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OFFICE OCCUPATIONS STATISTICS RESEARCH PAPER

with Special Emphasis on the Information Economy, the
Office of the Future, and the Impacts of New Technology

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Communications Economics Branch
Department of Communications

October 1980

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/ John H.C. Braden /

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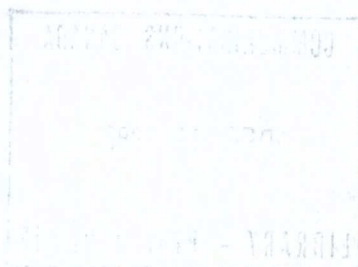


TABLE OF CONTENTS

	Page
Section 1: INTRODUCTION	
1. The Information Economy	1
2. Some Related Activities	3
3. The Office of the Future	11
4. The Impacts of New Technology on Employment and Other Related Areas	23
5. Contents, Background & Reasons for Organizing the Data	32
6. Acknowledgements and Concluding Remarks	34

Section 2: TABLES

Contents: The Distribution of Employees in Large Establishments
in Canada by Office Occupation, Industry Class, Size
of Office, Establishment Size and Region.

Section 3: APPENDICES

- Appendix A: Supplementary Tables
- Appendix B: Labour Canada Occupational Definitions
- Appendix C: Selected Bibliography

SECTION 1: INTRODUCTION

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SECTION 1 - INTRODUCTION

1. The Information Economy

In recent years there has been a recognition by economists, and specialists in the field, of the growing importance of information related activities on the demand and output of services and goods, and on employment. Recently some attention has focused on the potential impact of advanced telecommunications, electronics and related technologies on the associated unit cost of production. The development and diffusion of new information technologies has caused widespread concern regarding their likely impact on overall employment and on the occupational structure. For example, fears have been expressed that office automation, often referred to as the 'office of the future', could result in widespread disemployment of secretaries and clerical staff. More recently, opinions have been expressed that the 'office of the future' may well have a greater impact on management than on the clerical support group.

The term office automation, or 'office of the future', is usually associated with the notion of the "information economy", a broader concept which is frequently used to denote the process by which an economy is becoming more information intensive. Information-related occupations have been growing at a much faster rate than the labour force itself, leading to speculation in the early sixties of an up-coming "information explosion". In 1931, information-related occupations comprised some 21 percent of the Canadian labour force. By 1951, the proportion had increased to 29.4 percent. In 1971, this figure had risen to some 39.9 percent of the labour force, or more than 3.4 million people.(1)

Precise trends in certain office-related clerical occupations such as book-keepers, account-recording clerks, general office clerks, etc., are hard to discern because of the lack of detail available in the census. One group of occupations on which details are available - and one that is more than holding its own - is the stenographic, secretarial, typing and clerk-typing occupations. They have risen from 8.3 percent of the information-related occupations in 1931, (68,524 people), to some 9.7 percent in 1971, (334,990 people). Their average growth rate over these years, compounded annually, is about 4 percent. Since 1951 they have increased 2.4 times, for an annual increase of 4.5 percent. This is at a time when the total labour force had increased at an annual rate of only 2.5 percent.

(1) Source: Statistics Canada, information supplied to Department of Communications based on 1951, 1961 and 1971 Census data.

Some of the early work on the information economy was conducted by Porat of the Centre for Interdisciplinary Research, Stanford, in which he provided an exhaustive account of the size of the information sector in the U.S. in 1967, through an extensive reworking of the national accounts and labour force data. This work raised widespread interest among OECD member countries and culminated, in 1977, in the setting-up of an OECD Group of Experts with a mandate to define the socio-economic dimensions of the growth of information goods and services; to delineate the related role of electronics, telecommunications and related technologies for advanced economies; and to determine the feasibility of constructing, in each member country, national accounts which could permit international comparisons.

In support of the work of the OECD, the Economics Analysis Division of the Communications Economics Branch of DOC initiated a study to investigate and assess the role of information activities in Canadian manufacturing.(2) Some preliminary results of this work indicated that information labour is a complement to machinery and equipment, whereas non-information labour is a substitute. The results are consistent throughout the 1948 to 1973 period and agree remarkably with an earlier study of U.S. manufacturing.

These preliminary results have important implications. They suggest that any fall in the relative price of capital services may well stimulate the demand for information labour. More work is still needed to improve understanding of the impact of these technologies on employment, since the labour group dealt with was itself too large and aggregative. For instance, some groups of office workers, such as computer programmers, tend to complement information capital while others, such as clerks and secretaries, tend to be a substitute.

(2) For more information refer to the paper by S. Serafini, M. Andrieu and M. Estabrooks, "Post Industrial Canada and the New Information Technology" Canadian Futures Vol. 1, No. 2, Spring 1979.

2. Some Related Activities

1) Videotex and Teletext

There are a number of activities now underway in Canada and elsewhere which are highly relevant to the subject of the 'information economy' and to the future office environment. One such activity that is now under development is a major new innovation for delivering text and other information services into the home and business environment. Two classes of services are involved: 'videotex' and 'teletext'. Both types include, most frequently the use of an ordinary television receiver as the display device and a numeric keypad or keyboard for input.

'Teletext' is a one-way non-interactive service involving access to centralized databases containing general-interest type information. Information is received over-the-air along with the conventional television signal, or via cable-TV. In these systems all information in the databank is sent repetitively in a round-robin fashion.(3) The user selects, via keyboard, a frame of information which is extracted from the information stream, and stored and displayed by the television receiver.

'Videotex', sometimes called 'viewdata', is a two-way interactive service involving access to centralized databases containing primarily specialized-type information and other types of "transaction" oriented services such as inter-personal textual messaging (or electronic mail), funds transfer (or electronic banking), and remote shopping and ordering. Such services are highly personalized and are tailored to the individual needs of the user.

Two types of centralized databases are involved. General-interest databases are characterized by relatively small collections of information with fairly wide audience appeal. Examples of such information are weather reports, stock market indices, sports headlines, and major news headlines. Because of its widespread appeal, the number of accesses to this information should be much higher than for specialized databases.

Specialized databases, containing information such as airline schedules, stock prices, law cases, price lists and product information, serve a much smaller selection of users. While the number of accesses to such databases would likely be much smaller than for the general-purpose type of database, the size of the databases are much larger. For example, the 'videotex' system in the U.K. called Prestel, offers hundreds of thousands of frames of information which the user searches to get the desired frame. On the other hand both Ceefax and Oracle, two 'teletext' systems in operation in the U.K., transmit only a few hundred frames of information over-the-air. In these systems, the user selects the desired frames of information via the teletext decoder in the television receiver.

- (3) Michael Tyler, "Videotex, Prestel and Teletext-the Economics and Politics of Some Electronic Publishing Media", Telecommunications Policy, Vol. 3, No. 1, Mar. 1979, p.p. 37-51.

There are a couple of things worth pointing out. First, while 'videotex' service accesses specialized databases, these databases will contain both specialized and general-interest information.(4) On the other hand general-interest databases which are incorporated into the 'teletext' system will likely largely be restricted to general-purpose information because of restrictions in storage. Second, while most specialized information is of a two-way interactive nature, not all information need involve the use of telecommunications facilities and access to centralized 'videotex' databases. Some users will find it advantageous to own their "own" small computer system and have local storage of some of the information at the "terminal" itself. The key factors seem to be the timeliness of the information, the ease of access and fast response local operation can provide, and the relative costs involved. Another important factor is the frequency of need to access such information. This may lessen the need for local storage.

While 'videotex' and 'teletext' initially were thought of as new innovations for delivery of information services into the home, more recently 'videotex' is being viewed also as a business service.(5) With respect to the U.S., there is considerable interest in 'videotex' as an office automation system and for the delivery of specialized services, such as banking or shopping. The major inhibiting factor there appears to be uncertainty of demand for such services, and their economic viability.

On June 20-22, 1979, the Institute for the Future convened a workshop at Pajaro Dunes, California, to identify issues associated with the introduction of 'teletext' and 'videotex' in the USA. It is reported that there was a remarkable degree of consensus, by the workshop participants, that general residential use of 'videotex' would not likely occur much before 1990, but groups with specialized needs, small businesses for instance, would seem to be an ideal starting point. For 'videotex', they felt, would give to these businesses access to information that, up to now, can only be afforded by large organizations.(6)

While database access is the principal use of 'videotex' that is usually suggested, there are some doubts as to whether it will be the first widespread application. This certainly seems to be the case in the U.S.(7) Many knowledgeable people there are of the opinion that services such as electronic mail and financial type transactions are services which are more likely to develop first because their utility and potential economy are more easily understood. However, even this scenario does not completely overcome the very serious question of "who pays" for such service and how the "costs" would be apportioned.

- (4) For example, the Prestel system in the U.K. gives access to both specialized and general-interest information.
- (5) The uncertainty of demand in the home or consumer area has caused Prestel, the U.K. interactive information system, to change its marketing focus from the consumer to the business sector. See R.J. Goldman, "Demand for Telecommunications in the Home", Telecommunications Policy, Vol. 4, No. 1, Mar. 1980, p. 25.
- (6) Robert Johansen, Michael J. Nyham, and Robert Plummer, "Issues and Insights for the USA : Report of a Workshop", Telecommunications Policy, Vol. 4, No. 1, Mar. 1980, p. 41.
- (7) Ibid.

In addition to these concerns, the potential emergence of such services nationally, would likely raise and elevate national policy issues, not only with respect to who should supply and carry such services, but also with respect to their possible impacts on employment in areas where 'videotex' will infringe into the print or mail industries which are labour-intensive and involve high distribution costs. Such concerns have stirred up debates in the U.K. (8) and other countries over the potential job displacement effects of such services. Other types of concerns are the potential load on the overall telephone system and the impacts that they could have on the costs of providing "regular" telephone service and the resultant effects on prices and the structure of telephone rates.

The U.S. has a number of 'teletext' trials, either in operation or planned. In Canada two trials are underway, one by Grand River Cable Company and the second by TV Ontario. With regards to 'videotex', the U.S. seems somewhat more reluctant to actively move into this area than has Canada. Most of the US effort to date has revolved around the development of the technology, and the characteristics of the service itself. In Canada, where the technology is somewhat more advanced, there are five 'videotex' trials in various stages of implementation. Bell Canada's Vista trial involves services such as access to centralized information, information retrieval, transaction processing (i.e. shopping, funds transfer, simple messaging), and closed user group applications. The terminals are being supplied to both business and residential customers. Manitoba Telephone System is involved in two separate 'videotex' trials. The Elie trial involves a technology trial of fibre optics local loop transmission. Their Ida trial is part of a new services development project featuring fire and medical alarms, and electricity metering. The Alberta Government Telephones (AGT) trial, called Vidon, involves the setting up of an 120-home trial in Calgary for videotex, emergency alarm and energy management, involving a common control unit. The services are to be provided based on "copper pair" technology. British Columbia Telephone has announced its intention to establish a 'videotex' trial in Vancouver, called Boris. This trial will be oriented to the business community. (9)

There are several motivating factors in Canada which are stimulating interest in these and possibly other such trials in the future. One reason revolves around a number of recently announced CRTC decisions permitting both terminal and business interconnection with the federally regulated networks, and which allows the cable companies to offer interactive and non-interactive services such as teletext, alarm and security services, data, etc. As a result CN/CP Telecommunications, TCTS and the cable companies will be competing to provide the transmission facilities for new services. The extra bandwidth that cable provides, coupled with the fact that cable companies can now potentially serve over 70 percent of the households in Canada, is causing the traditional carriers (telecom.) some indigestion. Such trials should therefore provide the carriers a better understanding of how much additional network capacity

- (8) Kathleen Criner, "US Videotex Activities and Policy Concerns", Telecommunications Policy, Vol. 4, No. 1, Mar. 1980, p. 8.
- (9) A fuller description of these trials is contained in: Nicole F. Leduc "Teletext and Videotex in North America : the Canadian Perspective", Telecommunications Policy, Vol. 4, No. 1, Mar. 1980, p.p. 10-13.

may be required of them and the type of interim network configurations which might be necessary in the meantime - for the conversion to fibre optics will take time and considerable investment. Interim solutions could involve the use of coaxial cables and, in the case of AGT and possibly others, the provision of an extra copper pair. The cable companies too are anxious to push into this area and take advantage of the transmission capacity already in place. Another factor behind it is the Department of Communications' interest in developing and promoting the Telidon concept and technology. To this end it has encouraged both the cable and telephone companies to include Telidon control units in their 'videotex' and 'teletext' trials.(10) Finally, not to be overlooked is the Department's interest in promoting the creation of Canadian databases and new interactive communications services for the general public, and the stimulus that certain large organizations are giving to this development, including those who are already active in the collection and distribution of information.(11)

11) Telidon

Several other programmes of work relevant to the topic of the 'information economy' are under way within the Department and elsewhere. From the Department's standpoint, the most widely known of these is the development of the new "alpha-geometric" technology named Telidon. This technology, developed in the Department's research labs, represents a significant improvement over other existing interactive graphic television technologies. It is more flexible than existing systems, and can more easily accommodate future growth and improvements. More importantly, its resolution is far superior to other interactive television technologies. Because data are entered into the system using a coding scheme which is independent of the display terminal and the communications media, changes in the standards of display terminals or communications media will not necessarily make any associated databases "obsolete".

The Department has promoted Telidon as the basis for an international 'videotex' standard and is pressing this point of view at meetings of the International Telegraph and Telephone Consultative Committee (CCITT). The implications for Canada are obvious. The acceptance of the Telidon standard worldwide, or even in North America, could revitalize the Canadian electronics industry. In support of this, DOC has approved a \$9 million expenditure on Telidon activities over a four year period. A substantial part of that will be allocated to the construction of Telidon terminals to be used in various 'videotex' trials.(12)

- (10) For instance, the federal government is participating to the extent of \$2.5 million in the Vista trial. It is also participating in the Elie 'videotex' trial and TV Ontario's 'teletext' trial.
- (11) As an example, the Toronto Star, the Globe and Mail and the Ontario Educational Communications Authority.
- (12) It is worthwhile pointing out that Telidon control units are being incorporated into Vista, Elie, Ida, Vidon and Boris 'videotex' trials as well as the Grand River and TV Ontario 'teletext' trials.

There are also several other countries who are serious competitors to the Telidon technology including many countries in Europe, as well as United States. While there are other systems that are more advanced technically, the U.K. has made a financial commitment to 'videotex' on a scale unmatched anywhere at present with its system called 'Prestel'. The system is already working and growing, although somewhat more slowly than the U.K. Post Office would like.

One of the uncertainties that confronts government and industry alike is in the area of demand. Are consumers ready to replace their traditional behaviour patterns with the use of electronics? Such doubts, as has already been pointed out, have caused Prestel to place more of its marketing emphasis on the business sector.

iii) Office Communications System Program - DOC

Of a somewhat closer relationship to the data which are presented in this paper is the Office Communications System Program under way within the Special Research Program Branch in the department. This activity, which has received government support and backing, is attempting to establish Canadian industrial leadership in certain aspects of the 'office of the future' by catalyzing the development of nationally manufactured office equipment and new Canadian network services.

DOC's proposed five phase program involving a range of activities including office communications system design, field trials, product and service specification and implementation received approval in principle from Cabinet in its Record of Decision dated October 31, 1978. The immediate target was the extension of word processing technology to complement and strengthen the range of TELEX services offered by CN/CP Telecommunications. Phase I of the program, now completed, involved a \$192,000 PILP contract with CN/CP Telecommunications that embraced subcontracts with AES Limited and Systems Approach Consultants Ltd. Additional investment by AES and CN/CP Telecommunications in the order of \$200,000 brought the total Phase I investment in the neighbourhood of \$400,000.

The contract with CN/CP Telecommunications included the preparation of preliminary specifications for new services and supporting experimental products. Additional requirements called for the initial analyses of site specifications, new network arrangements and experimental hardware specifications. CN/CP Telecommunications and AES used their own contribution to Phase I to conduct detailed competition market analyses. The remaining activities in Phase I, internal to DOC, revolved around the decision making necessary to provide direction for field trials, (Phase II).

iv) New Service Developments in Canada

Some recent developments are taking place in Canada which could well influence the acceptance, development and use of "new" office automation technologies, products and services in Canadian offices over the next several years. The first is the decision by CN/CP Telecommunications to introduce their new 'Infotex' service for the business market. Coming largely out of their involvement in the Office Communications System Project, mentioned earlier, CN/CP Telecommunications announced, about a year ago, their intention to introduce a new service which allows for the interconnection of communicating word processors using CN/CP's nation-wide computer-controlled digital switching network. Using a standard keyboard and video display unit, and incorporating perhaps the latest Telidon-type technology, secretaries and managers will be able to send and receive messages, letters and documents electronically between offices within the same building, across Canada and around the world. Composition and editing could be done electronically and the completed material transmitted and received instantly by the addressee. As well, computer access would allow for the storing and retrieving of documents, potentially "replacing" the traditional rows of filing cabinets.

