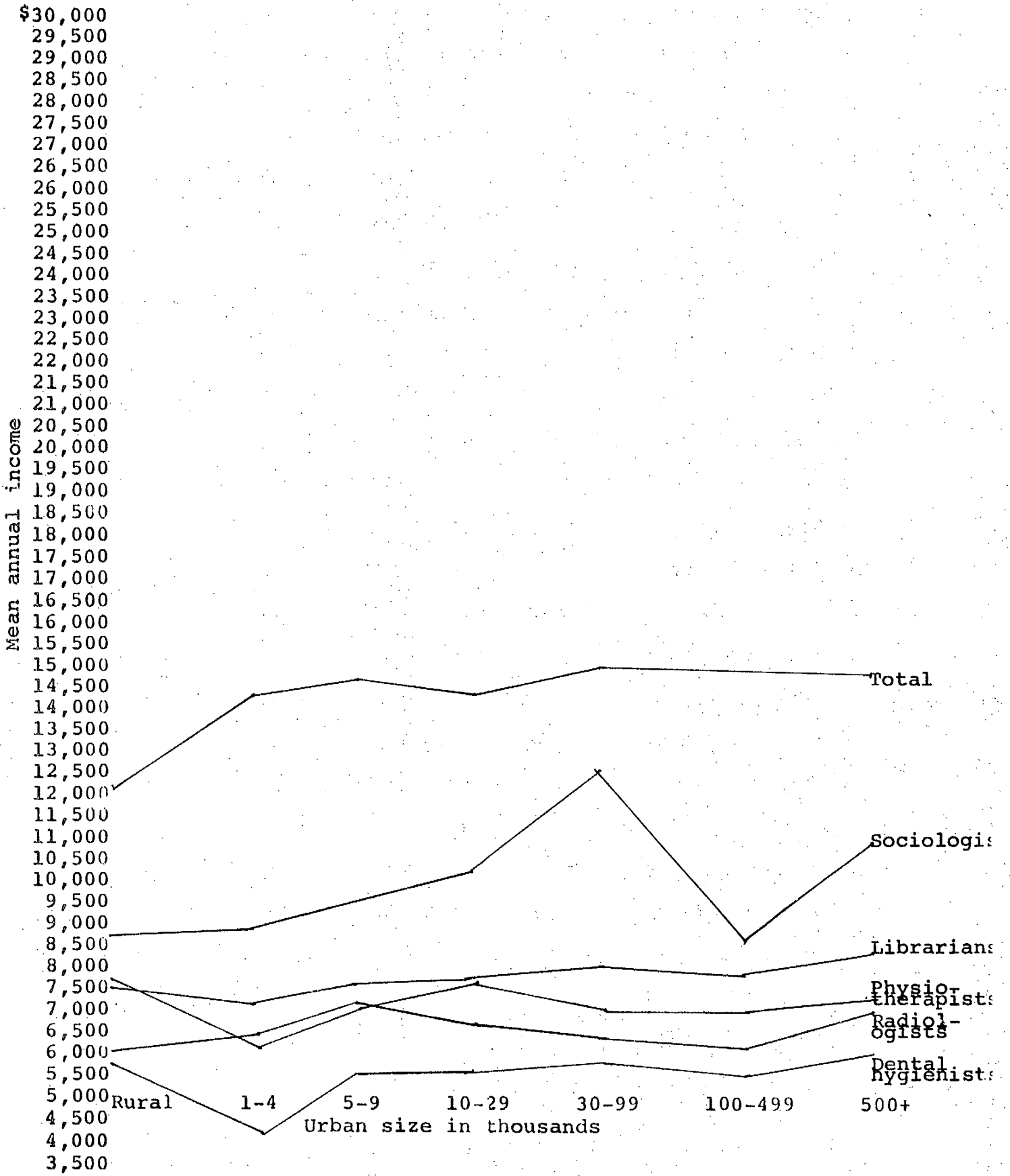
INCOME CURVES FOR SEVEN FULL-TIME OCCUPATIONS BY URBAN SIZE, CANADA, 1970

GRAPH 3



INCOME CURVES FOR FIVE FULL-TIME OCCUPATIONS BY URBAN SIZE, CANADA, 1970

GRAPH 4



As one moves through Graphs 2 to 4, one moves, with a few exceptions, from the well-paid, well-educated occupations with large proportions of self-employed workers among them to low-salary occupations whose members were vocationally trained. Similarly, one moves from occupations whose incomes were in a negative or at best unstable relationship with urban class size to occupations with a slightly positive tilt in their curves.

The income curve for physicians and surgeons, for example, was clearly negative; the curve for optometrists also appears to be negative. The curves for veterinarians and politicians were unstable but slightly positive. In Graphs 3 and 4 the curves have fewer bends in them except for occupations with highly educated memberships. There also appears to be a correspondence between the shape of the curves and the class-of-worker composition in each occupation. Unstable or negative relationships between urban size and income appeared to exist in occupations having a large component of self-employment, like physicians and surgeons, dentists, osteopaths, pharmacists, and optometrists. In contrast to this largely self-employed group whose incomes fluctuated widely in relation to urban size, there was a group of salaried occupations whose income rose gently in relation to urban size--librarians, surveyors, and physiotherapists. The fact that the curves of some occupations

defy this two-fold classification indicates that there were other variables not included in this study which also affected the distribution. Lawyers, for example, had a positively sloped curve despite a large percentage of self-employed members; the curve for sociologists, despite a small percentage of self-employed workers, had an unstable curve that suggested a zero correlation between urban size and income. Analyses with a larger roster of independent variables would be necessary to sort out the patterns hidden in Graphs 1 to 4.