While the service will initially provide for the interconnection of communicating word processors, and the addressing to telex and telepost users, thereby allowing the transmission of documents, text and other forms of electronic mail, eventually it will be expanded to permit the connection of a variety of other communicating devices such as intelligent terminals and communicating typewriters. This would provide the facility for users of the system to inter-communicate more on a personal-messaging basis. Eventually more sophisticated messaging services will be added allowing CN/CP's Infotex service to be used for message storing, message retrieval and "mail box" type operations.

It is expected that CN/CP will launch its initial service package early in 1981 involving selected users at key locations across Canada. This is part of a program by CN/CP to define users' needs for office system services, and to define product and service trends. Studies related to this are expected to be carried out by them in collaboration with several Canadian manufacturers as an adjunct to the Office Communication System program. Full commercial service availability is expected in the third quarter of 1981.

Another event that took place was the announcement, by the Computer Communications Group of the Trans Canada Telephone System, (TCTS), in December 1979, of a new public store-and-forward messaging service called Envoy 100. To be commercially available in the spring of 1981, it represents the first TCTS offering in a family of competitive value-added services that will be offered to the Canadian business community in the 1980's.

Envoy 100 reportedly is being designed to meet a broad spectrum of business customers' communications needs, both within and between subscribing organizations, from support personnel to administrative secretaries, managers and executives in large and in small organizations having either low or high message traffic volumes. TCTS expects that this service will help expedite the movement of information such as sales orders, inventory up-dates and payroll statistics essential to efficient business operations, and allow users to communicate on

an interpersonal basis. Its store-and-forward feature is designed to help users perform business functions such as establishing meeting agendas, and confirming their times and dates without the need for direct interaction. Also incorporated into the system will be many message preparation, correction and formatting features to facilitate the organization and preparation of such information. In addition, users of the system will be given the option of having messages directed automatically by Envoy 100 to the intended user's terminal, or be retained by the system until they are requested by the addressee. Costs to use the Envoy 100 service will consist of a low fixed monthly charge for each organization and user of the service, plus a variable charge based on the amount of information being sent or received.

Datapac, the public packet switched network of TCTS, will serve as the prime communications medium for Envoy 100. Therefore users of the service should benefit from many of its features such as reduced communications costs, virtual error free transmission of information, and a high degree of network reliability and availability. Initially the service will support teleprinters and CRTs that operate in an ASCII asynchronous 110 to 1200 bits per second mode, and will permit terminals of different types and speeds to communicate. Any terminal meeting this standard can be used by subscribers of the system for existing applications as well. Users will not be restricted on the type of network access as terminals operating on the Dataphone, TWX, Datapac, International Telex and the American packet (Telenet-Tymnet) networks will be able to access Envoy 100 and intercommunicate by simply dialing Datapac 3101 ports.

Another important development which is also taking place, of a related but somewhat different nature, is Bell Northern Research's (BNR) in-house Corporate Communications System. COCOS is essentially an in-house electronic mail system offering a wide range of office communications features. It is purportedly being developed by BNR for their own internal requirements, and has been a strong influence on the TCTS Envoy 100 public store-and-forward messaging service development. By the end of 1980, it is expected that services supported will include electronic mail, central word processing, computer conferencing, store-and-forward digital facsimile, integrated text and graphics, forms processing and techniques to help automate many secretarial-managerial functions. The COCOS system is being designed to be compatible with almost any type of computer terminal, communicating typewriter or communicating word processor station, in North America and many parts of Europe.

The COCOS system has been in use for some time in BNR and is continually being improved, modified and embellished. The approach being used to introduce and encourage the use of this system within BNR, together with the feedback to and involvement of its own internal systems and behavioural research groups is expected to help BNR improve the "final" product and their understanding of the many human and organizational problems which could crop-up through the introduction of such systems into business and government in the future.

It is important to note that whereas the Infotex and Envoy 100 systems will be publically offered systems, the COCOS system is a private system. However, because of BNR's corporate relationship with Northern Electric and

Bell Canada, and also because of the relationship of Bell Canada within TCTS, the direction that this development may take, eventually, could have wider significance.

These developments, however, are only one small part of what is actually going on in Canada, in the U.S., and elsewhere. In Canada, alone, it is reported that upwards of 80 private stand-alone computer-based message systems are up-and-running on a variety of computer systems incorporating sometimes rather crude but, in other cases, unique and sophisticated system features and capabilities. It is also reported that some computer companies, as well, are developing software packages free for the use of their clients, and that other telecommunications suppliers are incorporating some messaging and other communications features into their switching equipment for installation into "private" business locations. (13)

While this is only a short and preliminary introduction into what is taking place, it is safe to say that developments are happening so quickly, and in such quantity, that it is very hard to keep tuned-in into all that is really taking place. While the literature, newspapers, and so on, can give some indication, much of it is of such a confidential and competitive nature that it restricts one's ability to be fully, or perhaps even adequately, "in the picture".

It is also true that the full range of products and service offerings that will become available in the future will make it incumbent on those potential users to fully appreciate when and how to use such systems, if the costs are to be kept in line. For it is highly unlikely that any one system, or group of systems, will meet everyone's needs at a cost that they will be able to afford. More than likely, however, almost any organization will eventually be able to use some of these systems to its advantage.

The next section deals with some of the technological developments taking place which are spurring on these trends towards office automation and describes, in a general fashion, some of the services and service features that will be coming along in the next several years. In addition some further attention will be devoted to one aspect of this--the public message market.

- (13) S. Hester "The Role of the PBX in the Office of the Future" Telephone Engineer and Management, Vol. 83, No. 6, Mar. 1979, p.p. 72-82.

3. The Office of the Future

Definition

The 'office of the future' refers to the future office environment in which modern electronic automation and communications technologies are largely used to replace many routine clerical-type office functions involved in the preparation, storage, duplication, retrieval and transmission of textual information, and the use of related technologies by managers, professionals and others involved in the generation and communication of information.

Underlying Reasons for Change

One of the reasons given for the trend towards the "automation" of certain office functions is the ongoing and unprecedented explosion in the amount of textual and narrative information which is produced and has to be accessed by managers. Another contributing factor which is cited is the increasing size and complexity of various enterprises which places a heavy burden on people to co-ordinate with their peers, and others, both inside and outside the organization. Some of the other reasons given are escalating salaries and wages for office staff, anticipated clerical labour shortages, and the increasing availability of improved office equipment and communications system capabilities.

One of the major reasons given for the need to automate certain office processes, and which is related to the above, is the reported lack of productivity in the office which results in inefficiency and lack of effectiveness. There have been studies that purport to show that the productivity of the average white collar worker has increased only marginally over the recent ten to fifteen year period, while for some other occupational groups, such as in agriculture, the gains have been rather spectacular (as high as 80 percent and even more).(14)

One explanation cited for the disparity between the rather meagre gains in productivity of the office worker, and the more impressive gains claimed for some other occupational groups, is alleged to be due to the lack of sufficient investment in office equipment. In the U.S. it has been estimated that on a per capita basis, each agricultural worker is supported by \$54,000 of equipment, each industrial worker by more than \$31,000, but only \$2,300 worth of equipment backs up each office worker.

- (14) The Department of Labour in the U.S. has published information which indicates that the average productivity gains in industry has been about 90 percent during the recent 10 years, while for the business office the gains have been less than 5 percent. A very brief reference to this work can be found in Ronald P. Uhlig, David J. Farber and James H. Bair The Office of the Future, North-Holland Publishing Company, 1979, pp 10-12.

While these statistics could be misleading, it is safe to say that important reductions in office communications equipment costs, per unit of output, are taking place due to the continuing rapid decline in the cost of processing logic and memory, significant reductions in data system network costs, and greater office system capabilities. These developments are making it more feasible now, and especially in the next few years, for new office system technologies to be introduced into the office environment which can help to make the office milieu, and the organization as a whole, more productive.

Underlying Technology

Fuelling this trend to office automation are a number of technological advances which have taken place in recent years. Large Scale Integration technology, which permits thousands of logic elements to be put onto one small chip of silicon, has advanced to the point where it will soon be possible to produce single component microcomputers on a chip, leading to the possible stabilization of technology. In other words, technology is now reaching a point where the majority of current and foreseeable high volume applications could be satisfied by single component systems, and these systems will be easier to design and cheaper to manufacture.

Another area in which important developments are taking place is in the area of storage. Each year we have seen the virtual doubling of the density of storage devices and more complex and novel methodologies for the creation of electronic storage elements. While the technology of the storage medium itself has been and is changing, a number of innovations in the way it is assembled into a system have also taken place. One important development is in the area of floppy diskettes. These diskettes are cheap removable storage devices, based on magnetic tape technology, which are capable of storing over a million bytes of information on a two-sided platter. High density disk systems are now available which can provide over $\frac{1}{2}$ billion bytes of storage in a package approximately 15 inches in diameter based on the Winchester technology introduced by IBM in 1971. These systems have extremely fast access times and high transfer rate capabilities.(15) Work is also underway to modify standard video disks to permit them to be used as a digital storage device whose access time is in milliseconds and whose bit rate is impressive. Fabrication costs are such that once the master is created, the cost of creating a pressing is about 25 cents.(16)

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- (15) A two-sided floppy diskette with 1.2 megabytes of storage can be purchased for about \$10.50. Because they are convenient, cheap, and reusable, they are an ideal medium for the preparation of data. They are also an ideal storage medium for small amounts of seldom used information, and for small business system applications where high speed of access and quick data transfer speeds are not so important. However, for large system applications where large amounts of storage, fast access speeds and high data transfer rates are much more important, data packs are more suitable. Developments are now at the point where the read and write heads are being incorporated directly into the disk packs themselves, so that direct cost and technical

While not as much progress is apparent on the input side, current developments and efforts now in progress should help to remedy this situation in the next few years. On the output side, there has been more progress to this point. Current printers are far better and offer higher resolution and fidelity than their predecessors of 10 years ago. As many users do not really require hard copy all of the time, there is a trend towards the use of video display terminals in the office. However at the present time they are relatively expensive. The challenge here is to develop a screen-type device which can simulate a page of text and be capable of drawing graphics, at a low cost. The problem is that today, high resolution, non-mass-produced tubes are expensive; and there is no market large enough today to allow unit costs to be lowered to a point where they could become attractive enough for generalized office use.

There is one other field that is growing and changing rapidly, the area of communications. Much of the "revolution" is due to the merging of computers and communications, and to the rapid improvement and change in communications technology brought on by satellites, fibre optics and the introduction of digital technology into telecommunications plant. Other breakthroughs have been made in the design of computer based switching offices, and the introduction of digital packet systems by the carriers.

comparisons are not as straight forward as they once were. The latest IBM system, the 3370, is a direct access storage device which sells for around \$50K including the access heads. It has 571 megabytes of storage, an access time of 20 milliseconds, and a transfer rate of 1.8 megabytes per second. Comparing this with IBM Model 3348, including the host drive, the cost is about the same. However, there is a significant improvement in cost performance and storage capabilities. Comparing the IBM 3370 with the largest version of the IBM 3348 (Model 70), it has almost three times as much storage capability, a 25 percent improvement in access time, and over twice the data transfer speed.

- (16) Even though the "fixed" development costs involved in producing a master will likely be substantial, as the total information stored on such systems could be in the order of a billion bytes, or more, the cost per byte of storage has the potential to be substantially less than the most cost effective ones now available. Much depends on the eventual development costs and the market that develops for them. Similar much larger archival storage systems should be obtainable via the holographic storage concept which will range up to a trillion bytes of storage. The impact of these large systems on computing and the personal use of computers is not well understood at this time.

New Office Systems and Products

Much of the technology needed for the 'office of the future' has already been developed. Word processors are the oldest and currently the most widely used technology. Priced typically in a range of about 6 to 20 times the price of a standard typewriter, these text editors can output text in practice at about 10 times the rate of the standard typewriter. Considering that in many typical installations about half the time is spent re-typing, such systems can be quite efficient when compared to the standard typing systems operating in the majority of offices today. However, their power and price generally require some re-organization into one or more word processing centres.

'Intelligent typewriters' have been developed primarily as replacements for the standard typewriter, and are intended to be placed at the secretarial station rather than in word processing centres. Technically they resemble word processors, as they have limited magnetic media text storage and logic circuits for editing. As the price spread between the leading standard electric typewriter and a typical low-end intelligent typewriter is quite low, even a modest productivity gain can pay off, especially where a new or replacement "typewriter" is being considered.

Shared-logic word processors are systems which utilize multiple cathode ray tube (CRT) displays to share the memory and processing power of a central processing unit, rather than having an intelligent micro-processor for each workstation. Prices vary widely depending on the power of the CPU, the size of the CRT displays, the number of terminals attached to the system, and options and peripherals in use (eg. disk drives, optical character readers (OCR's), communications facilities, etc.). As such systems can also be used for other communications and data processing functions, shared-logic word processing is a key point of convergence for word and data processing as the network capabilities of these and other communicating word processor systems can be used for messaging and other services.

Many of these systems can be speeded up by the addition of optical character scanners to convert typed originals into machine readable input. This can help to eliminate the "input bottleneck" at many word processing centres where input of drafts consumes typically 80 percent of an operator's keying time. However, one of the advantages of 'intelligent typewriters' is that they can be fitted with a communications option to permit a secretary's first draft to be communicated directly to the word-processing centre, where the most sophisticated capabilities of the word processor itself can be utilized. Another advantage of these "terminals", when they are outfitted in such a manner, is that they allow communications to take place among users connected to the system.

More recently, on the "network" side, developments are taking place which will permit the interconnection of communicating word processors for the transmission of textual information between geographically distinct locations. As well, new store-and-forward messaging services will soon be operating which will allow users to prepare, correct, format and deliver messages both within and between subscribing organizations. While not all types of terminals are likely to be supported, these systems will permit ostensibly "incompatible" terminals of different types and speeds to communicate with one another.

Available and developing automated office communication system products for the 'office of the future' vary from fairly simple text editing equipment all the way to more comprehensive messaging, text preparation and editing-type systems, including those with significant data handling and manipulative capabilities. Some of the systems which exist now provide for computer based messaging, (there are several in existence), computer conferencing, and computer mail. While communicating word processors have some of these capabilities, significantly more can be achieved when the computer itself becomes the heart of the system. For instance, in the future, more systems will be able to access information stored in other computers, via public computer networks, such as on-line libraries of standard phrases and terminology, legal reference libraries, etc., some of which are already in use if even in their embryonic stages of development. This will give users the ability to extract certain information and incorporate the "gist" of it into reference material, or directly insert the material into the document or text under preparation.

One example of such a service that is presently available is "Infoglobe", a system offered by the Globe and Mail which allows users to access the full text of past issues of the newspaper. It allows subscribers of their system to scan and, if desired, to get a copy of company reports, product announcements, lead stories, editorial comment, etc. Printouts, in part or in full, of various reports and articles can be obtained in hard copy, or "electronically". However, it should be pointed out that, at the present time, access to and the use of systems such as these, requires training and some specialized expertise.

As a result of these on-going developments, a number of other tools will also become more available to the office worker in the future. For instance, interactive computer tools will be available which will greatly aid in the development of papers requiring the input of several people. This will allow people to keep in touch with documents and legislation in preparation, allow for the view points of people to be gathered on key issues, and reduce the time needed to obtain consensus on various questions. Systems will also be used to help direct certain types of documents "automatically" to certain departments and individuals based on key words or other input. Such tools could establish "due dates" for comment, send reminders as due dates approach, monitor replies and prepare "status" reports or charts on such progress - and the list could go on and on, for the possibilities are "endless".

While message systems, data generating tools, co-ordinating and conferencing tools, etc., will be more and more available in the future, specific planning "tools" will also become more prevalent which will make it possible to have information much more available on the status of programs and programmed resources within an organization. On-line interactive budgeting tools should "revolutionize" the budgeting process in many businesses. Much of the budgeting process is slow and tedious. These systems should help businesses avoid many of the usual problems which are encountered and, if several budgets must be prepared, help alleviate the tedious manual process which is common in many organizations today. Such systems will facilitate their analysis and help spot inconsistencies or problems which might ensue when arbitrary decisions are taken which do not adequately take into account their possible impacts on other parts of the organization.

While computer based messaging will eventually become an important feature in the office, it should not be thought of as a replacement for other forms of communications, but rather an important adjunct to them. Because such interaction does not have to take place in 'real time', it can free people from having to carry it out 'face-to-face'. Phone calls often come at inconvenient times, interrupt one's train of thought, and put one in an unreceptive frame of mind. Therefore such systems may enable such interaction to be done more effectively and with less time. It has also been reported that such systems can ease misunderstandings, improve corporate awareness, permit more effective co-ordination within and between organizations, and reduce the amount of redundant and often "inaccessible" information in the files.(17)

Public Messaging Systems

There are a number of public message systems that are either available or will shortly become available in Canada and in the United States. Some of the existing systems involve old and somewhat outdated technologies, while the newer ones incorporate more up-to-date network and/or system capabilities.