Bilingualism

For brevity this report makes interprovincial comparisons only to examine the effect of residence in Quebec on the financial rewards attributable to bilingualism. Since 91 per cent of the bilingual workers in the sample lived in Quebec, interprovincial comparisons on this topic were somewhat lopsided. However, over 15,000 bilingual persons in this study resided outside Quebec, a figure whose ample size justified an examination of the financial rewards that accrued to bilingualism both within and beyond the borders of Quebec.

An income differential that can be attributed solely to superior linguistic ability invites an inference about the functional and moral values that Canadians habitually attach to it. Unfortunately, the bivariate statistical methods employed by this study do not go very far in making profound inferences about

moral preferences because they permit many important factors to remain undisclosed and uncontrolled. At best, percentage distributions and percentage differences provide suggestions about the techniques that research might use in the future. In this study percentages used in comparing the incomes of bilingual workers in Quebec to bilingual workers elsewhere in Canada will indicate whether or not bilingualism was associated with higher incomes in Quebec than elsewhere in Canada. This study will not show whether bilingualism was the crucial factor in explaining the difference because other factors, especially sex, urbanization, religion, and class of worker were not accounted for.

Table 27 begins the analysis with Quebec. In that table the mean incomes for each occupation were divided into the mean incomes received by the persons in each official language group in each occupation to give a series of income ratios. Each ratio shows how an official language group for any occupation compared to the mean of that occupation. A ratio greater or less than 1.00 indicates an income greater or less than the mean occupational income, respectively. The first row of figures in Table 27 shows that bilingual workers received, on average, an income that was 1.09 times the income received by the entire sample, or 9 per cent greater. The income advantages that are associated with bilingualism in the Quebec portion of

TABLE 27

INCOME RATIOS BY OCCUPATION AND OFFICIAL LANGUAGE, IN SAMPLE OF FULL-TIME LABOUR FORCE, QUEBEC, 1970

Occupation	Mean income	Official language: English only	Official language: French only	Official language: Both English and French
All selected occupations	14,200	.87	.67	1.09
Politicians	19,100	.79	.22	1.06
Lawyers	20,700	1.21	.70	1.01
Physicians and surgeons	23,500	.72	.88	1.04
Dentists	19,900	.89	1.05	1.00
Optometrists	14,200	.77	.85	1.03
Veterinarians	14,700	.85	.89	1.03
Pharmacists	14,300	.82	.72	1.06
Architectural technologists	8700	1.05	.87	1.02
Engineers	12,300	1.04	.77	1.00
Architects	16,600	.83	.64	1.09
Surveyors	8,000	1.35	.77	1.13
Dispensing opticians	7,600	.97	.87	1.06
Osteopaths	13,500	.68	.62	1.05
Physiotherapists and occupational therapists	7,100	.87	.88	1.09
Dental hygienists	5,400	.97	.95	1.04
Radiological technologists	7,200	1.04	.92	1.07
Librarians and archivists	6,900	1.13	.86	1.06
Sociologists	8,900	.59	.98	1.04

the sample did not vary more than a few points from this value. The largest income ratio was 1.13 for surveyors.

Unilingual workers in Quebec received, on average, less than workers as a whole in that province. Persons who spoke only French suffered an income difference of 33 per cent from the average for Quebec Politicians in Quebec who spoke no English received incomes that were 78 per cent less than incomes of all Quebec politicians and almost 80 percent less than bilingual politicians. Even among the highly paid doctors, those who spoke only French received incomes that were 12 per cent less than doctors as a whole. Workers who spoke only English suffered a somewhat smaller income handicap, although English-speaking lawyers and surveyors who were unilingual enjoyed a distinct income advantage over other members of their professions, the largest of any group shown in Table 27.

For the purpose of comparing incomes in Quebec to incomes in the remaining provinces, incomes in the latter were standardized against the Quebec incomes. Table 28 shows the percentages that resulted by dividing, for each occupation and language group, the difference between incomes in Quebec and the other provinces by the income for Quebec. A positive percentage indicates a higher income in the provinces outside Quebec. The first row in Table 28 shows that, altogether, persons in the sample outside Quebec received incomes that were 2.9 per cent above incomes in Quebec. Persons who spoke only English received incomes 15.4 per cent above incomes for

TABLE 28

PERCENTAGE DIFFERENCES BETWEEN MEAN INCOME OF QUEBEC AND OTHER PROVINCES BY OCCUPATION AND OFFICIAL LANGUAGE, IN SAMPLE OF FULL-TIME LABOUR FORCE, 1970
Percentage = 100 (Other provinces - Quebec)/Quebec

Occupation	Official language		
	Total	English only	Both English and French
All selected occupations	2.9	15.4	8.9
Politicians	-25.2	-13.7	-10.2
Lawyers	6.6	-11.3	0.9
Physicians and surgeons	26.9	73.3	26.0
Dentists	26.4	42.8	12.6
Optometrists	35.8	78.8	29.0
Veterinarians	15.1	35.6	-0.5
Pharmacists	-19.3	-1.9	-26.0
Architectural & engineering technologists	4.9	-0.1	-0.2
Engineers	-2.7	-6.4	-0.4
Architects	-6.7	15.4	-26.0
Surveyors	-1.6	-28.2	-2.8
Dispensing opticians	2.3	6.7	-21.3
Osteopaths	43.7	114.3	-18.4
Physiotherapists and occupational therapists	1.3	16.8	-8.4
Dental hygienists	0.6	0.6	3.6
Radiological technologists	-15.7	-19.6	-18.3
Librarians & archivists	16.1	14.2	17.9
Sociologists and anthropologists	11.9	45.6	2.4

persons in the same language category in Quebec. Incomes earned by bilingual persons outside Quebec were 8.9 per cent higher than incomes received by bilingual persons who worked in Quebec.

The income margin enjoyed by the non-Quebec portion of the sample can probably be attributed to the greater prosperity and entrepreneurial opportunities that prevailed in those other provinces. This explanation fails to account for departures from the norm in the first row of Table 28. Differences in the economic climate between Quebec and the rest of Canada must be precisely delineated to account for the higher incomes of occupations in Quebec, particularly among politicians, pharmacists, and radiological technologists. The extraordinary magnitude of some of the income differentials also deserves special attention in further research. Physicians and surgeons outside of Quebec who spoke only English, for example, received incomes almost three-quarters more than their English unilingual colleagues in Quebec, and non-Quebec osteopaths who spoke only English received incomes more than twice the size of the comparative group of osteopaths in Quebec. Nor can differences in prosperity and entrepreneurial attitudes explain the opposed effects on income that were associated with bilingualism among two similar paramedical professions, optometrists and pharmacists. Table 28 shows that bilingual optometrists outside Quebec had incomes that were 29.0 per cent higher than their bilingual colleagues in Quebec, but bilingual pharmacists outside Quebec had incomes that were 26.0 per cent lower than bilingual pharmacists in Quebec.

CONCLUSIONS

The purpose of this report has been to sketch the background for future attempts at human capital analysis. The main defects in this report were its failure to include many important variables, and its total reliance on bivariate percentage distributions. Future research on this topic must also include several additional variables, especially province of residence, age, and immigration status. Financial constraints forced several important relationships to remain unexplored, chiefly the relationships between income and hours worked with controls placed on sex, religion and class of worker.

This report proceeded with simple percentage distributions calculated between pairs of variables. With the exception of income, each variable was divided into a few discrete intervals or classes. The relationships were presented in tabular form with statistical significance imputed to percentages with an unusual magnitude in comparison to others in the table, or to percentages that defied expectations derived from common sense. The problem with this method is that by relying on bivariate percentage distributions with discrete variables, there are no criteria that are more objective than common sense in choosing significant relationships. Moreover, it fails to achieve a composite picture of the labour force that recognizes the capacity of the labour force to change. This report could merely provide a series of snapshots of the sample rather than moving pictures.

To complete an analysis of the human capital of the Canadian labour force, it will be necessary to augment the number of variables and to use more sophisticated statistical techniques. Financial returns to educational investment can be predicted only after several other important variables have been accounted for by holding them constant. An attempt at regression analysis might therefore to be the next step in this analysis.

APPENDIX A

A DEMOGRAPHIC HISTORY OF PRINCIPAL CANADIAN PROFESSIONS

W.J. Klein

This century has seen great changes in the Canadian labour force. Farmers have become a rarity, women now hold over one third of the jobs in the country, and white collar workers are the largest segment in the work force. The purpose of this Appendix is to decide whether social changes in the professions during this century have been included in the changes that have occurred generally in the entire labour force, and to compare professionals to other members of the labour force on the basis of the 1971 Census of Canada.

The professions typically require long periods of training before the professional job-seeker is permitted to enter the labour force as a fully qualified practitioner. Stringent criteria are frequently applied in the selection, training, and release of newly instructed graduates into the labour force. While the purpose of these requirements is to assure the public that it will receive competent service, the actual operation of these requirements may discriminate against certain candidates according to factors that are extraneous to the performance of the occupation. These extraneous factors, especially sex and ethnic membership, are the dimensions along which major changes in the composition of the labour force have occurred.

If changes in the social composition of the professions have kept pace with changes in the social composition of the labour force as a whole then we may conclude that the professions have been swept along with the same changes that have overtaken most other occupations in the labour force.

The next section will describe major historical changes in the professions and the third section will examine labour force characteristics of these occupations that were revealed in the 1971 Census.

CHANGES IN THE SEX AND ETHNIC COMPOSITION OF PROFESSIONAL OCCUPATIONS

Consistency in historical analysis

Each Census of Canada has employed different criteria in the classification of occupations. Occupations must be classified on a consistent basis if the real changes in their numbers and composition are not to be confused by changing methods of classification. Until 1921 jobs were simply classified according to the types of goods and services that were produced. In 1931 many occupations were given titles according to the industries in which they predominated. The problem of inconsistent classification schemes has been complicated by the need for successive Censuses to recognize the claims that newly emerging highly qualified occupations have made for professional status. The development of the professions is beyond the scope of this

into the labour force (Peitchinis, 1970: 9-23). At a broader level, increased female participation rates can be attributed to the expansion of service jobs for which women seem to be more suited than men, the improvement of educational opportunities, better pay, the spread of birth control, and the development of labour-saving devices and prepared foods.

The great influx of women into the labour force has been highly uneven. In the white collar occupations, which are of the greatest interest to us because they include all professional occupations, there has been a steady increase in female membership. By 1951 white collar occupations had become the largest single group of occupations in the labour force (Ostry, 1967:10). Women accounted for 43.9 per cent of this increase but over a third of it was concentrated in clerical occupations where women now hold 61.5 of the positions, virtually transforming it into a female occupation. By contrast, females were responsible for only 11.6 per cent of the growth of proprietary and managerial occupations, also a white collar occupation, from 1901 to 1961.