- (17) For example, a pilot study by Owens Corning Fibreglass indicated an "overwhelming" acceptance to the introduction of an electronic mail system. In response to a formal survey, 74 percent of the respondents, including managers, reported that it was a "positive" influence on their ability to do their work. There was no negative attitude reported. More specifically, there are also several references in the literature to other types of studies which have been conducted which further "substantiate" this claim. For more discussion and further reference to other studies of this topic, refer to the section on "advantages, benefits and positive impacts" and to Part III on "the impact of office automation" in the Office of the Future by Uhlig, Farber and Bair listed in the selected bibliography of this paper.

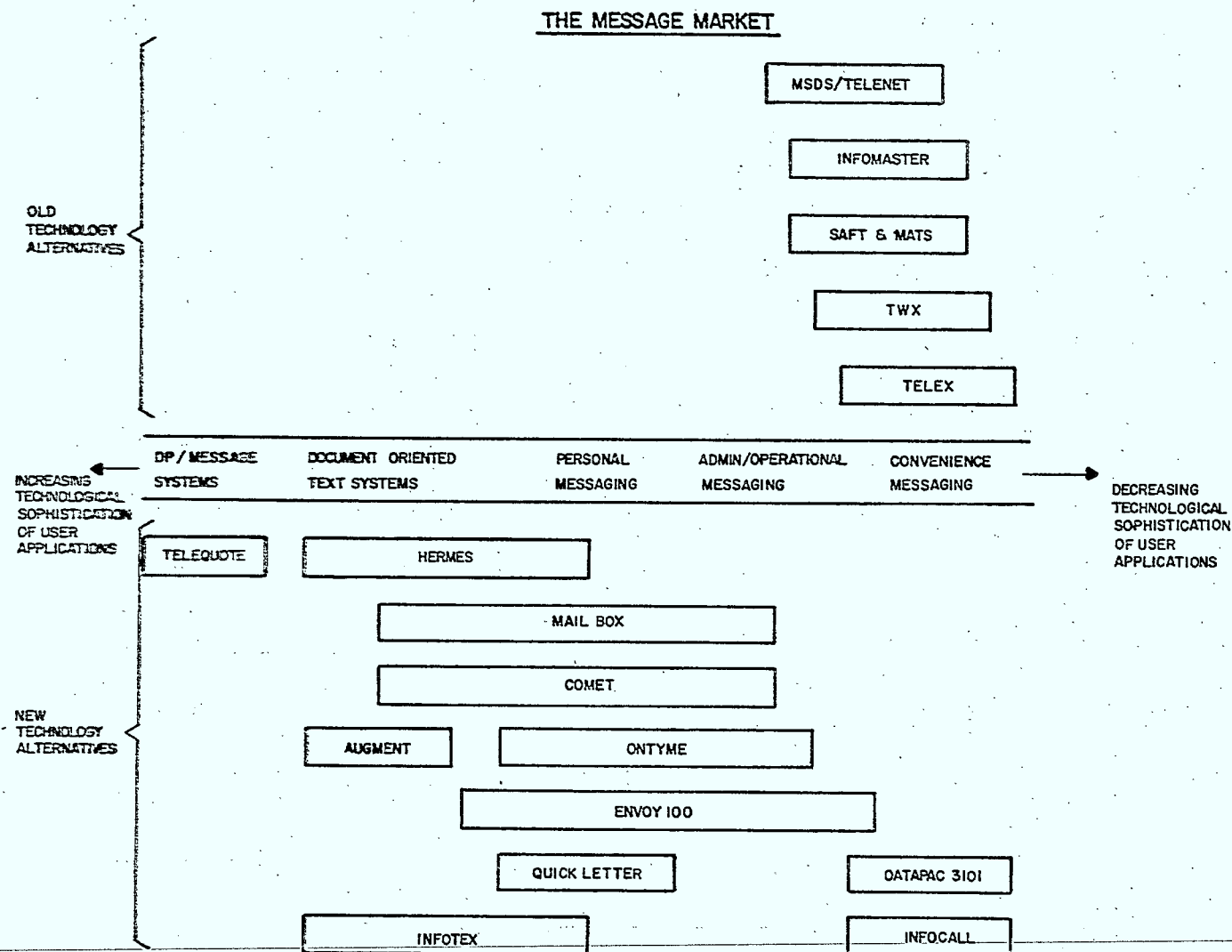


FIGURE 1

In order to gain some comparative appreciation of these public message services and where they fit along the spectrum of the principal types of application, it is first necessary to categorize the message market in general. For convenience, we can divide the message market into five generic groups, each representing a specific segment of the market. Each can be described in terms of the application that it serves. These five generic types are generally referred to as follows:

1. Convenience Messaging
2. Administrative Operational Messaging
3. Personal Messaging
4. Document Oriented Text Systems
5. Data Processing Message Systems

Convenience Messaging can be described as the transmission and receipt of information which is not critically essential to the operation of a business. Messages of this nature generally consist of general information and memos transmitted, as an example, between a branch office location and a head office location.

Administrative Operational Messaging can be defined as the transmission and receipt of information which is of a critical nature to a business operation and consists of production schedules, changes to price lists, orders, price quotations and other information which is required in the day-to-day administration of a business.

Personal Messaging may be defined as the transmission and receipt of information from the desk of one knowledge worker to the desk of another knowledge worker, a knowledge worker being defined as an individual who is concerned with the analysis, transmission and dissemination of information.

Document Oriented Text Systems can be defined as systems which provide powerful text handling, editing, and composition capabilities. Such systems are used primarily for the preparation, transmission and receipt of significant documents such as journals, reports and catalogues.

Data Processing (DP) Message Systems can be defined as systems which couple messaging and data processing capabilities. Such systems allow for the transmission of a message to a host computer where the information obtained in the message is processed and later returned to the originator.

Figure 1 shows that the message market may also be described as a continuum of increasing technological sophistication of user applications from the simple convenience messaging to the more sophisticated data processing message systems. The chart attempts to show how older technology alternatives have met the requirements of user applications along this continuum. As well, it attempts to illustrate how new technology alternatives are meeting the requirements of this continuum. The balance of this section will largely be devoted to describing the attributes of the services offered by the various suppliers along both this spectrum of user applications and also according to where they fit within the "old" and "new" technology classes, or alternatives.

OLD TECHNOLOGY ALTERNATIVES

MSDS/Telenet

- Message Switching Data Service (MSDS) is a store-and-forward message switching service introduced by TCTS in the mid 60's. It supports both private line and switched TWX terminals. Telenet is a service introduced in the mid 60's by CN/CP Telecommunications and provides basically the same type of service as MSDS.
- Telenet has been the more successful of the two services due to its interconnection with Telex service.

Infomaster

- Infomaster is a store-and-forward message switching service provided by Western Union in the U.S.A. It provides interconnection between TWX and Telex in the U.S.A. and Canadian TWX to the U.S.A. TWX and Telex.

SAFT & MATS

- SAFT and MATS are services provided by CN/CP Telecommunications in Canada which provide similar features to that of the Infomaster service provided by Western Union in the U.S.A.

TWX

- Teletypewriter Exchange Service (TWX) is a public switched message service provided by all members of TCTS in competition with CN/CP Telecommunications Telex service.

Telex

- Telex is a public switched message service provided by CN/CP Telecommunications.

NEW TECHNOLOGY ALTERNATIVES

Infocall

- Infocall is an asynchronous circuit switched service provided by CN/CP Telecommunications allowing for the interworking between terminal devices operating from 110 to 1200 Bits per second.
- It serves both data and message applications.

Datapac 3101

- It is one of the many services provided on the TransCanada Telephone Systems public packet switched Datapac network. It allows for communication between asynchronous terminals operating at 110 to 1200 Bits per second.
- It is used for both data and messaging applications.

Quick Letter

- It is a service provided by QL Systems Limited of Kingston, Ontario.
- It is a public store and retrieval messaging system.
- It allows users of QL Systems legal data base to leave messages for other users of QL Systems services for later retrieval. It is important to note that a store and retrieval system operates on the basis of information being placed in a system-based mailbox for later retrieval by another user of the system. This differs from store-and-forward message systems in that the message is not forwarded to the recipient as in store-and-forward systems but is retained in the system for retrieval by the recipient at his leisure.

Envoy 100

- This is a public store-and-forward message system that will be offered commercially by TCTS in the spring of 1981.
- Initially the service will support teleprinters and CRTs that operate in ASCII asynchronous 110 to 1200 Bits per second, and will support terminals of different speeds and types.

- Uses the Datapac public package switched network services as the prime communications medium.
- Terminals operating on the regular DDD telephone network, TWX, Datapac, international Telex and the American packet networks (Telenet-Tymnet) can access Envoy 100.
- Provides users with many message preparation, correction, and formatting features including English or French command options, line and text editing, and user defined storage capability for messages, distribution lists or formats, etc.
- Offers users a high degree of security, reliability and network availability.

Ontyme

- Ontyme is a store-and-forward message service provided in the U.S.A. by Tymshare Incorporated. It is accessed via Tymshare's Tymnet data network.
- It provides essentially the same features as Envoy 100 with some notable exceptions.

Comet

- Comet is a store and retrieval message service developed by Computer Corporation of America.
- It is accessible in the United States via Telenet public packet switched network.
- It is also available in other countries throughout the world through various time sharing services.

Mailbox

- Mailbox is a service provided by I.P. Sharp Ltd. to users of its APL time sharing services.
- It is essentially a store and retrieval messaging system providing similar capabilities to those of Comet and Quick Letter.

Hermes

- Was developed by Bolt, Beranek & Newman, a U.S. based communications consulting firm which was responsible for the birth of the Telenet public packet switch network in the U.S. among other notable achievements.

- Hermes is a very powerful document oriented text messaging system. It also extends into the personal messaging market through the provision of features to meet the needs of this base of users.
- Because of the sophistication of the Hermes software its use has been restricted primarily to specific private applications.

Augment

- It is a very powerful document oriented text messaging system originally developed by the Stanford Research Institute. Augment's (originally called NLS by SRI) software rights were purchased by Tymshare and is currently accessed via Tymshare's Tymnet network.

Infotex

- This service will eventually provide a network interface between terminals such as communicating word processors, intelligent terminals and communicating typewriters.
- Initially the service will support communicating word processors only, working at 1200 bits per second, and will include store-and-forward capabilities.
- The CN/CP country-wide digital switching network will serve as the prime communications medium.
- Terminals operating on the international and domestic telex network will be able, initially, to access Infotex.
- Offers users a high degree of security, reliability and network availability.
- Initially message preparation, correction, and formatting features will be done in the terminal itself, but at a later date capabilities will be resident within the network to enable terminals with lesser abilities to function with greater formatting, preparation and correcting capabilities.
- While the service initially will operate in ASCII mode, next year CN/CP intend to meet the new international Telex terminal interface standards therefore allowing for connection to the worldwide Teletex community.

Telequote

- Is a private line teletype service provided by CN/CP Telecommunications.
- It provides access to a Toronto stock exchange data base which contains current information on various stocks being traded on the exchange.

- Information requests are prepared on teletype machine in message format and sent to the data base computer where they are processed. A response message containing the requested information is prepared and returned to the originator.

While this is a portrait of where the various publicly offered messaging systems fit into the spectrum of principal types of user applications, as known at this time, it is not intended, nor can it be implied, that the location of a service on the chart, or the span of types of user applications that it covers, makes one offering more or less preferred to any other. As well, the chart depicts the principal area of user applications that each service basically satisfies. This does not mean that they cannot be used, from time to time, for other things as well. As time goes on and the various services are improved and augmented, we will likely see a change in the chart. For instance while the CN/CP Infotex service initially will largely be aimed at the document-oriented electronic mail type-of-application, eventually as more types of terminals and software capabilities are added to the system, it will span a larger part of the spectrum of applications, down more into personal and administrative messaging. The reality is that many of these services are only the first stage in what will eventually become a whole range of service alternatives. The relative superiority of one service, over another, can only be determined, in the long run by the potential users of these systems themselves depending on their needs, and the situation and alternatives that will exist at that time.

How quickly and to what degree the availability of products and services, such as these, will impact on the work and office environment in the future is open to debate. While most of the basic technologies and product types which are expected to change the office environment in the future are already available, one of the reasons for their slow infusion into the office, up to now, has been their still rather high unit costs and limited system capabilities. In addition, there are many behavioural and marketing factors which have contributed to this situation which must still be addressed. New products and systems are basically in the development stage, and it will take some time before they are "perfected", adequately marketed, and sold. The next section deals with some of the scenarios and possible impacts that this new chip-based technology and new systems orientation could have on society and on the work environment in particular.

4. Impacts of New Technology on Employment and on Other Related Areas

Conflicting Views

It would be misleading to look at the impact of a new technology, as pervasive as this chip-based one could become, on one group of workers or class of industry without considering a number of factors and their impact on all sectors, and their possible feedbacks. A number of studies have been produced which have attempted, in part, to do this, but with varying success. One of the areas of greatest concern is in the possible impacts of this technology on employment. One study which has been published on this topic is a French report commissioned by President Giscard D'Estaing and compiled by a senior advisor named Simon Nora. While not giving a specific overall figure for possible unemployment in the absence of positive government or political action, from the report's specific figures the author is clearly envisaging unemployment in the range of 12-14 percent in 20 years time. This can easily be deduced from the specific figures and general arguments made in the course of the report. Another set of figures is contained in a report by the Science Policy Research Unit (S.P.R.U.), at the University of Sussex. The S.P.R.U. looked at the U.S. economy in terms of broad occupational groupings, then graded them into high, medium, low and zero risk categories with respect to job loss over the next 15 years. The resulting analysis produced a potential job loss of 18.2 percent. By halving these risk factors they reduced the possible job loss to 7.2 percent, but they clearly believed the higher figures were more accurate. These figures would be in addition to the present levels of unemployment. On a similar basis, using U.K. data they projected a displacement of some 16 percent.

In "The Collapse of Work", the authors Clive Jenkins, General Secretary of the Association of Scientific, Technical and Managerial Staffs, and Barrie Sherman, Director of Research at the Association of Scientific, Technical and Managerial Staffs, in the U.K., analyzed the effects of this technology on various industrial sectors in Britain over the short (up to 5 years), medium (up to 15 years) and long term (up to 25 years). The end result of this analysis was an estimated reduction of just over 1 million jobs (4.6 percent) by 1983, 3.8 million jobs by 1993 (17 percent), and by the year 2003 a reduction of 17.1 million jobs, equivalent to 23.2 percent of the labour force. One of the aspects of change that the authors touched on to some extent was the fact that telecommunications now makes it possible to process information outside a country's national borders in bulk. They cited, for example, the publishing business where it is now possible to have newspaper correspondents file their copy by word processors to, say, the U.S. where it could be copied, edited and automatically set. Similarly they suggested that insurance companies could well file and process all of their policy claims, eventually, in another country.

These type of studies, of course, all make a number of implicit assumptions about the rate that this technology will be introduced into society and the manner in which it will impact on the overall work process. Internationally the assumptions involve such questions as the level of economic activity in these countries, the general state of technology, levels of international trade, and so on. It also involves the manner in which international companies will operate in various countries. Domestically a series of other assumptions must be made including a country's economic

state of health, levels of unemployment, government policies, the rate of innovation and acceptance of this technology, levels of capital expenditure, union actions and reactions, population trends, labour force participation rates, and so on.

Since these studies were published, a number of other views have emerged which, at the least, put into doubt some assumptions and approaches used to forecast the impact of these technologies. One study, prepared by the Manpower Study Group on Micro-electronics, Department of Employment in Great Britain, makes it clear that in their view many of those who have produced quantified forecasts have done so without even being aware of some of the far-reaching assumptions underlying them. While they felt it might be possible to indicate the differences that given economic circumstances may make to the impact of given technological changes, in their view they felt that it was not possible to say, with any degree of certainty, that any set of economic circumstances would be any more likely to occur than any other.

Rather than adopting an economic modelling approach which, in their opinion, was impractical because of the very large number of similar assumptions which would be needed and the lack of good quantifiable data available, the authors chose a case study approach. The authors examined a number of industries. In this connection they received considerable help from a number of companies and organizations in a variety of industrial and service sectors, including associations, professional bodies and trade unions. Over 100 such companies and organizations were listed by them as being contacted.

Some of the conclusions of their study are interesting. They indicated that while the overall employment effect is virtually impossible to gauge with any certainty they did give, in descriptive terms, the overall direction and magnitude of some of the changes expected. While recognizing that Britain does not possess an enviable record in terms of the rate of adoption necessary for British industry to stay competitive, they worked on the general assumption that the rate of adaptation achieved by some of the fastest-growing British Companies would be sufficient to keep Britain competitive. The authors argued that heavy investment in micro-electronic applications is more likely to occur against a background of rising market expectations than against one of economic stagnation. In these terms they felt that the employment implications in quantitative terms would likely be insignificant in the short run, but would become more significant thereafter.