In 1961 there were ten occupations which constituted 49.3 per cent of the female labour force. Most of these women were in occupations in which they made up at least 75 per cent of the workers. The list of leading female occupations in 1961 contained only two professional occupations, teaching and nursing (Ostry, 1967:76). A decade later the ten leading female occupations in 1961 contained 46.3 per cent of all women in the labour force. The list contained nurses and teachers as before.

Table A3 compares decadal female participation rates in column 1 with female representation in white collar and professional occupations in columns 2 and 3 after standardization against the 1951 Census occupational classification. Overrepresentation of women in white collar and professional occupations in comparison to their labour force participation rates arises from

TABLE A3

PERCENTAGES OF WOMEN: (1) IN THE LABOUR FORCE; (2) IN WHITE COLLAR OCCUPATIONS; (3) IN ALL PROFESSIONS: (4) IN FIVE PROFESSIONS*; 1891-1971

Census Year	1 Labour force	2 White collar	3 All professions	4 Five professions
1891	12.2			.8
1901	13.3	20.6	42.5	.6
1911	13.4	23.8	44.6	1.5
1921	15.4	29.5	54.1	1.1
1931	16.9	31.5	49.5	.8
1941	19.8	35.1	46.1	1.4
1951	22.0	38.2	43.5	1.8
1961	27.3	41.3	43.2	2.6
1971	34.2			4.0

* Architecture, engineering, law, medicine, and dentistry

Sources

Column 1: See Table A1.
Columns 2 & 3: Ostry, 1967: Table 8.
Column 4: As in Column 1.

the large numbers of women in clerical, nursing, and teaching occupations. Despite the growth of the latter two professions the female share of professional work in 1961 fell below its level in 1911. Column 4 shows that there has been a five-fold increase in the female share of the five principal professions but this impressive gain is somewhat diminished by the small size of the percentages.

In figures not shown it was found that the percentage of the women in these five professions to the total of the female labour force at each Census did not rise to .1 per cent until 1951, while the number of men in these five professions as a percentage of the male labour force at each Census rose from .9 per cent in 1891 to 2.1 per cent in 1961. It is clear that in these five professions increases in male participation has outstripped changes in female participation.

Another way of examining changes in the sex composition of the professions is to divide changes in the share which each profession takes of the labour force into two components. Changes in any share can be attributed to a component of net numerical growth and a second component consisting of shifts in the industrial deployment and the occupational distribution of the labour force. Ostry (1967: Table 1) has calculated these two components of change by comparing the occupational composition of the labour force in 1961 to its composition in 1901. The results show that structural change in the labour force has been of far greater importance in explaining the growth of professional occupations for men than for women. Only 5.9 per cent of the increase in numbers of women in professional occupations between the two dates was due to occupational shifting and the remainder was due to net numerical increase. For men 69.1 per cent of their numerical growth arose from structural change; less than a third was attributed to net numerical increase. Lower participation rates for females are the reason for this difference between males and females, since the group of potential entrants into the labour force is larger for females than for males.

These findings suggest that female representation in the professions will be more dependent on numerical increase than on the occupational shifts that arise from technological or cultural change. In other words, it seems that women's participation in the professions will be shaped more by deliberate attempts to recruit women into existing professions than by the appearance of new professions having a particular attraction to women.

Changes in ethnic composition

Canadian politics is bedevilled by ethnic rivalries for representation and control in occupations and other important institutions. An ethnic group that enjoys a numerical advantage in an occupation is in most instances able to control its future development and the nature of its services. The representations of new, i.e. non-Anglo-French groups in the professions is a measure of the compatibility that exists between the existing occupational structure and the newcomers who seek entry into it.

Ethnic groups were first recorded for each occupation in the 1931 Census. TableA4 shows the ethnic composition of the labour force at each Census date and the ethnic representation ratios for each of the five professions for each date. Representation ratios were calculated by dividing, for each Census, the percentage share that each ethnic group took of each occupation by the percentage share that the same ethnic group took of the entire labour force. A representation ratio equal to unity indicates that an ethnic group had the same share of a profession that it had in the labour force as a whole. A representation ratio greater or less than unity indicates ethnic overrepresentation or underrepresentation in relation to the ethnic domposition of the labour force.

Ethnic composition of the labour force has been fairly stable. There has been a slight drop in the British share with the result that no group could claim a majority of the labout force after 1941. French membership has not fluctuated

TABLE A4

ETHNIC MEMBERSHIP IN FIVE PROFESSIONS:
(1) PERCENTAGE DISTRIBUTION IN THE LABOUR FORCE
FOR EACH CENSUS, 1931-1971; (2) REPRESENTATION RATIOS
BY PROFESSIONS; CANADA, 1931-1971