In the long run they concluded that, in support of past empirical work, technological change would likely be beneficial both to output and to employment. In their view, the overall demand for products as a whole in the next 5 years will be a more significant determinant of employment levels than technological innovations in products and processes themselves. In addition, they felt that while there is considerable scope for capitalization of the services sector and the convergence of new office technologies to create comprehensive 'electronic offices', there were, in their opinion, economic and behavioural reasons for suspecting that these system possibilities will easily be translated into practice. Finally, while a number of case studies showed that there could be a loss of job opportunities in the less-skilled clerical and sub-clerical areas in the next 5 to 10 years, the expected growth in new

and existing services would likely result in offsetting job opportunities. In summary, the authors felt that Britain has no option but to adapt to microelectronic technology at least as fast as their competitors, and that unless this was done, the employment effects could be both adverse and severe in the next several years.

Some Practical Considerations

One example of those who feel that the idea of an imminent 'micro-electronics revolution' has been oversold is contained in the March 1 issue of the Economist in an article entitled "Microelectronics: A Survey". It is the author's view that the spread of microchips will be slower than many forecasts suggest and that its impact will be evolutionary rather than revolutionary. The author argues that one of the restraints on this chip-induced "revolution", that might have been overlooked by some, originates in the semi-conductor industry itself. It would seem that the industry can no longer keep up with this expanding demand. Some of the largest users who have tried to use their own manufacturing facilities to produce these microchips have been running into problems due to their inexperience. Because the semi-conductor industry is not earning enough profit to finance its own phenomenal growth, and venture capital is now avoiding this sector and putting it elsewhere, the problem could persist for several years. These problems are now affecting many businesses including those who are the largest users of them. Because of the growing demands of the largest users, nearly all of which are in the computer and telecommunications business, the supply of these products can no longer be counted on, even to many existing customers. As these large users mostly all have the muscle to pre-empt supplies of chips to other prospective customers, this situation could be a source of many problems and heartaches for those who are now designing chip-based products for the first time.

These kinds of problems are not easily resolved. Investment costs are now so high that it represents a major hurdle to any prospective manufacturer entering the business. Even if the prices of chips should stop declining and therefore provide some of the incentive needed to expand capital investment, many prospective manufacturers will find it hard because of the significant technological headstart that the existing manufacturers have in this area. This is further compounded by the tremendous shortage of skilled people with the knowledge and experience in designing them, for as the chips get more complex, the task of designing and producing them also get more difficult. Beyond this, many manufacturers are now having to supplement their own engineering skills with software skills, since even the most elementary computer needs instructions, and producing them is a highly-skilled, labour-intensive activity. As customer needs grow and the range of product capabilities becomes more differentiated, due to the requirements of the market, the software area will take on a greater importance, for it takes considerable specialized skills, knowledge and experience in knowing how to design and join together many of the subsidiary chips needed to suit the various requirements. The lack of available, experienced skills in this area could pose a significant barrier to the spread of this technology for several years.

There have been a number of other reasons cited by this and many other authors for why the rate of adoption of this technology will likely be gradual rather than of meteoric proportions. One of the barriers that is mentioned

is the users of these systems themselves. In spite of the many advantages that some systems now offer, there is evidence that many users are not nearly taking the advantage of them that they should. For instance, while many word processors and intelligent terminals can communicate, so far only 5 to 10 percent of the users take advantage of this feature.

There are many reasons why this may be so. Some of the systems have been sold and installed in locations which are at best marginal situations. Some customers have not had the kind of on-going "technical" help needed, from the suppliers of these systems, to overcome some of the reluctance of those who are to use them. In other cases, the organizational changes necessary to support these systems just have not been put into place.

In the consumer area, there are problems of what will sell, who will buy them and how much they will pay. Many of those who predict dire social change ignore the fact that man is a social being and that products like Hi-fi and TV have not had any lasting effects on man's social behaviour. (18) The same principles hold true in say the office environment where workers will resist, and for good reason, any efforts which can be seen by them to remove any of this so-called social interaction, lower their prestige or threaten their economic security.

On the other hand, there is good evidence that most workers take a certain pride in their work and will naturally want to take advantage of these systems if they can be useful and will assist them to become more productive and help them improve the quality of their work. While some systems which will be introduced should free people from the drudgery of repetitive tasks, unfortunately it could make the work of others less changing.

In the manufacturing area, although the embryonic versions of more advanced systems are already in place in some factories, it will take a long time before the bulk of manufacturing will be affected. For instance, in the more traditional products like washing machines, dishwashers, heating systems and electric stoves, etc., the suppliers are usually large conservative companies, slow to react. They know that mistakes are costly. They are aware that in many of the situations they face, the cost to re-engineer conventional products to incorporate this technology often outweigh the additional advantages. They realize too that what is required is a lot of resources and that changing production lines and building new factories takes time and money. One must also overcome the natural reluctance of production engineers to innovate without being completely sure that such innovations are really superior. While undoubtedly a number of systems will be developed with general applicability, many industrial customers will still want systems that are more or less tailor-made, and these involve additional risks.

- (18) While some studies purport to show there is some correlation between TV viewing and crime, reading habits, etc., the cause/effect relationship is far from conclusive. It could be argued, just as well and perhaps more convincingly, that events such as the invention of the wheel, gunpowder, the first and second world wars, the declining role of the church, the introduction of unemployment insurance, America's space program, the changing role of the family, the use of drugs by teenagers and others, etc., may well have had, individually, more "dire" social effects on society than has television. At least the cumulative effects are likely far more significant.

One of the difficulties often mentioned and is sometimes underestimated by technology buffs is the tremendous practical difficulties and hidden costs that are involved in trying to implement something new. Some of the obstacles are legal. Others involve simply the weight of tradition and the natural reluctance of people to change and try something new. While some of the difficulties may be caused by inadequately-designed products and systems which neither stand up to the practicalities of the everyday situation nor are cost effective, others may be as a result of inadequate training and lack of appreciation of management and others of what is involved. For instance, computer-based education is likely still to remain a dream until costs come down and better software is developed, and the teaching profession itself overcomes its built-in conservatism. Another example of the force of conservatism is the way the dream of the 'cashless society' has so far been just a pipe-dream--in spite of the fact that technically it has been possible for several years. In the U.S., banking laws differ from state to state. Some consumer groups have expressed grave reservations about it. Many companies are resisting it because of the complications involved--and many customers simply prefer cash.

Another barrier that is sometimes mentioned is the amount of government regulation and the effects of the multiplicity of rules which exist. Also mentioned by the critics in most countries is the absence of clear, enunciated government policy in certain areas. For instance, government regulations permitting customers to attach their own equipment to the telephone network vary considerably from one country to the next--from a fairly liberal policy in the U.S., to an almost non-existent one in Europe. In Canada, there has been some relaxation in the rules governing the attachment of customer-provided equipment as exemplified by the recent interim decision of the CRTC in connection with Bell Canada.

Where even small differences in rules can affect economies of scale and decisions whether or not to launch new products designed for them, the lack of international standards is delaying the development of new electronic services. One example is the European PTT's who are changing over their system from analog to digital on piecemeal basis. In the terminal area the problems are even more pronounced. Even the AT&T whose plans for a so-called intelligent network to allow terminals of different makes to communicate by making the necessary electronic translation has had to postpone its introduction because of software difficulties. There are also a number of key issues in the regulatory and government policy areas in the U.S. which, unless they are resolved, could affect the timing and plans of Xerox and Satellite Business Systems to offer new services in the States which involve bouncing messages directly from office to office, using satellites and/or microwave towers. The problem revolves around the distinction or lack of distinction between telephone and computing technologies, and when a piece of telephone equipment "becomes" a computer. These plans are being affected by the lateness of America's space shuttle and the controversy about how to allocate the scarce frequencies in the world's airwaves.

Finally there are other realities which must be faced up to by those who insist that this new technology will be absorbed into the system quickly and thereby have the kinds of disastrous effects predicted by some. First it must be realized that it will take a great deal of time and ingenuity before new products and processes can be designed based on this new technology, and for secondary technologies to take advantage of the additional raw intelligence involved. Even if new systems involving "revolutionary" changes in methods and procedures were available, it would take a lot of resources, a great deal more than what is practically available today, to retrain people in some of the very difficult skills needed to apply them. And finally, and most importantly, it takes a great deal of money to be able to afford the changeover from one system to another, and sizeable capital resources to be able to finance the massive investment in new plant and machinery that may be required. Could a company finance its requirements out of its own internal resources or would it have to go to the market to finance it? How would this affect its cash flow and internal rate of return over the short, intermediate and long term? These and several other kinds of questions are not easy questions to answer for a company without a lot of specific and supporting detail. This is one reason why it is difficult for futurists to make such predictions with any degree of accuracy, and why their track record in the past has not been an enviable one.

Impacts on Industry and the Work Force

But one should not be overcome by such arguments to the point where one becomes convinced that there will be no impact, for there are just too many convincing examples to suggest otherwise. Just the same, the net effect of this technology on jobs is extremely hard to predict. Even some firms which have introduced word processors have found that rather than replacing typists, more letters are getting sent. But the impacts will be felt, not only by the workers themselves, but at the company and industry levels also. It will become, in the future, more important for workers and companies to adapt--to learn new skills and remain competitive.

One can list a number of industrial sectors which will feel the impact the most. For instance, any company which specializes in component manufacture, assembly or in servicing a producer could be affected by a change in design or production methods brought about by the microprocessor. The impacts are now being felt by those who can loosely be described as belonging to the electronics industry, for they are in the best position to recognize, evaluate and adapt to the new electronic advances. For instance, in the telecommunications industry itself, for every 100 workers employed in the old electro/mechanical crossbar switching exchanges a few years ago, only 4 are needed for some of the newer systems--and along with this there has been a 75 percent reduction in the number of persons needed to install, diagnose and repair these systems because of their added reliability and greater "simplicity". Another example is the computer industry itself. But other industries too are starting to recognize the value of these electronic advances and are beginning to incorporate such circuitry into their products, production processes and business methods. For example, one can refer to the automobile industry, the civil aviation industry, insurance companies, the newspaper industry, and so on where significant technological advances have taken place.(19)

(19) See footnote at bottom of page 29.

But what must be recognized is that it is not so much the industrial sector, per se, which is the important factor, but the type of processes involved, be it production or clerical. Once the common elements have been identified, these areas will automatically start to receive attention. This will impact on work patterns and the number of workers employed. For the most part the systems used will involve very mundane, even boring standardized computer packages which, when put together, will fit a large number of criteria and perform many jobs. Disemployment, when it takes place, will often likely go unnoticed because of its gradual nature, the fact that the loss of work will often be handled by natural attrition, and by the retraining of those affected for other jobs. Over time, though, the loss of work could affect the number of job opportunities for those needing work, or at least affect the kinds of people needed to handle the new job opportunities as they open up as a by-product of this new technology.

While many skilled and unskilled blue collar jobs will be affected, so too will those in the supervisory, administrative and managerial areas. The jobs which will, but not necessarily, be impacted the most will likely be those which repeat one or even many operations and where personal decision making is at a minimum. Other jobs could simply disappear because the manufacturing and office procedures involved become truncated or the amount of work involved is reduced due to the indirect effects of these changes.

In the clerical area, typists, filing clerks and general office staff, for instance, could all find jobs harder to get in the future. To a lesser extent secretaries could also be hit, although what may happen here is that many of these jobs could be upgraded to give these people more responsibility. This whole scenario could, however, be partly counterbalanced by the trend by the female work force towards other types of work, such as management and sales. Administrators and their staffs too could also be affected since some of the systems which are being developed will allow for easier monitoring of the work that is going on, provide more feedback to middle management, and allow for a greater scope of control by higher level management within the organization itself. This possibility has far-reaching implications for the organization as a whole.

- (19) For instance, the automobile industry is incorporating micro-electronic controlled functions into the automobile which is cutting down the miles of conventional wiring and makes the diagnosis of faults and servicing much faster. Robots are increasingly being used by them for assembly and welding purposes (e.g. Volkswagon, Volvo, Fiat etc.) and it is reported that by 1985, the US motor industry could shed some 18 percent of its production workers as a consequence of new investments in automated equipment. In the civil aviation industry we have computerized air traffic control and micro-computer aided diagnostic systems. Insurance companies are now starting to use video display units and the computer for comparing details of various types of policies, for automatic filing of memos and correspondence, and for the searching of customer records. Word processing is also being used by them to help type large numbers of standard letters, and the electronic linking of branch and head offices is reported to be saving time, effort, and reducing manpower requirements. In the newspaper and publishing field, computerized type setting has had a significant impact. It is reported that the New York Herald has increased its production from 22 lines per hour to 200, and that as a result its staff in Europe has been cut to one-third. There are many other examples which can be cited.

Impact on the Sale of Office-Type Equipment

In a somewhat different vein, rather than dealing with the possible social impacts of the technology on the work force and on society in general, as this topic has partly been touched on already by this paper and is adequately handled in the literature, it now may be useful to discuss its possible impacts on the sale of office-type equipment itself. While a number of "internal-type" studies have been conducted which would shed some light on this topic, for purposes of this paper it is sufficient simply to refer to one such study which has been published by Predicasts Inc. in the U.S. This is because the general dimensions of the change expected can be translated, to some extent, to the Canadian situation.

Predicasts refer to the fact that, in 1978, in the order of about 6½ billion pages of paper-borne information were produced in the U.S. By 1990, they expect that this figure will mushroom to 1.1 trillion pages. This is in addition to what will be produced, transmitted and stored electronically. They expect that paper, as an information medium, will continue to face increasingly strong competition from other media such as microfiche and from various types of electronic and optical media now under development. Excluding sales of computers and their related hardware, some of which will be incorporated into and interface with the office environment, they predict that sales of "office equipment" should increase from \$4.7 billion in 1978 to \$16.9 billion in 1990. This is an annual growth rate of 11.2 percent. If one includes exports and reduces these figures by the dollar value of imports, the value of "office automation" equipment shipments are expected by Predicasts to approach \$16.3 billion by 1990. While net imports are expected to be almost double these levels of 1978, in terms of percentage of sales, they expect this figure to shrink from 8 percent of sales to less than 4 percent.

At the present time the copier and duplicator industry sales accounts for the largest single revenue segment, followed by various forms of text generation equipment, micrographics equipment (for storage) and then facsimile. However, because of the expected strong growth in word-processing sales, text generating equipment is expected to overtake copiers by 1990. Because of expected strong growth in sales of plain paper copiers, sales of coated copiers are expected actually to show a marked decline.

Office typewriters have, according to them, lost about 6 percent of their 1978 market to word processors. Intelligent typewriters, equipped with magnetic media memory and editing logic should, they feel, capture much of the new demand and replacement market for secretarial typewriters. In the late 1980's, the installed base of office typewriters is projected to contract and actually stabilize in the late 1980's because of replacement demand. They expect intelligent typewriters to actually make up an increasing share of installations and approach somewhere in the order of 50 percent by 1990.

According to their figures copiers, word-processors and standard and intelligent typewriters will account for about 80 percent of the total sales. Copiers will be in the order of 40 percent, word processors 30 percent and standard and intelligent typewriters about 10 percent. The next 15 percent of the market would consist of computer output microfiche recorders, dictation equipment, duplicators and micrographic recorders and reader printers. The remaining portion would consist of sales of source document microfiche cameras, computer-assisted microform terminals, optical character readers and teleconferencing equipment.

While they do not indicate a value for sales of either computers or data terminal equipment, Predicasts Inc. project that in the U.S. the installed base of general purpose computers should increase from about 58,000 in 1978 to 80,000 in 1990; microcomputers (except minis used as small business computers) from 275,000 in 1978 to 3,200,000 in 1990; and small business computers from 73,000 in 1978 to 1,850,000 in 1990. From 1978 to 1990 they also project the installed base of teleprinters to increase from 475,000 to 1,200,000; visual display terminals from 805,000 to 3,600,000; intelligent terminals from 345,000 to 5,000,000; and other data terminals from 55,000 to 300,000.

5. Contents, Background and Reasons for Organizing the Data

The information contained in Section 2 of this report is compiled from data obtained from Labour Canada in connection with their 1977 Survey of Wages and Working Conditions, and from selected information and adjustments based on data obtained from published and unpublished reports such as the 1975 and 1977 Occupational Employment Surveys, selected Census information, the Labour Force Survey, etc..

Each year Labour Canada conducts a survey of establishments with 20 or more employees in order to obtain the distribution of wage rates and salaries, on a provincial and national basis, for selected cross-industry and specific industry occupations. Information pertaining to standard hours of work for office and non-office employees is also obtained. Employers are asked to submit returns on the basis of "establishment" rather than on a company or enterprise basis as many companies are of a multiple-unit type and are in several businesses located in several provinces. The "establishment" level is a definition used by Statistics Canada to refer to the smallest unit or separate operating entity capable of reporting all elements of basic industrial statistics. While some of the data obtained required certain adjustments to make it consistent with other sources, the distribution of employment by size of establishment, location and "size of office" which is contained in the tables contained in Section 2 are based on details extracted from the Labour Canada file.

Work by the Statistical Information Services directorate on the assembly and organization of statistics on office occupations stems from its involvement with the Office Communications System Program, and the associated work of Systems Approach Consultants Limited that was carried out under contract with CN/CP Telecommunications. It also evolved from some related work in connection with the general topic of the "information economy".

In Canada, there is a lack of basic information relating to issues involving the information economy. In particular there is a paucity of data relevant to concerns about the potential impact of new business office and home services on capital flows, investments, and on the make-up, displacement and on job-creating effects of new information technologies. One reason for this is that we are dealing with a new technology, new machinery and new software. Because we are dealing with a new phenomenon, current statistics are not available even on such items as the number of word processors, memory typewriters and other electronic telecommunication equipment. A second reason for the scarcity of data is the tendency of consultants and analysts to borrow statistics from the United States and adjust them in the hope that they will be a good indicator of the Canadian situation. This practice is sometimes the result of insufficient funding and lack of appreciation by management of what they are getting in return for their investment. While a number of individual studies such as Bell Canada's new Vista service, Trans Canada's recently announced Envoy 100 service, CN/CP Telecommunications' new Infotex Service, etc., are now being carried out in the industry, they are for the most part specific to the needs of particular companies. Because these studies are of a proprietary nature, they are not generally available for public use.

Given this situation, another approach to determining the magnitude of the potential market for, and the impact of, new office automation systems in Canada is to begin by examining the number of employees and establishments involved. The data in this report would be relevant to such studies, as well to other studies of a related and unrelated nature.

This report provides statistics on the size and distribution of a part of the Canadian Labour Force that is and will be, directly affected by the new technology taking place in office automation. As such, it provides a good quantitative starting point, and combined with other indicators, can provide a reasonable indication of the potential size of the market for some of these new products and for the assessment of this new technology on the Labour Force.

In addition, the data that are contained in the tables that follow can be used for a number of other purposes. Some of the potential uses are in studies involving:

- a) Estimating employment "obsolescence" effects of introducing new Office Communications technology.,
- b) Identifying and quantifying the effects of new office technologies in certain industrial sectors.
- c) Quantifying their possible impacts on provincial and regional economies.
- d) Providing some basic information for marketing studies.
- e) Assisting in the decision as to where to locate new manufacturing facilities.
- f) Helping to identify and quantify potential markets and assist in related marketing decisions.
- g) Estimating capital displacement trends and the size of office capital replacement expenditures.
- h) Quantifying new employment opportunities and estimating the net effects of new office technologies on employment.
- i) Helping to quantify the potential and risks for Canada of new information technology investments and the advisability of encouraging Canadian manufacturers to enter this market.

6. Acknowledgements and Concluding Remarks

The author expresses his appreciation to the Department of Labour for its co-operation and encouragement in this work. In particular thanks are extended to Wayne Baxter of the Surveys Division of the Labour Data Branch and Joe Sauvé of the Data Processing Division for their splendid co-operation. In addition, the efforts of Alan Rottenberg, Computer Sciences Canada Ltd., and the Departmental Computer Services Group are appreciated. The author also wishes to thank those people and organizations who have freely given their time and help to provide the Department with some of the material upon which the paper is based, and background in certain developments now taking place.

The author also wishes to express his appreciation to all those in the Department who have supported this work and to Everett King under whose general direction the work has progressed. While the contents of the report are based on sources which are believed to be reliable, the content, organization and views expressed, as well as any errors and discrepancies that may be found, are the responsibility of the author. While the paper attempts to be objective, some of the views expressed may be the personal opinion of the author, and therefore not necessarily represent the official position of the Department on the subject.

Considerable effort has been taken to condense, reorganize and adjust the data in Section 2 to ensure that the information on which the tables based, is as reliable and reasonable as possible. This information is now on computer file. While the various reports indicate most of the relevant characteristics of the file, other summaries have been produced based on certain dumps of the file which could be of considerable help to those involved in future "studies of the office", or that may be performing certain detailed studies of the market. For access to this information, or questions with respect to the possibility of producing other back-up type reports, please contact John H.C. Braden on 996-9885 in Ottawa.

SECTION 2: TABLES

The Distribution of Employees in Large Establishments
in Canada by Office Occupation, Industry Class, Size
of Office, Establishment Size and Region.

SECTION 2; TABLE OF CONTENTS

Report Types

1. Number of Establishments by Industry and Size of Establishment.
 - 1.1 Number of Establishments Reported Summarized by Industry and Size of Establishment.
 - 1.2 Number of Establishments Reported Summarized by Province and Size of Establishment.
 - 1.3 Estimated Number of Establishments in the Universe based on Part I Questionnaires Sent.
 - 1.4 Part I Questionnaires Sent, Received and Percent Response by Size of Establishment.
 - 1.5 Number of Companies Reported Summarized by Industry Class and Number of Establishments.
 - 1.6 Number of Companies and Associated Number of Establishments Reported Summarized by Industry Class.
2. Number of Employees by Industry and Size of Establishment, Summarized by Region.
3. Number of Office Employees by Industry and Size of Establishment Summarized by Region.
4. Number of Employees in Specific Office Occupations by Industry and Size of Establishment, Summarized by Region.
5. Number of Employees in Specific Groups of Occupations by Industry and Size of Establishment.
6. Number of Office Employees in Specific Groups of Occupations Summarized by Size of Office and Industry.
7. Total Employees, Office Employees and Specific Groups of Occupations by Industry.
8. Number of Office Employees in Specific Occupations by Occupation and Size of Establishment, Summarized by Region.
9. Number of Office Employees in Specific Occupations and Size of Establishment, Summarized by Industry.
10. Percent Office Employees in Specific Occupations Summarized by Occupation, Establishment Size and Industry Class.
11. Number of Employees in Ten of the Top Occupations, Summarized by Industry and Size of Establishment.

12. Percent Distribution of Employees by Occupation, Industry Class and Establishment Size, for Ten of the Top Occupations.
13. Average Number of Employees per Establishment Summarized by Establishment Size and Industry Class, for Ten of the Top Occupations.
14. Average Number of Employees per Establishment for Establishments with the Given Occupation, Summarized by Establishment Size and Industry Class, for Ten of the Top Occupations.
15. Number of Establishments with the Given Occupation, Summarized by Establishment Size and Industry Class, for Ten of the Top Occupations.

SECTION 2; TABLES

Introduction

Each year Labour Canada conducts a survey of large establishments in Canada for the purpose of obtaining information on salaries, wages and working conditions.

The information contained in these tables is based on the 1977 survey results. It covers selected occupations for all establishments with 20 or more employees in all major industrial sectors with the exception of Agriculture, Hunting, Trapping and Construction. Only the Logging industry is covered in the Forestry division.

While the survey covers all "large" establishments on a nation-wide basis, the various distributions in the report are based on 16,358 questionnaires received out of the 24,837, that were sent. This is an overall 66 percent response rate. In terms, however, of the number of employees covered the response rate is even higher. As indicated in Report Type 1.4, the percent response varied from a low of 64 percent for establishments with 49 or less employees, to some 87 percent for those with 5,000 or more. On this basis the coverage is in the order of 75 percent of all employees surveyed.

While the coverage is quite acceptable when viewed on this basis, in order to provide an estimate of the number of people employed in the various occupations surveyed, (by establishment size, class of industry, etc.), it was necessary not only to adjust the figures upward for non-response but to account for the under-reporting of certain occupations. The data in this report, therefore, differ from some of the summary totals included in the publication Wage Rates, Salaries and Hours of Labour, Labour Canada, October 1977, as their information is strictly a count of the raw data in their file.

In the context of the tables in this section, it is worthwhile re-iterating one or two items mentioned in the concluding remarks of Section 1, and to raise a couple of points which might help ones understanding of the data. As mentioned earlier, an establishment may or may not refer to a physical location such as an individual branch office, store, or factory location. In many cases it is a collection of 'physical entities' or buildings. This is especially so for some types of businesses, and for companies which are large in size. Any company involved in more than one business, or located in two or more provinces is also required to report this information separately. This affects the number of 'establishments' reported. An 'establishment', therefore, is a definition used by Statistics Canada, and adhered to by the Labour Canada Survey group, to refer to the smallest unit, or operating entity, capable of reporting all elements of basic industrial statistics.

The tables themselves should be self explanatory. However, the concept of 'office' and 'office type' used for the purpose of these reports is the following. In Report Type 05, employees have been grouped into one of five

occupational agglomerations as follows: Stenographic and Typing; Clerical and Related; Bookkeeping, Account Recording and Related; Office Machine Operators; and Computer Related Occupations. The first "type-of-office", or "Office Type 1", refers to the first class or group of occupations, (d.e. Stenographic and Typing), listed in Report Type 05. The second type-of-office, or 'Office Type 2', refers to the occupations in the first two classes or group of occupations (d.e. Stenographic, Typing, Clerical and Related), listed in Report Type 05. The same idea applies to the other three classes or types of offices listed. In other words the office types listed are the cumulative aggregation of the various groups of occupations listed in Report Type 05. The individual occupations included in these groups can be determined from the occupations listed at the top of the various tables in Report Type 05.

'Size of Office' refers to the number of employees of a particular type (group, or class) of occupations which are located in an establishment. The corresponding number of employees listed in the tables refers to the total number of people with these characteristics employed in all such establishments. For example, in Report Type 06, Office Type 1, there are 7,577 people shown in 'offices, with 1 or 2 people employed in stenographic and typing occupations in the manufacturing industry. Altogether, in manufacturing there are an estimated 43,293 people employed in these occupations across all 'office sizes', and some 668,548 altogether (over all industries and office sizes).

In Report Type 13 employees in ten of the top office occupations surveyed, for a given industry and establishment size, are averaged over the corresponding number of establishments which comprise that "cell" or item of data. More simply, the averages are the ratio of the number of people in the industry class and establishment size listed in Report Type 11, divided by the corresponding number of establishment's for that group as listed in Report Type 01, Option 3. The average number of employees per establishment shown in Report Type 14, however, differ from those listed in Report Type 13, as the denominator in Report Type 13 includes only those establishments with the given occupations, (listed in Report Type 15). For instance, in table 1 of Report Type 14, there is an average of 14.75 general office clerks in establishments which have general office clerks. In the column corresponding to 5,000 + employees, there is an average of 1,039.52 general office clerks per establishment for those establishments with 5,000 or more people, and which have such occupations. The last table in this report is not the sum of the averages in the previous ten tables, but rather the sum of all the people included in ten occupations listed in this report, divided by the total of all establishments with one or more of these ten occupations, (the last table of Report Type 15).

REPORT TYPE 1

Information of the Number of Large
Establishments and Companies in Canada

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 01: NUMBER OF ESTABLISHMENTS REPORTED

OPTION 1: SUMMARIZED BY INDUSTRY AND SIZE OF ESTABLISHMENT

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	2,096	2,432	716	224	94	17	7	1	9	5,596	34.2
2. TRANSPORTATION	388	285	72	32	17	4	4	2	8	812	5.0
3. COMMUNICATIONS	102	68	31	16	10	6	3	1	2	239	1.5
4. UTILITIES	45	74	30	10	6	3	2	0	2	172	1.1
5. WHOLESALE TRADE	1,340	812	74	15	2	0	0	1	0	2,244	13.7
6. RETAIL TRADE	1,249	684	81	32	15	3	1	0	4	2,069	12.6
7. FINANCIAL INSTITUTIONS	622	284	65	19	13	6	2	1	6	1,018	6.2
8. INSURANCE & REAL ESTATE	307	208	53	12	6	0	0	0	0	586	3.6
9. HEALTH & WELFARE	125	308	193	98	50	16	4	1	0	795	4.9
10. SERVICE TO BUSINESS MANGMNT	422	286	48	7	2	1	0	0	0	766	4.7
11. PUBLIC ADMINISTRATION	46	151	93	44	24	9	5	7	25	404	2.5
12. ALL OTHERS	679	677	183	69	27	11	4	3	4	1,657	10.1
TOTAL	7,421	6,269	1,639	578	266	76	32	17	60	16,358	100.0
%	45.4	38.3	10.0	3.5	1.6	.5	.2	.1	.4	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 01: NUMBER OF ESTABLISHMENTS REPORTED

OPTION 2: SUMMARIZED BY PROVINCE AND SIZE OF ESTABLISHMENT

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. NEWFOUNDLAND	122	97	26	10	5	2	0	1	1	264	1.6
2. PRINCE EDWARD ISLAND	36	13	7	1	0	1	0	0	0	58	.4
3. NOVA SCOTIA	285	168	45	13	2	5	2	1	1	522	3.2
4. NEW BRUNSWICK	235	142	35	17	7	2	1	1	0	440	2.7
5. QUEBEC	1,909	1,654	424	145	73	14	12	3	15	4,249	26.0
6. ONTARIO	3,016	2,718	760	268	104	33	10	4	27	6,940	42.4
7. MANITOBA	333	269	47	19	8	4	3	2	4	689	4.2
8. SASKATCHEWAN	187	147	43	12	15	1	0	1	0	406	2.5
9. ALBERTA	556	488	97	40	18	7	3	3	4	1,216	7.4
10. BRITISH COLUMBIA	727	558	149	50	34	7	1	1	8	1,535	9.4
11. YUKON TERRITORY	8	6	3	2	0	0	0	0	0	19	.1
12. NORTHWEST TERRITORIES	7	9	3	1	0	0	0	0	0	20	.1
TOTAL	7,421	6,269	1,639	578	266	76	32	17	60	16,358	100.0
%	45.4	38.3	10.0	3.5	1.6	.5	.2	.1	.4	100.0	

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 01: NUMBER OF ESTABLISHMENTS (ADJUSTED TOTAL) *

OPTION 3: NUMBER OF ESTABLISHMENTS IN UNIVERSE BASED ON PART 1 QUESTIONNAIRES SENT

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	3,313	3,584	1,150	283	108	18	8	1	10	8,475	34.1
2. TRANSPORTATION	613	420	116	40	20	4	5	2	9	1,228	4.9
3. COMMUNICATIONS	161	100	50	20	12	6	3	1	2	356	1.4
4. UTILITIES	71	109	48	13	7	3	2	0	2	255	1.0
5. WHOLESALE TRADE	2,118	1,197	119	19	2	0	0	1	0	3,456	13.9
6. RETAIL TRADE	1,974	1,008	130	40	17	3	1	0	4	3,179	12.8
7. FINANCIAL INSTITUTIONS	983	419	104	24	15	6	2	1	6	1,561	6.3
8. INSURANCE & REAL ESTATE	485	307	85	15	7	0	0	0	0	899	3.6
9. HEALTH & WELFARE	198	454	310	124	58	17	5	1	0	1,165	4.7
10. SERVICE TO BUSINESS MANGMNT	667	421	77	9	2	1	0	0	0	1,178	4.7
11. PUBLIC ADMINISTRATION	73	223	149	56	28	9	6	8	27	577	2.3
12. ALL OTHERS	1,073	998	294	87	31	11	5	3	4	2,507	10.1
TOTAL	11,730	9,239	2,633	730	307	79	36	19	64	24,837	100.0
%	47.2	37.2	10.6	2.9	1.2	.3	.1	.1	.3	100.0	

* NOTE: FIGURES ARE ADJUSTED UPWARDS FOR NON-RESPONSE

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELAT

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 01: NUMBER OF ESTABLISHMENTS REPORTED

OPTION 4: PART 1 QUESTIONNAIRES SENT, RECEIVED AND PER CENT RESPONSE BY SIZE OF ESTABLISHMENT

GROUP	SIZE	SENT*	RECEIVED	% RESPONSE
1	1- 49	11,730	7,421	63.3
2	50- 199	9,239	6,269	67.9
3	200- 499	2,633	1,639	62.2
4	500- 999	730	578	79.2
5	1000-1999	307	266	86.6
6	2000-2999	79	76	96.2
7	3000-3999	36	32	88.9
8	4000-4999	19	17	89.5
9	5000+	64	60	93.8
TOTAL 1-9		24,837	16,358	65.9

* NOTE: THE INFORMATION IS ESTIMATED BASED ON LABOUR CANADA SUPPLIED INFORMATION AND OTHER STATISTICAL SUMMARIES FROM THIS DATABASE

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 01: NUMBER OF COMPANIES* REPORTED

OPTION 5: SUMMARIZED BY INDUSTRY CLASS AND NUMBER OF ESTABLISHMENTS PER COMPANY**

INDUSTRY CLASS

ESTAB. PER COMPANY	MFG.	TRANSP.	COMM.	UTIL.	W. TRADE	R. TRADE	FIN.	INS.-R.E.	HEALTH	SERV.	PUB.	OTHERS	TOTAL
1	4102	553	156	86	1425	1560	168	273	722	600	222	1276	11143
2	200	31	6	7	91	30	8	28	3	21	8	36	469
3	84	3	3	1	28	4	6	13	1	10	2	16	171
4	35	5	0	0	18	4	2	6	0	3	1	15	89
5	30	2	1	1	9	3	9	5	0	4	0	9	73
6	16	3	0	0	2	2	1	7	1	0	1	5	38
7	16	0	0	1	4	1	4	5	0	3	0	1	35
8	6	2	0	0	1	1	0	0	0	0	1	1	12
9	2	2	0	0	0	3	2	2	0	1	0	0	12
10	7	0	0	0	2	1	0	2	0	0	0	0	12
11 TO 15	19	2	1	1	8	3	4	4	0	2	1	5	50
16 TO 20	6	0	0	1	0	0	2	0	1	0	1	1	12
21 TO 30	1	2	0	1	1	2	3	0	0	0	0	0	10
31 TO 40	2	1	0	0	0	3	1	0	0	0	0	1	8
41 TO 50	0	0	1	0	0	0	0	0	0	0	0	0	1
51 TO 75	0	0	0	0	0	1	0	0	0	0	1	0	2
76 TO 99	0	0	0	0	0	1	0	0	0	0	1	0	2
100+	0	0	0	0	0	0	1	0	0	0	0	0	1
TOTAL	4526	606	168	99	1589	1619	211	345	728	644	239	1366	12140

*NOTE: THE FIGURES IN THE BODY OF THE TABLE, REPRESENTING THE NUMBER OF COMPANIES REPORTING ONE OR MORE OF THE GIVEN OFFICE OCCUPATIONS SURVEYED INCLUDE NOT ONLY THE NUMBER OF PUBLIC AND PRIVATE COMPANIES WHICH RESPONDED TO THE SURVEY BUT ALSO GOVERNMENT INSTITUTIONS, MUNICIPAL, PROVINCIAL AND FEDERAL.

*NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

**NOTE: AN ESTABLISHMENT IS THE SMALLEST UNIT OR OPERATING ENTITY CAPABLE OF REPORTING ALL ELEMENTS OF BASIC INDUSTRIAL STATISTICS.

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 01: NUMBER OF COMPANIES AND ASSOCIATED NUMBER OF ESTABLISHMENTS REPORTED.
 OPTION 6: SUMMARIZED BY INDUSTRY CLASS

INDUSTRY CLASS	NUMBER OF COMPANIES	%	NUMBER OF ESTABLISHMENTS	%	AVERAGE PER COMPANY
1 MANUFACTURING	4526	37.28	5828	35.63	1.29
2 TRANSPORTATION	606	4.99	826	5.05	1.36
3 COMMUNICATIONS	168	1.38	236	1.44	1.40
4 UTILITIES	99	.82	173	1.06	1.75
5 WHOLESALE TRADE	1589	13.09	2002	12.24	1.26
6 RETAIL TRADE	1619	13.34	2070	12.65	1.28
7 FINANCIAL INSTITUTIONS	211	1.74	1014	6.20	4.81
8 INSURANCE & REAL ESTATE	345	2.84	588	3.59	1.70
9 HEALTH & WELFARE	728	6.00	754	4.61	1.04
10 SERVICES TO BUSINESS MGMT	644	5.30	762	4.66	1.18
11 PUBLIC ADMINISTRATION	239	1.97	444	2.71	1.86
12 ALL OTHERS	1366	11.25	1661	10.15	1.22
TOTAL	12140	100.00	16358	100.00	1.35

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
 AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

REPORT TYPES 2 AND 3

Information on Estimated Number of Employees and
Office Type Employees in Large Establishments

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 02: NUMBER OF EMPLOYEES BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

1. ATLANTIC REGION

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	6,876	23,218	24,145	10,120	5,838	3,080	0	0	0	73,277	20.3
2. TRANSPORTATION	1,573	3,273	5,194	991	3,305	0	0	5,862	0	20,199	5.6
3. COMMUNICATIONS	934	861	1,877	0	2,035	3,550	4,950	0	0	14,207	3.9
4. UTILITIES	148	448	2,000	1,501	0	3,390	4,344	0	0	11,832	3.3
5. WHOLESALE TRADE	9,116	8,257	0	0	0	0	0	0	0	17,373	4.8
6. RETAIL TRADE	12,615	13,245	5,780	4,328	2,559	0	0	0	0	38,528	10.7
7. FINANCIAL INSTITUTIONS	3,510	4,613	5,259	0	0	2,774	0	0	0	16,157	4.5
8. INSURANCE & REAL ESTATE	1,065	3,022	487	0	0	0	0	0	0	4,575	1.3
9. HEALTH AND WELFARE	603	7,421	14,456	14,168	4,669	3,017	0	0	0	44,335	12.3
10. SERVICE TO BUSINESS MANGMNT	1,625	2,065	0	0	0	0	0	0	0	3,690	1.0
11. PUBLIC ADMINISTRATION	787	4,751	5,161	5,638	4,643	7,902	0	10,602	31,053	70,535	19.6
12. ALL OTHERS	2,897	9,198	9,324	8,922	2,016	7,794	5,490	0	0	45,641	12.7
TOTAL	41,749	80,374	73,685	45,668	25,066	31,507	14,784	16,464	31,053	360,350	100.0
%	11.6	22.3	20.4	12.7	7.0	8.7	4.1	4.6	8.6	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 02: NUMBER OF EMPLOYEES BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

2. QUEBEC REGION

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	37,185	134,129	112,205	67,967	63,707	5,481	18,597	0	14,295	453,566	34.2
2. TRANSPORTATION	5,903	12,571	7,347	9,836	7,629	0	0	0	49,254	92,540	7.0
3. COMMUNICATIONS	1,203	3,006	5,050	6,347	2,903	3,057	5,652	0	19,741	46,959	3.5
4. UTILITIES	341	2,141	4,841	2,607	1,533	0	0	0	10,207	21,670	1.6
5. WHOLESALE TRADE	21,222	38,057	12,734	3,529	1,759	0	0	0	0	77,301	5.8
6. RETAIL TRADE	25,118	37,707	10,414	6,304	11,287	4,142	5,981	0	0	100,953	7.6
7. FINANCIAL INSTITUTIONS	6,726	9,611	5,584	2,889	6,557	6,179	8,547	5,983	9,129	61,205	4.6
8. INSURANCE & REAL ESTATE	3,800	10,243	10,743	3,973	0	0	0	0	0	28,759	2.2
9. HEALTH AND WELFARE	1,236	13,478	36,990	28,256	31,053	14,844	14,126	0	0	139,984	10.6
10. SERVICE TO BUSINESS MANGMNT	6,580	11,221	10,964	995	0	0	0	0	0	29,760	2.2
11. PUBLIC ADMINISTRATION	745	7,682	17,617	7,707	1,415	2,862	0	11,039	105,949	155,016	11.7
12. ALL OTHERS	9,891	29,301	30,462	18,644	18,437	6,653	5,656	0	0	119,042	9.0
TOTAL	119,950	309,148	264,951	159,053	146,278	43,218	58,559	17,022	208,576	1,326,755	100.0
%	9.0	23.3	20.0	12.0	11.0	3.3	4.4	1.3	15.7	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 02: NUMBER OF EMPLOYEES BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

3. ONTARIO REGION

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	58,986	225,351	235,610	132,722	95,054	37,716	14,752	6,788	95,819	902,798	39.7
2. TRANSPORTATION	9,349	18,564	21,379	14,275	5,920	2,901	5,565	0	28,505	106,458	4.7
3. COMMUNICATIONS	2,619	6,236	10,801	7,891	6,284	3,610	0	6,409	20,818	64,667	2.8
4. UTILITIES	2,118	8,876	12,098	921	1,547	0	0	0	12,463	38,021	1.7
5. WHOLESALE TRADE	34,024	60,248	19,387	7,486	0	0	0	6,462	0	127,609	5.6
6. RETAIL TRADE	34,456	63,616	25,629	18,742	6,466	3,873	0	0	36,072	188,855	8.3
7. FINANCIAL INSTITUTIONS	8,943	17,126	17,234	5,509	4,852	3,150	0	0	40,022	96,836	4.3
8. INSURANCE & REAL ESTATE	5,294	17,181	22,514	6,860	11,846	0	0	0	0	63,695	2.8
9. HEALTH AND WELFARE	1,136	19,632	43,036	47,104	34,821	21,019	5,288	0	0	172,036	7.6
10. SERVICE TO BUSINESS MANGMNT	13,060	27,566	18,375	4,506	5,493	3,375	0	0	0	72,374	3.2
11. PUBLIC ADMINISTRATION	1,030	9,786	16,629	20,286	22,039	10,925	16,711	0	143,533	240,939	10.6
12. ALL OTHERS	17,764	46,999	35,955	27,575	15,393	17,630	5,144	6,256	27,464	200,181	8.8
TOTAL	188,779	521,181	478,646	293,879	209,713	104,197	47,461	25,915	404,697	2,274,469	100.0
%	8.3	22.9	21.0	12.9	9.2	4.6	2.1	1.1	17.8	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 02: NUMBER OF EMPLOYEES BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

4. CENTRAL REGION

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	13,165	44,043	32,409	15,235	6,009	0	0	0	0	110,861	15.5
2. TRANSPORTATION	3,402	8,449	6,951	4,968	7,398	0	15,331	0	11,101	57,600	8.0
3. COMMUNICATIONS	932	1,471	1,968	2,698	6,973	9,317	5,142	0	0	28,501	4.0
4. UTILITIES	132	719	1,810	4,523	8,947	3,218	0	0	0	19,349	2.7
5. WHOLESALE TRADE	14,335	20,087	9,339	3,194	0	0	0	0	0	46,955	6.6
6. RETAIL TRADE	12,273	27,745	14,238	8,404	12,398	5,120	0	0	9,733	89,911	12.5
7. FINANCIAL INSTITUTIONS	4,413	7,993	4,925	6,444	7,050	3,151	0	0	0	33,976	4.7
8. INSURANCE & REAL ESTATE	2,570	5,638	436	2,192	0	0	0	0	0	10,835	1.5
9. HEALTH AND WELFARE	4,847	13,450	16,660	11,322	21,544	10,164	0	5,755	0	83,743	11.7
10. SERVICE TO BUSINESS MANGMNT	5,187	9,013	512	1,519	0	0	0	0	0	16,231	2.3
11. PUBLIC ADMINISTRATION	186	3,950	5,588	5,084	11,970	2,733	4,330	17,593	55,876	107,309	15.0
12. ALL OTHERS	6,886	25,769	23,374	14,153	6,786	6,408	4,936	13,061	9,794	111,166	15.5
TOTAL	68,328	168,326	118,209	79,736	89,075	40,111	29,740	36,409	86,503	716,437	100.0
%	9.5	23.5	16.5	11.1	12.4	5.6	4.2	5.1	12.1	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 02: NUMBER OF EMPLOYEES BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

5. PACIFIC AND TERRITORIES REGION

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	9,360	26,550	30,993	14,257	12,066	5,977	0	0	0	99,203	18.6
2. TRANSPORTATION	2,558	7,549	3,522	3,645	8,025	9,757	0	5,983	0	41,039	7.7
3. COMMUNICATIONS	1,023	1,108	0	919	4,136	0	0	0	0	7,187	1.3
4. UTILITIES	0	594	779	2,641	0	3,953	5,369	0	0	13,336	2.5
5. WHOLESALE TRADE	8,151	15,208	3,779	3,229	2,600	0	0	0	0	32,968	6.2
6. RETAIL TRADE	10,953	14,698	11,739	7,021	10,425	0	0	0	0	54,836	10.3
7. FINANCIAL INSTITUTIONS	2,691	4,651	2,845	3,297	3,481	3,192	0	0	6,139	26,295	4.9
8. INSURANCE & REAL ESTATE	2,176	4,030	560	0	0	0	0	0	0	6,766	1.3
9. HEALTH AND WELFARE	781	5,407	13,789	9,497	9,790	0	0	0	0	39,264	7.4
10. SERVICE TO BUSINESS MANGMNT	3,130	6,043	2,556	1,689	0	0	0	0	0	13,418	2.5
11. PUBLIC ADMINISTRATION	72	1,320	7,844	3,821	3,126	0	0	0	109,051	125,234	23.5
12. ALL OTHERS	6,345	16,692	20,303	8,855	13,403	0	0	0	7,312	72,911	13.7
TOTAL	47,239	103,851	98,709	58,872	67,052	22,879	5,369	5,983	122,502	532,456	100.0
%	8.9	19.5	18.5	11.1	12.6	4.3	1.0	1.1	23.0	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 02: NUMBER OF EMPLOYEES BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

6. TOTAL

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	125,571	453,291	435,363	240,301	182,675	52,254	33,349	6,788	110,115	1,639,706	31.5
2. TRANSPORTATION	22,786	50,405	44,393	33,716	32,277	12,658	20,896	11,845	88,860	317,836	6.1
3. COMMUNICATIONS	6,710	12,683	19,696	17,855	22,331	19,534	15,745	6,409	40,559	161,522	3.1
4. UTILITIES	2,739	12,778	21,529	12,192	12,027	10,562	9,712	0	22,670	104,209	2.0
5. WHOLESALE TRADE	86,849	141,858	45,239	17,438	4,358	0	0	6,462	0	302,205	5.8
6. RETAIL TRADE	95,416	157,012	67,800	44,798	43,135	13,135	5,981	0	45,805	473,082	9.1
7. FINANCIAL INSTITUTIONS	26,283	43,995	35,847	18,139	21,940	18,445	8,547	5,983	55,290	234,469	4.5
8. INSURANCE & REAL ESTATE	14,905	40,116	34,740	13,025	11,846	0	0	0	0	114,630	2.2
9. HEALTH AND WELFARE	8,602	59,388	124,931	110,348	101,876	49,044	19,415	5,755	0	479,360	9.2
10. SERVICE TO BUSINESS MANGMNT	29,581	55,908	32,406	8,709	5,493	3,375	0	0	0	135,473	2.6
11. PUBLIC ADMINISTRATION	2,819	27,488	52,840	42,536	43,192	24,422	21,041	39,234	445,462	699,033	13.4
12. ALL OTHERS	43,784	127,959	119,418	78,149	56,035	38,484	21,226	19,317	44,570	548,942	10.5
TOTAL	466,045	*****	*****	637,208	537,184	241,912	155,913	101,793	853,330	5,210,467	100.0
%	8.9	22.7	19.8	12.2	10.3	4.6	3.0	2.0	16.4	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 03: NUMBER OF OFFICE EMPLOYEES BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

1. ATLANTIC REGION

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	1,606	4,591	3,527	1,966	870	556	0	0	0	13,116	11.5
2. TRANSPORTATION	275	1,003	1,211	308	834	0	0	1,446	0	5,078	4.5
3. COMMUNICATIONS	429	349	700	0	1,158	2,041	2,573	0	0	7,250	6.4
4. UTILITIES	51	210	782	588	0	1,425	1,701	0	0	4,757	4.2
5. WHOLESALE TRADE	2,873	2,948	0	0	0	0	0	0	0	5,821	5.1
6. RETAIL TRADE	2,410	2,252	1,280	1,127	156	0	0	0	0	7,224	6.3
7. FINANCIAL INSTITUTIONS	3,445	4,594	5,259	0	0	2,774	0	0	0	16,071	14.1
8. INSURANCE & REAL ESTATE	867	2,580	481	0	0	0	0	0	0	3,929	3.4
9. HEALTH AND WELFARE	60	979	1,913	2,248	1,311	817	0	0	0	7,327	6.4
10. SERVICE TO BUSINESS MANGMNT	1,402	1,755	0	0	0	0	0	0	0	3,158	2.8
11. PUBLIC ADMINISTRATION	370	2,790	2,257	3,285	1,699	3,606	0	4,720	11,621	30,349	26.6
12. ALL OTHERS	539	1,358	2,028	1,089	739	3,531	695	0	0	9,979	8.7
TOTAL	14,328	25,410	19,439	10,611	6,768	14,748	4,969	6,166	11,621	114,060	100.0
%	12.6	22.3	17.0	9.3	5.9	12.9	4.4	5.4	10.2	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 03: NUMBER OF OFFICE EMPLOYEES BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

2. QUÉBEC REGION

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	8,419	30,087	30,732	20,997	18,691	1,122	7,317	0	4,564	121,929	24.4
2. TRANSPORTATION	1,536	4,180	1,673	3,774	1,915	0	0	0	15,415	28,494	5.7
3. COMMUNICATIONS	480	1,184	2,089	2,979	1,600	1,696	1,669	0	12,651	24,349	4.9
4. UTILITIES	99	834	2,755	1,618	715	0	0	0	8,203	14,225	2.9
5. WHOLESALE TRADE	7,698	15,903	6,324	1,703	1,273	0	0	0	0	32,902	6.6
6. RETAIL TRADE	5,570	7,294	1,531	945	3,263	1,968	2,354	0	0	22,926	4.6
7. FINANCIAL INSTITUTIONS	6,633	9,279	5,323	2,802	6,434	6,179	8,547	5,983	8,799	59,979	12.0
8. INSURANCE & REAL ESTATE	3,031	9,522	9,753	3,886	0	0	0	0	0	26,192	5.3
9. HEALTH AND WELFARE	154	1,997	6,426	4,924	5,819	2,706	2,535	0	0	24,560	4.9
10. SERVICE TO BUSINESS MANGMNT	5,791	9,002	7,836	994	0	0	0	0	0	23,624	4.7
11. PUBLIC ADMINISTRATION	235	3,364	8,058	5,222	333	722	0	10,046	65,696	93,676	18.8
12. ALL OTHERS	2,699	7,065	5,755	3,451	3,879	1,359	1,668	0	0	25,876	5.2
TOTAL	42,344	99,713	88,255	53,297	43,923	15,752	24,090	16,030	115,329	498,733	100.0
%	8.5	20.0	17.7	10.7	8.8	3.2	4.8	3.2	23.1	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 03: NUMBER OF OFFICE EMPLOYEES BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