Labour Force	N ('000)	%	Ethnic group: British	French	German	Italian	Jewish	Other
1931	3927	100.00	53.8	25.2	5.0*	.9	1.6	13.5
1941	4195	100.0	50.5	28.4	4.4	1.2	1.7	13.8
1951	5286	100.0	49.1	28.6	4.6	1.3	1.4	15.0
1961	6472	100.0	44.6	27.6	6.3	2.8	1.0	17.7
1971	7148	100.0	46.4	25.6	7.0	3.6	1.6	15.8
Lawyers and Notaries								
1931			1.2	1.0	.3*	.2	2.3	.1
1941			1.2	1.0	.3	.2	4.2	.2
1951			1.2	1.0	.3	.3	4.5	.4
1961			1.2	.8	.4	.4	6.5	.7
1971			1.2	.9	.4	.4	8.8	.1
Doctors								
1931			1133	.9	.4*	.3	2.1	.2
1941			1.3	.8	.4	.4	3.4	.3
1951			1.2	.8	.5	.5	4.3	.6
1961			1.2	.8	.4	.4	6.5	.7
1971			1.0	.8	.6	.3	5.4	1.1
Dentists								
1931			1.4	.7	.5*	.2	2.4	.2
1941			1.4	.7	.5	.1	3.3	.3
1951			1.3	.6	.6	.5	5.5	.6
1961			1.2	.7	.6	.4	7.2	.8
1971			1.0	.7	.7	.4	8.8	1.0
Engineers								
1931**			1.5	.4	.5*	.2	.4	.3
1941			1.5	.4	.6	.2	.6	.4
1951			1.5	.4	.6	.5	.9	.8
1961			1.4	.4	.8	.4	1.2	1.1
1971			1.2	.6	1.0	.5	1.1	1.2

Ethnic group

Architects	British	French	German	Italian	Jewish	Other
1931	1.3	.7	.5*	.2	.9	.2
1941	1.3	.8	.4	.7	2.1	.2
1951	1.3	.6	.4	.8	3.2	.8
1961	1.1	.6	.8	.4	4.2	1.3
1971	1.0	.8	.7	.4	3.4	1.4

* Includes Austrians.
** Includes surveyors.

Sources

1931 Census, Vol. VII, . Table 49.
1941 Census, Vol. VII; . Table 12.
1951 Census, Vol. IV, Table 12.
1961 Census, Vol. III, Table 21.
1971 Census, Vol. III, Table 4.

more than a few points from a quarter of the labour force. The only instability seems to be in a long-run tendency toward increased shares for non-Anglo-French groups, especially Germans and Italians. Jews have never constituted more than two per cent of the labour force.

Let us begin by comparing the occupations. Among lawyers and notaries there has been a large increase in Jewish overrepresentation, in contrast to the fairly stable representation ratios among the other groups. Among doctors the picture is somewhat the same except that there is a gradual tendency for British over-representation to decline toward unity. Jewish overrepresentation among doctors is not as large as it is for lawyers and notaries. The representation ratios among dentists resemble the ones for lawyers and notaries, with British representation ratios resting slightly above unity and the Jewish ratios well above it. Ethnic representation among engineers resembles the labour force more closely than it does in the other professions shown in TableA4 . Among architects there is also a tendency toward ethnic representation at par with the labour force except for considerable overrepresentation of Jews.

If we refer to Table A4 to compare ethnic groups, it is clear that the British and the Jews are both overrepresented among theseffive professions. Overrepresentation of Jews has increased since 1931 while the overrepresentation of the British has been more moderate. While the British composition of these five occupations has shown a general tendency to diminish so that it more accurately has reflected the British composition of the labour force, there has been an opposite tendency for Jews to enter these professions in numbers that have been progressively more disproportionate in relation to their composition of the labour force in each decade. French underrepresentation has been slightly but stable. The underrepresentation of Germans and Italians has been too unstable to reveal a trend. The remaining ethnic components of the labour force

have experienced a tendency toward representation at par with the labour force.

Table A4 demonstrates the thesis that there is an affinity between occupational specialization and ethnic group membership. The thesis is amply demonstrated for Jews, whose participation in these professions is well beyond their small numbers in the labour force. Disparities in ethnic representation ratios can probably be traced to differences in ethnic cultures. In particular the evolution of these professions out of the Industrial Revolution in England may account for the overrepresentation of British workers in them. The slow decline in British overrepresentation suggest that this historical connection has been weakened by the development of Canadian traditions and methods. Despite the reduction of British overrepresentation however, it is clear that French, German, and Italian Canadians have failed to enter these professions in large numbers.

SELECTED LABOUR FORCE CHARACTERISTICS OF PRINCIPAL PROFESSIONS IN 1971

The preceding pages have described five professions within a temporal framework. If instead we focus on differences among the professions at a single point of time it will be possible to expand the number of professions and to describe them with variables not available on a consistent basis within a historical framework.

Despite the improved opportunities for detailed analysis provided by the 1971 Census, the constraints of time and space have forced a few dimensions to be ignored. Sex differences within each profession in the topics to be dealt with below will be described only when their magnitude merits recognition. All of the specialized branches of engineering have been aggregated to make the presentation more concise. All figures are derived from a one-third sample of the labour force conducted by the 1971 Census and have been subjected to confidentiality prodedure that left all final digits rounded randomly to 0 or 5. As a result totals for all categories have been altered to facilitate the calculation of percentage

distributions.

The following topics will be examined: class of worker; weeks and hours worked; and marital status and average age.

Class of worker

Class of worker describes the type of a worker's employment according to whether persons mainly worked for others for wages, mainly worked for themselves, or worked without pay in a family firm or business. Only negligible percentages of professional workers were unpaid family workers and they will be ignored in this description; in the labour force as a whole they amounted to only 3.3 per cent.

Wage earners have grown as a segment of the labour force because of the shrinkage of occupations like farming and fishing that are largely entrepreneurial, as well as shifts to wage earning status within occupations. In white collar occupations the self-employed group declined from 17.2 to 13.3 per cent between 1951 and 1961 (Ostry: 1967:41). Although wage earners are the majority of both sexes, there was a slight decline in the proportion of female wage earners from 1951 to 1961. The slight increase in the proportion of self-employed females between those dates was concentrated in service occupations.