3. ONTARIO REGION

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	16,109	61,951	69,547	33,791	33,053	11,033	4,505	1,011	17,320	248,321	28.4
2. TRANSPORTATION	2,456	4,558	4,945	4,216	1,090	1,743	1,491	0	7,774	28,272	3.2
3. COMMUNICATIONS	1,007	2,268	4,792	3,746	1,967	867	0	4,521	13,291	32,459	3.7
4. UTILITIES	757	3,575	5,373	892	945	0	0	0	9,812	21,354	2.4
5. WHOLESALE TRADE	12,545	23,566	7,501	2,930	0	0	0	5,576	0	52,118	6.0
6. RETAIL TRADE	7,492	12,960	4,097	6,089	1,374	1,183	0	0	7,604	40,798	4.7
7. FINANCIAL INSTITUTIONS	8,816	17,012	17,147	5,509	4,687	3,150	0	0	39,925	96,245	11.0
8. INSURANCE & REAL ESTATE	4,390	14,888	20,099	6,738	10,120	0	0	0	0	56,236	6.4
9. HEALTH AND WELFARE	166	3,041	6,501	8,331	6,939	4,386	1,370	0	0	30,734	3.5
10. SERVICE TO BUSINESS MANGMNT	10,076	22,644	15,568	4,024	5,471	2,028	0	0	0	59,811	6.8
11. PUBLIC ADMINISTRATION	503	4,596	7,716	7,976	9,952	5,576	9,977	0	106,129	152,424	17.4
12. ALL OTHERS	4,991	12,758	9,229	5,833	4,357	7,650	1,367	2,712	7,794	56,691	6.5
TOTAL	69,308	183,817	172,514	90,075	79,954	37,616	18,709	13,820	209,649	875,463	100.0
%	7.9	21.0	19.7	10.3	9.1	4.3	2.1	1.6	23.9	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 03: NUMBER OF OFFICE EMPLOYEES BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

4. CENTRAL REGION

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	3,453	9,212	7,505	4,724	985	0	0	0	0	25,879	9.8
2. TRANSPORTATION	940	2,536	1,925	985	2,527	0	3,267	0	2,378	14,557	5.5
3. COMMUNICATIONS	472	653	490	728	3,577	3,348	3,091	0	0	12,360	4.7
4. UTILITIES	45	202	663	1,266	3,321	1,812	0	0	0	7,329	2.8
5. WHOLESALE TRADE	5,413	7,882	2,915	2,899	0	0	0	0	0	19,110	7.2
6. RETAIL TRADE	2,607	5,206	2,023	1,306	2,357	211	0	0	759	14,470	5.5
7. FINANCIAL INSTITUTIONS	4,297	7,944	4,925	6,426	7,047	3,148	0	0	0	33,787	12.8
8. INSURANCE & REAL ESTATE	2,096	4,662	411	2,192	0	0	0	0	0	9,360	3.5
9. HEALTH AND WELFARE	495	1,216	2,268	1,342	3,171	1,656	0	964	0	11,111	4.2
10. SERVICE TO BUSINESS MANGMNT	4,308	6,397	107	1,082	0	0	0	0	0	11,895	4.5
11. PUBLIC ADMINISTRATION	102	2,423	3,268	2,023	5,416	1,550	2,465	6,383	40,220	63,849	24.2
12. ALL OTHERS	1,870	6,345	6,793	7,973	2,771	1,004	2,262	7,230	4,364	40,612	15.4
TOTAL	26,097	54,678	33,313	32,946	31,172	12,728	11,085	14,577	47,721	264,317	100.0
%	9.9	20.7	12.6	12.5	11.8	4.8	4.2	5.5	18.1	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 03: NUMBER OF OFFICE EMPLOYEES BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

5. PACIFIC AND TERRITORIES REGION

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	2,699	6,389	8,822	2,320	2,820	1,200	0	0	0	24,250	11.1
2. TRANSPORTATION	1,072	2,869	689	803	2,152	799	0	2,544	0	10,929	5.0
3. COMMUNICATIONS	429	495	0	335	2,698	0	0	0	0	3,957	1.8
4. UTILITIES	0	325	303	1,183	0	1,418	4,335	0	0	7,565	3.5
5. WHOLESALE TRADE	3,043	5,795	1,599	823	858	0	0	0	0	12,119	5.6
6. RETAIL TRADE	2,453	2,390	1,578	1,157	2,427	0	0	0	0	10,006	4.6
7. FINANCIAL INSTITUTIONS	2,659	4,646	2,844	3,297	3,476	3,192	0	0	6,139	26,252	12.0
8. INSURANCE & REAL ESTATE	1,896	3,465	226	0	0	0	0	0	0	5,587	2.6
9. HEALTH AND WELFARE	98	571	1,725	1,413	1,328	0	0	0	0	5,135	2.4
10. SERVICE TO BUSINESS MANGMNT	2,453	4,586	2,442	1,689	0	0	0	0	0	11,170	5.1
11. PUBLIC ADMINISTRATION	5	462	3,111	1,702	2,294	0	0	0	76,743	84,318	38.6
12. ALL OTHERS	1,424	3,167	4,676	1,744	3,265	0	0	0	2,675	16,951	7.8
TOTAL	18,231	35,162	28,015	16,469	21,317	6,609	4,335	2,544	85,557	218,239	100.0
%	8.4	16.1	12.8	7.5	9.8	3.0	2.0	1.2	39.2	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 03: NUMBER OF OFFICE EMPLOYEES BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

6. TOTAL

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	32,287	112,230	120,133	63,798	56,419	13,911	11,822	1,011	21,885	433,495	22.0
2. TRANSPORTATION	6,279	15,146	10,443	10,086	8,519	2,542	4,757	3,990	25,567	87,330	4.4
3. COMMUNICATIONS	2,817	4,950	8,071	7,789	11,000	7,952	7,333	4,521	25,942	80,376	4.1
4. UTILITIES	952	5,147	9,895	5,547	4,982	4,655	6,036	0	18,016	55,230	2.8
5. WHOLESALE TRADE	31,571	56,095	18,340	8,356	2,132	0	0	5,576	0	122,069	6.2
6. RETAIL TRADE	20,532	30,101	10,509	10,625	9,577	3,362	2,354	0	8,364	95,424	4.8
7. FINANCIAL INSTITUTIONS	25,851	43,474	35,497	18,034	21,644	18,442	8,547	5,983	54,863	232,335	11.8
8. INSURANCE & REAL ESTATE	12,280	35,118	30,971	12,816	10,120	0	0	0	0	101,305	5.1
9. HEALTH AND WELFARE	972	7,805	18,833	18,258	18,566	9,564	3,905	964	0	78,867	4.0
10. SERVICE TO BUSINESS MANGMNT	24,030	44,386	25,953	7,790	5,471	2,028	0	0	0	109,657	5.6
11. PUBLIC ADMINISTRATION	1,215	13,635	24,410	20,208	19,694	11,454	12,442	21,149	300,409	424,617	21.5
12. ALL OTHERS	11,524	30,693	28,481	20,090	15,012	13,543	5,992	9,942	14,832	150,108	7.6
TOTAL	170,309	398,778	341,536	203,397	183,134	87,453	63,189	53,137	469,878	1,970,812	100.0
%	8.6	20.2	17.3	10.3	9.3	4.4	3.2	2.7	23.8	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

REPORT TYPES 4, 5, AND 6

Information on Number of Employees in Specific Office
Occupations by Region, Groups of Occupations and Office Sizes

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 04: NUMBER OF EMPLOYEES IN 29 SPECIFIC OFFICE OCCUPATIONS *
BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

1. ATLANTIC REGION

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	663	1,518	978	441	147	105	0	0	0	3,851	9.3
2. TRANSPORTATION	116	351	96	25	59	0	0	114	0	763	1.8
3. COMMUNICATIONS	110	80	239	0	183	244	506	0	0	1,360	3.3
4. UTILITIES	21	78	141	230	0	479	525	0	0	1,473	3.6
5. WHOLESALE TRADE	1,285	1,219	0	0	0	0	0	0	0	2,505	6.0
6. RETAIL TRADE	840	709	311	395	34	0	0	0	0	2,288	5.5
7. FINANCIAL INSTITUTIONS	1,299	1,837	1,952	0	0	112	0	0	0	5,201	12.5
8. INSURANCE & REAL ESTATE	547	1,624	335	0	0	0	0	0	0	2,506	6.0
9. HEALTH AND WELFARE	48	501	1,018	1,483	565	361	0	0	0	3,975	9.6
10. SERVICE TO BUSINESS MANGMNT	442	749	0	0	0	0	0	0	0	1,192	2.9
11. PUBLIC ADMINISTRATION	204	1,498	1,341	1,295	777	1,384	0	2,867	3,333	12,700	30.6
12. ALL OTHERS	236	447	900	379	511	1,030	135	0	0	3,638	8.8
TOTAL	5,812	10,611	7,309	4,248	2,277	3,714	1,165	2,981	3,333	41,452	100.0
%	14.0	25.6	17.6	10.2	5.5	9.0	2.8	7.2	8.0	100.0	

* NOTE: THE 29 OCCUPATIONS ARE LISTED ON REPORT TYPE 08
(NOTE THAT CERTAIN OCCUPATIONS INCLUDE MORE THAN ONE OCCUPATION)

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 04: NUMBER OF EMPLOYEES IN 29 SPECIFIC OFFICE OCCUPATIONS *
BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

2. QUEBEC REGION

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	3,634	11,050	9,470	5,908	4,890	309	2,199	0	1,052	38,511	20.9
2. TRANSPORTATION	675	1,790	621	904	429	0	0	0	2,929	7,348	4.0
3. COMMUNICATIONS	170	356	541	810	466	324	1,481	0	2,579	6,729	3.6
4. UTILITIES	24	209	612	338	302	0	0	0	1,662	3,149	1.7
5. WHOLESALE TRADE	3,752	7,085	2,705	439	215	0	0	0	0	14,196	7.7
6. RETAIL TRADE	1,760	2,531	617	173	1,065	466	669	0	0	7,281	3.9
7. FINANCIAL INSTITUTIONS	2,463	4,177	2,461	930	2,823	1,599	4,478	1,986	119	21,036	11.4
8. INSURANCE & REAL ESTATE	2,006	5,824	6,012	2,041	0	0	0	0	0	15,883	8.6
9. HEALTH AND WELFARE	70	812	3,135	2,341	2,809	1,469	1,175	0	0	11,812	6.4
10. SERVICE TO BUSINESS MANGMNT	2,542	3,626	2,435	256	0	0	0	0	0	8,859	4.8
11. PUBLIC ADMINISTRATION	126	1,272	3,345	1,749	194	349	0	7,511	26,583	41,128	22.3
12. ALL OTHERS	1,074	2,831	2,239	880	1,243	171	296	0	0	8,734	4.7
TOTAL	18,296	41,563	34,195	16,768	14,437	4,687	10,299	9,498	34,923	184,666	100.0
%	9.9	22.5	18.5	9.1	7.8	2.5	5.6	5.1	18.9	100.0	

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(NOTE THAT CERTAIN OCCUPATIONS INCLUDE MORE THAN ONE OCCUPATION)

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AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 04: NUMBER OF EMPLOYEES IN 29 SPECIFIC OFFICE OCCUPATIONS *
BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

3. ONTARIO REGION

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	5,650	19,089	19,182	8,313	7,269	1,863	621	58	3,663	65,707	22.6
2. TRANSPORTATION	1,013	1,698	1,767	1,052	234	44	582	0	1,049	7,441	2.6
3. COMMUNICATIONS	330	593	1,082	730	295	602	0	713	2,844	7,188	2.5
4. UTILITIES	274	1,310	1,474	397	202	0	0	0	1,676	5,332	1.8
5. WHOLESALE TRADE	5,987	9,871	2,766	1,063	0	0	0	1,187	0	20,873	7.2
6. RETAIL TRADE	2,137	3,247	1,285	1,811	305	110	0	0	2,108	11,002	3.8
7. FINANCIAL INSTITUTIONS	3,636	6,182	6,876	1,577	2,534	2,159	0	0	7,619	30,583	10.5
8. INSURANCE & REAL ESTATE	2,718	8,098	8,072	2,792	4,685	0	0	0	0	26,365	9.1
9. HEALTH AND WELFARE	102	1,402	3,090	3,304	3,354	2,063	720	0	0	14,035	4.8
10. SERVICE TO BUSINESS MANGMNT	4,147	8,368	5,259	878	607	246	0	0	0	19,504	6.7
11. PUBLIC ADMINISTRATION	324	2,495	3,280	3,990	2,744	2,027	2,464	0	46,422	63,745	22.0
12. ALL OTHERS	2,182	4,957	2,641	1,775	1,369	2,641	109	847	2,025	18,546	6.4
TOTAL	28,500	67,309	56,774	27,681	23,596	11,755	4,496	2,805	67,406	290,322	100.0
%	9.8	23.2	19.6	9.5	8.1	4.0	1.5	1.0	23.2	100.0	

* NOTE: THE 29 OCCUPATIONS ARE LISTED ON REPORT TYPE 08
(NOTE THAT CERTAIN OCCUPATIONS INCLUDE MORE THAN ONE OCCUPATION)

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 04: NUMBER OF EMPLOYEES IN 29 SPECIFIC OFFICE OCCUPATIONS *
BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

4. CENTRAL REGION

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	1,115	2,461	1,663	1,100	270	0	0	0	0	6,609	7.7
2. TRANSPORTATION	440	847	356	270	1,130	0	720	0	96	3,858	4.5
3. COMMUNICATIONS	73	175	241	156	844	997	863	0	0	3,348	3.9
4. UTILITIES	23	68	174	282	771	494	0	0	0	1,812	2.1
5. WHOLESALE TRADE	2,242	3,155	832	953	0	0	0	0	0	7,182	8.4
6. RETAIL TRADE	633	1,241	634	479	632	56	0	0	415	4,090	4.8
7. FINANCIAL INSTITUTIONS	1,740	2,887	2,034	2,837	1,016	212	0	0	0	10,726	12.6
8. INSURANCE & REAL ESTATE	1,237	2,397	214	931	0	0	0	0	0	4,779	5.6
9. HEALTH AND WELFARE	285	509	1,020	734	1,077	853	0	657	0	5,134	6.0
10. SERVICE TO BUSINESS MANGMNT	1,950	1,856	23	150	0	0	0	0	0	3,980	4.7
11. PUBLIC ADMINISTRATION	101	1,274	1,602	827	1,942	386	972	2,561	13,957	23,621	27.7
12. ALL OTHERS	651	2,231	1,692	2,541	483	214	451	811	1,206	10,279	12.0
TOTAL	10,489	19,101	10,484	11,259	8,164	3,212	3,005	4,028	15,674	85,417	100.0
%	12.3	22.4	12.3	13.2	9.6	3.8	3.5	4.7	18.4	100.0	

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(NOTE THAT CERTAIN OCCUPATIONS INCLUDE MORE THAN ONE OCCUPATION)

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 04: NUMBER OF EMPLOYEES IN 29 SPECIFIC OFFICE OCCUPATIONS *
BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

5. PACIFIC AND TERRITORIES REGION

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	861	1,761	2,327	671	523	240	0	0	0	6,384	9.6
2. TRANSPORTATION	458	1,126	188	208	538	369	0	683	0	3,572	5.4
3. COMMUNICATIONS	107	94	0	72	1,858	0	0	0	0	2,131	3.2
4. UTILITIES	0	88	62	169	0	135	901	0	0	1,356	2.0
5. WHOLESALE TRADE	1,322	2,140	755	261	165	0	0	0	0	4,644	7.0
6. RETAIL TRADE	673	592	389	246	590	0	0	0	0	2,491	3.7
7. FINANCIAL INSTITUTIONS	1,075	1,969	939	1,245	1,848	688	0	0	623	8,387	12.6
8. INSURANCE & REAL ESTATE	1,088	1,785	96	0	0	0	0	0	0	2,969	4.5
9. HEALTH AND WELFARE	47	245	736	565	728	0	0	0	0	2,321	3.5
10. SERVICE TO BUSINESS MANGMNT	1,114	1,784	484	250	0	0	0	0	0	3,632	5.4
11. PUBLIC ADMINISTRATION	3	162	1,174	474	918	0	0	0	21,021	23,752	35.6
12. ALL OTHERS	496	794	1,250	187	967	0	0	0	1,356	5,051	7.6
TOTAL	7,246	12,542	8,401	4,348	8,136	1,433	901	683	23,000	66,690	100.0
%	10.9	18.8	12.6	6.5	12.2	2.1	1.4	1.0	34.5	100.0	

* NOTE: THE 29 OCCUPATIONS ARE LISTED ON REPORT TYPE 08
(NOTE THAT CERTAIN OCCUPATIONS INCLUDE MORE THAN ONE OCCUPATION)