The class of worker distribution for six professions in 1971 is shown in Table A5 with the same distribution for the entire labour force as a benchmark. The large percentage of wage earners in the aggregate is heavily weighted by the large numbers of wage earners among engineers; without them the aggregate percentage of wage earners for the remaining professions would have been 50.9 per cent. Differences in rates of self-employment for these professions suggest several questions about the nature of professional organization. Self-employment and the provision of services by solo practitioners are no doubt closely associated and further study into the nature of the professions should take an explanation

TABLE A5

PERCENTAGE DISTRIBUTION OF CLASS OF WORKER
FOR THE LABOUR FORCE AND SIX PROFESSIONS, CANADA, 1971

Occupation	N ('000)	%	Class of Worker: Wage earner	Class of Worker: Self-employed
Total, labour force	8340	96.7	89.0	7.7
Total, six professions	105	99.9	79.2	20.8
Lawyers and notaries	16	100.0	45.1	54.9
Doctors	28	100.0	48.8	51.2
Dentists	6	100.0	24.9	75.1
Pharmacists	9	99.7	80.9	18.8
Engineers	74	100.0	98.0	2.0
Architects	4	99.89	61.4	38.4

Source

1971 Census, Vol. III, Table 8.

for this phenomenon as a first step in comparing the quality of services by self-employed and wage-earning practitioners in any profession. An important factor may be the size of the potential clientele that a profession serves and the diversity in services that its clientele will demand. Engineers and architects typically serve a few large clients like governments or local municipalities whose large-scale projects encourage the consolidation of services in large offices, while dentists, and to a lesser extent, lawyers and doctors, must tailor their services to suit the needs of individual persons. Another factor may be the ties between several different types of occupations that have developed to satisfy the client's needs. Interdisciplinary services or a mixture of professional and commercial occupations are characteristic of pharmacy, engineering, and architecture. This interoccupational dependence may account for their low rates of self-employment in comparison to the rate at the aggregate level. Government control of fees is a third factor that might explain the differences in rates of self-employment for doctors and dentists; provincial comparisons might be a helpful way of examining this question.

It is possible to speculate indefinitely on the differences in professional organization suggested by Table A5. Self-employment is a dependent variable amenable to regression or analysis of variance techniques when the explanatory factors have been quantified in an appropriate manner. The results of such research would describe the conditions that promote or retard the development of self-employment among the professions.

Weeks and hours worked

The 1971 Census records the number of weeks each member of the labour force worked in 1970 and the number of hours usually worked in the week before enumeration on the job of longest duration since January 1, 1970.

The most appropriate measure of weeks worked is the percentage of full-time workers who worked between 49 and 52 weeks in 1970. These percentages are shown in Table A6 for six professions and the labour force. A comparison of Tables A5 and A6 shows that the rank order of the percentage of wage earners in the six professions corresponds closely with the rank order of their percentages for those who worked 49-52 weeks. The Spearman rank-order correlation coefficient between the two series of measurements is .94. This high correlation indicates a strong association between working as a wage earner and working for a full year. The converse of this finding is that self-employed professionals spend more time away from their jobs for holidays, training programs, labour disputes, illness, or research. There is an obvious implication from this finding that there may be a relationship between the flow of work and the nature of the duties performed at work. Services provided by professional wage earners may be more continuous than the work done by self-employed professionals. Further research might show that self-employed professionals work at discrete assignments or projects whose completion creates a hiatus in a work cycle, while wage earners are committed to assignments that have a more continuous flow.

Turning to hours worked in the week prior to enumeration, Table A7 shows that self-employed professionals in all cases worked more hours per week than their wage-earning colleagues. The figures do not indicate whether their longer hours offset the relatively small number of weeks they worked per year (shown in Table A6) because there are no tabulations that compare total hours worked per year for the two classes of worker.

Income differences for different types of professionals will not be described in this report. The picture of the professions that has emerged so far is that self-employed professionals spend more hours at work each week with longer periods of annual withdrawal from their work than their colleagues who are wage earners,

TABLE A6

PERCENTAGE OF FULL-TIME WORKERS IN THE LABOUR FORCE AND SIX PROFESSIONS WHO WORKED 49-52 WEEKS IN 1970, CANADA, 1971

Occupation	Total full-time ('000)	% 49-52 weeks
Total, labour force	7039	66.5
Total, six professions	133	76.6
Lawyers and notaries	15	78.4
Doctors	27	63.1
Dentists	9	42.9
Pharmacists	8	80.2
Engineers	71	83.5
Architects	5	79.2

Source

1971 Census, Vol. III, Table 28.

TABLE A7

MEDIAN HOURS WORKED PER WEEK BY CLASS OF WORKER FOR THE LABOUR FORCE[1] AND SIX PROFESSIONS, CANADA, 1971

Occupation		Class of worker: Wage earner	Class of worker: Self-employed
Total, labour force	Md	41.8	49.3
	N ('000)	7643	757
Total, six professions	Md	43.1	50+
	N ('000)	105	33
Lawyers	Md	43.3	45.8
	N ('000)	74	90
Doctors	Md	50+	50+
	N ('00)	139	146
Dentists	Md	40.1	40.9
	N ('00)	16	48
Pharmacists	Md	41.9	50+
	N ('00)	76	18
Engineers	Md	39.8	43.5
	N ('00)	721	14
Architects	Md	38.6	43.4
	N ('00)	25	16

1 Excludes persons looking for work or who last worked prior to January 1, 1970, or who never worked.

Source

1971 Census, Vol. III, Table 31.

It is difficult to infer a composite picture of the professions from a series of separate tabulations because each one fails to control for the factors included in other tabulations that may also account for the differences observed. To obtain a more comprehensive description more complicated statistical procedures must be employed.

Age and marital status by sex

Contrary to the general tendency for the average age of the labour force to increase between 1931 and 1961, the average age of professional workers declined in that period. The factor responsible for this difference is the faster growth of professional occupations in relation to the labour force, particularly through the growing share that technical occupations with short periods of training have taken of professional occupations. Although females in the professional work force increased considerably in age between 1931 and 1961, their increased numbers were not large enough to counteract this basic trend (Ostry, 1967:30-32, Table 9).

The long periods of training and the large component of self-employed workers among the professions have the effect of making them somewhat older than the labour force as a whole. Unfortunately, average age could not be aggregated for the six professional occupations shown in Table A8 because of an open-ended category of 65 years or more in the raw age distribution. However, in no case for either sex did the figures for average age fall below the average age for each sex in the labour force.

From Table VIII it may also be seen that males were consistently older than females. There is a close relationship between this age discrepancy and the marital status of each sex for the six professions. To show this relationship statistically the age discrepancies between men and women were rank-ordered and correlated with the rank-orders for the differences between men and women

TABLE A8

AVERAGE AGE AND PERCENTAGE DISTRIBUTION OF MARITAL STATUS BY SEX FOR THE LABOUR FORCE, ELECTED POLITICIANS, AND SIX PROFESSIONS, CANADA, 1971

Occupation	Sex	No.[1]	Average age	Marital Status: Total	Single	Married	Widowed & divorced
Total, labour force	M	5666	38	100.0	25.4	72.3	2.3
	F	2961	36	100.0	32.4	60.0	7.6
Total, six professions	M	1309		100.0	11.5	86.8	1.7
	F	73		100.0	33.6	59.3	7.1
Lawyers	M	166	41	100.0	12.3	85.5	2.2
	F	7	37	100.0	142.3	44.9	12.8
Doctors	M	257	43	100.0	8.0	90.2	1.8
	F	29	37	100.0	34.5	60.1	5.4
Dentists	M	61	43	100.0	6.4	90.9	2.7
	F	3	36	100.0	21.0	71.0	8.0
Pharmacists	M	72	44	100.0	10.7	87.2	2.1
	F	22	35	100.0	31.9	61.6	6.5
Engineers	M	724	38	100.0	13.1	85.5	1.4
	F	11	36	100.0	33.0	58.7	8.3
Architects	M	39	40	100.0	12.1	85.6	2.3
	F	1	35	100.0	21.7	69.6	8.7

Notes

[1] In thousands for the labour force and hundreds for all other rows.

Source

1971 Census, Vol. III, Table 8.

in the single marital status category. The Spearman rank-order correlation coefficient was .82, showing that professions with a small age discrepancy between men and women also tended to have equal percentages of men and women in them who were single. The basis of this relationship lies in the obvious relationship between age and marriage, since married persons will always be older than persons who remain single.

This finding may seem simple and obvious, but it has an important implication for the professions. This implication forms an appropriate theme as a conclusion to this report. Age bestows prestige and respect in an occupational community. In the self-governing professions there will undoubtedly be a connection between age and the achievement of authority to direct and control their affairs. The discrepancies in age between men and women that are shown in Table A8 imply that male workers will achieve prestige and authority, and hence formal authority, in the professions at a faster rate than their female colleagues.

It is also true that marriage discourages female entry into the labour force, and Table A8 shows that the six professions are typical of the labour force in their marriage rates at the aggregate level for females. The failure of these professions to be more attractive to married women may be one of the principal demographic factors to explain the lower ages of female professionals and hence the poorer chances that women may experience in achieving political equality with men in the self-government of these professions.

These remarks are based on several assumptions that merit further study. The relationship between age and the achievement of power in the professions is one of these questions. More important, the age, marital status, and fertility of female professionals must be traced through each stage of their careers to discover whether the relative absence of married females in the professional

labourforce is the result of recruitment differences between the sexes or whether it results from a higher rate of attrition for females.

APPENDIX B

OCCUPATIONAL ORIGINS OF CABINET MEMBERS AND CITY COUNCILLORS

Occupations are not merely the things that people do. They are also collections of common interests that emerge out of the tasks that people share together. An occupation's success in satisfying its collective interests is determined by its prestige and authority. If occupations can be graded according to their prestige and authority so also can politicians, whose prestige and authority is fixed largely by the level of government to which they have been elected. A major resemblance between occupations and political power is the way that each implies a series of rankings of prestige and authority.

We can examine whether a correspondence between the two series of rankings arises merely from accident or from a connection between what people do in their occupations and the access these occupations have to political power. Power can be characterized by the nature of its distribution throughout a formal political structure and by the tasks assigned to it at each level. In the division of political labour we ought to find politicians clustered at the levels of government where their training is most suited for the tasks and political power assigned to each level.

In Canada the political division of labour occurs by dividing government into jurisdictional spheres with diminishing levels of authority and prestige. Table B1 shows the distribution of politicians according to their former occupations for the

1976 federal and Ontario cabinets and for the city councils of Ottawa and Toronto. It shows that politicians have originated from only a few occupations, contrary to the fact that few occupations are a bar to eligibility for political office. There are three explanations for the narrow representation of occupations in politics.

TABLE B1

PERCENTAGE DISTRIBUTION OF POLITICIANS' FORMER OCCUPATIONS IN FEDERAL AND ONTARIO CABINETS AND OTTAWA AND TORONTO CITY COUNCILS, 1975

Occupation	Federal	Provincial	City	Total
Law	42	16	13	24
Business	28	48	20	31
Education	10	12	13	12
Administration	3		15	8
Journalism	7	4	5	5
Other	10	20	34	20
Total	100%	100%	100%	100%
N	29	25	38	92

---

1. Voters do not usually consider candidates' occupations in electing them to office but their occupations may improve their visibility to the voters. Candidates in occupations that allowed large numbers of people to learn about their exceptional competence to hold public office had an advantage in elections. However, school teachers, who may over the years have developed a large

following of faithful voters, are outnumbered by lawyers, whose contact with the public is relatively slight. It may be that renown or reputation account for the large number of lawyers in the sample, while public contacts account for the large number of teachers or businessmen. This hypothesis implies that electoral defeat is caused in part by the obscurity of one's occupation and that a comparison of the occupations of victorious and defeated candidates would show a contrast in occupational visibility, renown, or prestige.

2. There may be an affinity between the occupations shown in Table B1 and the ideologies that voters favour when marking their ballots. This hypothesis implies that voters are more ready to identify themselves with politicians whose occupations encourage them to voice the worries of the electorate. Following this reasoning, we ought to find that defeated candidates share occupations and ideological beliefs that set them off from victorious candidates, quite apart from differences in formal party labels.

3. Unlike the previous two explanations, the third hypothesis assumes that there are no differences between victorious and defeated electoral candiates' former occupations. Rather, the concentration of certain occupations among politicians is related to the fact that these occupations encourage their holders to enter politics, with victory and defeat shared equally by these

occupations. Hence politicians' former occupations are an unbiased random sample of all candidates' former occupations. This hypothesis assumes that the nature of some occupations encourages a disproportionate amount of political participation but that electoral victory is independent of occupational origin.

Careers in law and business appear to be the most common among cabinet ministers and city councillors, but without information about the occupations held by defeated candidates we can only speculate about the reasons for this overrepresentation. Table B1 also reveals that the division of powers among the three levels of government apparently affects the distribution of politicians in the political structure when their occupational origins are examined.

This pattern is clearly marked for lawyers, whose representation is smallest where political power is least and greatest where politicians formulate laws with economic consequences on a national scale. Businessmen form the largest percentage in the Ontario cabinet perhaps because commercial law is largely a concern of provincial governments. It is at the municipal level where we find the most diversity in occupational backgrounds, suggesting that the minutiae of local government call for relatively less occupational specialization. The large residual category at the City level is evidence of the absence of a substantive focus

in municipal government. However, it is interesting to note that the residual category at the municipal level contains evidence of a relationship between politicians' specialized occupational origins and the specialized functions performed at each level of government. Municipal politics in the last decade have been marked by considerable activity surrounding real estate development, particularly in the two cities chosen for study here. It seems plausible that this activity helps to explain that two of the three engineers, the only architect, and a corporate planner were found among the Toronto city councillors. There were no farmers in municipal politics, the only level of government where farming has no direct economic significance.

Error

The narrow spatial and temporal selection of governments in this analysis makes its conclusions somewhat tentative. Hamilton data were unavailable and the picture might have changed if other units had been added. To some extent the figures are idiosyncratic: civil servants in Ottawa have entered local politics making the Administration category abnormally large; data from agricultural provinces should be added; and a broader historical range would have removed any historical peculiarities.

A second source of error may be a distortion of occupational representation resulting from the need for representation in the cabinet. There may also be a deliberate preference for

lawyers and businessmen from among back-benchers for their expertise. A preference for certain occupations in the cabinet is evidence of the importance that these occupations have in political life.

Conclusion

There appears to be a correspondence between the prestige and specialized nature of occupations and the distribution of power and function in Canadian governments. In thinking about the resemblances between occupations and political power one thinks first of the influence that some occupations have over the making of political decisions. This influence may be a proxy for the competition between rival groups for scarce rewards. Occupations that politicians are drawn from are in a favourable position for the disposal of these rewards. When politicians originate from a select number of occupations there are fewer competing interests that must be resolved in the distribution of political or economic benefits to occupations, than when politicians have diverse occupational backgrounds. Looking at the relationship between politics and occupations in this way means that we can attribute political power to occupations according to their success in influencing legislative decisions in their favour.

To describe these relationships with more certainty requires a more thorough technique than the one used here. The occupations of both successful and defeated candidates can be collected from standard documentary sources in order to discover the significance of occupation as a factor in political participation and success. Occupational origins of cabinet members and back-benchers can be compared to discover the importance of certain occupations in the highest executives in politics. Ideological statements of politicians can be compared for their dependence on occupational backgrounds. A special focus on two or three occupations known for their frequent participation in politics can reveal the special circumstances that makes politics an attractive activity for them.

TABLE B2

CONTENTS OF OTHER CATEGORY IN TABLE B1

Occupation	Federal	Provincial	City	Total
Labour	1			1
Farming	2	2		4
Engineering		1	2	3
Medicine		1		1
Housekeeping		1	3	4
Accounting			1	1
Architecture			1	1
Systems analysis			1	1
Occupational therapy			1	1
Military			1	1
Nursing			1	1
Religion			1	1
Total	3	5	12	20

Classification in all cases emphasized academic or professional training as the criterion for identifying former occupations. The business classification is therefore over-estimated by politicians whose training may have been in law or another profession. Housekeeping refers to unpaid family labour or community services. Administration includes all employment for government or work of a non-commercial character. Education includes faculty and public teachers.

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