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 04: NUMBER OF EMPLOYEES IN 29 SPECIFIC OFFICE OCCUPATIONS *
BY INDUSTRY AND SIZE OF ESTABLISHMENT, SUMMARIZED BY REGION

6. TOTAL

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	11,922	35,879	33,620	16,433	13,099	2,517	2,820	58	4,714	121,061	18.1
2. TRANSPORTATION	2,703	5,813	3,028	2,460	2,390	414	1,302	798	4,074	22,982	3.4
3. COMMUNICATIONS	791	1,298	2,103	1,767	3,645	2,167	2,849	713	5,423	20,757	3.1
4. UTILITIES	342	1,752	2,464	1,416	1,275	1,108	1,426	0	3,338	13,121	2.0
5. WHOLESALE TRADE	14,587	23,471	7,058	2,716	381	0	0	1,187	0	49,400	7.4
6. RETAIL TRADE	6,043	8,320	3,236	3,104	2,626	632	669	0	2,523	27,153	4.1
7. FINANCIAL INSTITUTIONS	10,214	17,052	14,262	6,589	8,221	4,771	4,478	1,986	8,361	75,934	11.4
8. INSURANCE & REAL ESTATE	7,597	19,727	14,729	5,764	4,685	0	0	0	0	52,502	7.9
9. HEALTH AND WELFARE	551	3,470	8,999	8,427	8,534	4,745	1,896	657	0	37,278	5.6
10. SERVICE TO BUSINESS MANGMNT	10,195	16,384	8,201	1,533	607	246	0	0	0	37,166	5.6
11. PUBLIC ADMINISTRATION	758	6,700	10,742	8,334	6,576	4,147	3,435	12,939	111,316	164,947	24.7
12. ALL OTHERS	4,639	11,260	8,722	5,761	4,572	4,056	992	1,658	4,588	46,248	6.9
TOTAL	70,342	151,125	117,162	64,305	56,610	24,801	19,868	19,996	144,337	668,548	100.0
%	10.5	22.6	17.5	9.6	8.5	3.7	3.0	3.0	21.6	100.0	

* NOTE: THE 29 OCCUPATIONS ARE LISTED ON REPORT TYPE 08
(NOTE THAT CERTAIN OCCUPATIONS INCLUDE MORE THAN ONE OCCUPATION)

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 05: NUMBER OF EMPLOYEES IN SPECIFIC GROUPS OF OCCUPATIONS BY INDUSTRY AND ESTABLISHMENT SIZE

1. STENOGRAPHIC AND TYPING
(SECRETARIES, STENOGRAPHERS, TRANSCRIBING MACHINE OPERATORS,
TYPISTS, TELE-TYPISTS, VARI-TYPE OPERATORS)

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	3,991	12,239	12,085	6,035	4,921	983	1,378	19	1,642	43,293	16.1
2. TRANSPORTATION	1,008	1,808	835	963	649	115	391	126	1,442	7,336	2.7
3. COMMUNICATIONS	360	514	646	406	742	309	685	34	97	3,794	1.4
4. UTILITIES	83	485	834	644	428	333	562	0	1,319	4,688	1.7
5. WHOLESALE TRADE	4,393	7,306	1,929	681	179	0	0	324	0	14,812	5.5
6. RETAIL TRADE	1,063	1,696	525	966	619	77	99	0	474	5,519	2.1
7. FINANCIAL INSTITUTIONS	4,451	7,079	5,956	2,894	3,164	2,093	1,199	888	3,518	31,243	11.6
8. INSURANCE & REAL ESTATE	4,536	8,358	4,950	1,501	976	0	0	0	0	20,321	7.6
9. HEALTH AND WELFARE	325	1,968	5,772	5,410	5,757	3,255	1,201	195	0	23,883	8.9
10. SERVICE TO BUSINESS MANGMNT	6,414	8,579	4,215	947	209	146	0	0	0	20,510	7.6
11. PUBLIC ADMINISTRATION	404	3,280	5,622	3,902	2,880	1,919	1,576	5,916	43,464	68,964	25.7
12. ALL OTHERS	2,308	5,290	4,327	2,420	2,567	2,383	493	1,130	3,111	24,029	9.0
TOTAL	29,337	58,603	47,695	26,769	23,092	11,615	7,583	8,632	55,066	268,391	100.0
%	10.9	21.8	17.8	10.0	8.6	4.3	2.8	3.2	20.5	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 05: NUMBER OF EMPLOYEES IN SPECIFIC GROUPS OF OCCUPATIONS BY INDUSTRY AND ESTABLISHMENT SIZE

2. CLEPICAL AND RELATED
(FILE CLERKS, OFFICE BOY/GIRL, GENERAL OFFICE CLERKS, BOOKKEEPERS)

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1. MANUFACTURING	3,533	8,145	7,226	4,049	3,098	506	749	16	1,068	28,389	11.9
2. TRANSPORTATION	1,100	2,480	1,468	893	688	114	629	183	1,081	8,635	3.6
3. COMMUNICATIONS	275	524	1,140	1,236	1,521	1,383	1,642	658	4,623	13,003	5.4
4. UTILITIES	150	727	1,076	377	527	572	435	0	1,236	5,099	2.1
5. WHOLESALE TRADE	3,868	6,071	1,865	954	102	0	0	393	0	13,253	5.5
6. RETAIL TRADE	2,627	3,402	1,686	1,446	1,356	362	495	0	1,260	12,634	5.3
7. FINANCIAL INSTITUTIONS	4,186	7,005	5,033	2,628	3,565	1,832	1,960	703	3,614	30,526	12.8
8. INSURANCE & REAL ESTATE	2,356	8,567	6,729	2,809	2,479	0	0	0	0	22,940	9.6
9. HEALTH AND WELFARE	152	956	2,202	2,106	2,015	1,110	545	231	0	9,317	3.9
10. SERVICE TO BUSINESS MANGMNT	1,974	3,366	1,645	287	251	68	0	0	0	7,589	3.2
11. PUBLIC ADMINISTRATION	268	2,524	3,758	3,319	2,754	1,781	1,676	5,434	55,991	77,505	32.4
12. ALL OTHERS	1,370	2,715	1,709	1,544	901	936	222	305	603	10,304	4.3
TOTAL	21,858	46,482	35,536	21,646	19,258	8,666	8,352	7,923	69,475	239,195	100.0
%	9.1	19.4	14.9	9.0	8.1	3.6	3.5	3.3	29.0	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 05: NUMBER OF EMPLOYEES IN SPECIFIC GROUPS OF OCCUPATIONS BY INDUSTRY AND ESTABLISHMENT SIZE

3. BOOKKEEPING, ACCOUNT RECORDING AND RELATED
(COST CLERKS, ACCOUNTING CLERKS, STOCK RECORDS CLERKS, ORDER CLERKS)

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	3,424	10,597	7,796	2,702	1,888	280	94	7	492	27,279	34.9
2. TRANSPORTATION	502	1,004	396	281	830	127	118	274	382	3,913	5.0
3. COMMUNICATIONS	120	165	138	64	905	48	270	17	156	1,880	2.4
4. UTILITIES	49	293	308	175	129	71	33	0	122	1,180	1.5
5. WHOLESALE TRADE	4,647	6,253	1,602	347	5	0	0	12	0	12,866	16.5
6. RETAIL TRADE	2,045	2,399	793	317	280	106	33	0	187	6,210	7.9
7. FINANCIAL INSTITUTIONS	1,137	1,957	1,871	558	401	329	270	0	487	7,011	9.0
8. INSURANCE & REAL ESTATE	466	1,424	944	247	147	0	0	0	0	3,228	4.1
9. HEALTH AND WELFARE	66	476	786	662	426	204	45	162	0	2,829	3.6
10. SERVICE TO BUSINESS MANGMNT	822	1,285	588	104	33	18	0	0	0	2,850	3.6
11. PUBLIC ADMINISTRATION	60	402	603	432	394	151	18	480	655	3,195	4.1
12. ALL OTHERS	739	1,799	1,409	753	363	240	101	11	305	5,720	7.3
TOTAL	14,126	28,054	17,235	6,642	5,800	1,574	982	962	2,786	78,162	100.0
%	18.1	35.9	22.0	8.5	7.4	2.0	1.3	1.2	3.6	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 05: NUMBER OF EMPLOYEES IN SPECIFIC GROUPS OF OCCUPATIONS BY INDUSTRY AND ESTABLISHMENT SIZE

4. OFFICE MACHINE OPERATORS

(BOOKKEEPING, BILLING, CALCULATING, DUPLICATING, BLUEPRINTING, ADDRESSING, AND EMBOSSING MACHINE OPERATORS)
MICROFILM MOUNTERS, AUTOMATIC DATA TRANSCIVER OPERATORS, OFFSET-DUPLICATING MACHINE OPERATORS)

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1. MANUFACTURING	489	1,343	1,455	660	690	141	196	0	159	5,133	31.7
2. TRANSPORTATION	30	100	33	63	0	22	8	16	111	382	2.4
3. COMMUNICATIONS	10	24	26	18	161	28	53	0	0	320	2.0
4. UTILITIES	10	18	30	48	29	13	140	0	85	374	2.3
5. WHOLESALE TRADE	588	593	298	86	0	0	0	0	0	1,566	9.7
6. RETAIL TRADE	118	183	58	74	25	13	2	0	101	573	3.5
7. FINANCIAL INSTITUTIONS	236	406	187	154	87	86	47	221	10	1,435	8.9
8. INSURANCE & REAL ESTATE	53	106	212	189	69	0	0	0	0	629	3.9
9. HEALTH AND WELFARE	0	48	174	143	175	71	45	40	0	696	4.3
10. SERVICE TO BUSINESS MANGMNT	211	755	304	53	64	0	0	0	0	1,385	8.6
11. PUBLIC ADMINISTRATION	7	48	177	147	106	55	23	212	1,633	2,407	14.9
12. ALL OTHERS	102	490	245	133	168	102	16	4	43	1,302	8.0
TOTAL	1,853	4,112	3,199	1,769	1,574	531	530	492	2,141	16,202	100.0
%	11.4	25.4	19.7	10.9	9.7	3.3	3.3	3.0	13.2	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 05: NUMBER OF EMPLOYEES IN SPECIFIC GROUPS OF OCCUPATIONS BY INDUSTRY AND ESTABLISHMENT SIZE

5. COMPUTER RELATED
(COMPUTER OPERATORS, COMPUTER-PERIPHERAL EQUIPMENT OPERATORS,
KEYPUNCH OPERATORS, SYSTEM ANALYSTS, PROGRAMMERS)

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	486	3,556	5,058	2,987	2,502	606	403	17	1,354	16,968	25.5
2. TRANSPORTATION	63	421	296	261	223	36	157	200	1,059	2,716	4.1
3. COMMUNICATIONS	27	71	154	44	316	398	199	3	547	1,759	2.6
4. UTILITIES	49	229	216	172	162	118	257	0	577	1,780	2.7
5. WHOLESALE TRADE	1,092	3,247	1,363	648	95	0	0	457	0	6,903	10.4
6. RETAIL TRADE	141	641	173	300	346	74	41	0	501	2,217	3.3
7. FINANCIAL INSTITUTIONS	204	604	1,214	355	1,005	429	1,003	174	732	5,719	8.6
8. INSURANCE & REAL ESTATE	186	1,272	1,895	1,019	1,013	0	0	0	0	5,384	8.1
9. HEALTH AND WELFARE	8	22	64	106	160	105	60	29	0	553	.8
10. SERVICE TO BUSINESS MANGMNT	774	2,399	1,450	143	50	14	0	0	0	4,831	7.3
11. PUBLIC ADMINISTRATION	19	447	582	534	441	241	142	898	9,572	12,875	19.3
12. ALL OTHERS	121	966	1,033	911	574	394	160	209	526	4,893	7.3
TOTAL	3,168	13,874	13,498	7,479	6,887	2,415	2,421	1,987	14,868	66,597	100.0
%	4.8	20.8	20.3	11.2	10.3	3.6	3.6	3.0	22.3	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 05: NUMBER OF EMPLOYEES IN SPECIFIC GROUPS OF OCCUPATIONS BY INDUSTRY AND ESTABLISHMENT SIZE

6. TOTAL

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	11,922	35,879	33,620	16,433	13,099	2,517	2,820	58	4,714	121,061	18.1
2. TRANSPORTATION	2,703	5,813	3,028	2,460	2,390	414	1,302	798	4,074	22,982	3.4
3. COMMUNICATIONS	791	1,298	2,103	1,767	3,645	2,167	2,849	713	5,423	20,757	3.1
4. UTILITIES	342	1,752	2,464	1,416	1,275	1,108	1,426	0	3,338	13,121	2.0
5. WHOLESALE TRADE	14,587	23,471	7,058	2,716	381	0	0	1,187	0	49,400	7.4
6. RETAIL TRADE	6,043	8,320	3,236	3,104	2,626	632	669	0	2,523	27,153	4.1
7. FINANCIAL INSTITUTIONS	10,214	17,052	14,262	6,589	8,221	4,771	4,478	1,986	8,361	75,934	11.4
8. INSURANCE & REAL ESTATE	7,597	19,727	14,729	5,764	4,685	0	0	0	0	52,502	7.9
9. HEALTH AND WELFARE	551	3,470	8,999	8,427	8,534	4,745	1,896	657	0	37,278	5.6
10. SERVICE TO BUSINESS MANGMNT	10,195	16,384	8,201	1,533	607	246	0	0	0	37,166	5.6
11. PUBLIC ADMINISTRATION	758	6,700	10,742	8,334	6,576	4,147	3,435	12,939	111,316	164,947	24.7
12. ALL OTHERS	4,639	11,260	8,722	5,761	4,572	4,056	992	1,658	4,588	46,248	6.9
TOTAL	70,342	151,125	117,162	64,305	56,610	24,801	19,868	19,996	144,337	668,548	100.0
%	10.5	22.6	17.5	9.6	8.5	3.7	3.0	3.0	21.6	100.0	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 06: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS BY OFFICE SIZE AND INDUSTRY

OFFICE TYPE 1: STENOGRAPHIC AND TYPING

SIZE OF OFFICE (NUMBER OF EMPLOYEES IN SPECIFIC GROUPS OF OCCUPATIONS WITHIN AN ESTABLISHMENT)

INDUSTRY CLASS	1 TO 2	3	4	5 TO 10	11 TO 20	21 TO 50	51 TO 100	101 TO 200	201 TO 500	500+	TOTAL	%
1. MANUFACTURING	7,577	2,602	2,242	9,101	7,983	7,059	3,481	2,484	764	0	43,293	16.1
2. TRANSPORTATION	1,032	266	262	1,298	1,075	1,241	1,401	236	525	0	7,336	2.7
3. COMMUNICATIONS	336	106	136	280	396	688	977	462	410	0	3,794	1.4
4. UTILITIES	162	92	83	419	647	820	536	176	1,752	0	4,688	1.7
5. WHOLESALE TRADE	3,360	1,574	1,213	4,194	2,709	1,325	112	324	0	0	14,812	5.5
6. RETAIL TRADE	1,616	422	273	721	594	771	609	513	0	0	5,519	2.1
7. FINANCIAL INSTITUTIONS	1,279	804	764	3,836	3,424	4,972	4,670	3,451	4,706	3,335	31,243	11.6
8. INSURANCE & REAL ESTATE	319	326	355	2,597	4,631	6,827	4,547	720	0	0	20,321	7.6
9. HEALTH AND WELFARE	705	460	384	2,251	3,264	5,600	4,795	5,963	462	0	23,883	8.9
10. SERVICE TO BUSINESS MANGMNT	763	536	637	3,011	4,457	6,564	4,008	534	0	0	20,510	7.6
11. PUBLIC ADMINISTRATION	177	197	242	1,265	2,776	4,215	6,240	4,613	7,185	42,054	68,964	25.7
12. ALL OTHERS	1,891	668	512	2,285	3,503	4,758	2,205	2,569	3,418	2,220	24,029	9.0
TOTAL	19,218	8,055	7,103	31,257	35,460	44,841	33,581	22,044	19,223	47,609	268,391	100.0
%	7.2	3.0	2.6	11.6	13.2	16.7	12.5	8.2	7.2	17.7	100.0	

NOTE: THE SPECIFIC OCCUPATIONS INCLUDED IN OFFICE TYPE 1 ARE LISTED IN THE FIRST 1 TABLES OF REPORT TYPE 05.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 06: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS BY OFFICE SIZE AND INDUSTRY

OFFICE TYPE 2: STENOGRAPHIC, TYPING, CLERICAL AND RELATED

SIZE OF OFFICE (NUMBER OF EMPLOYEES IN SPECIFIC GROUPS OF OCCUPATIONS WITHIN AN ESTABLISHMENT)

INDUSTRY CLASS	1 TO 2	3	4	5 TO 10	11 TO 20	21 TO 50	51 TO 100	101 TO 200	201 TO 500	500+	TOTAL	%
1. MANUFACTURING	7,039	3,884	2,978	11,948	11,958	15,541	7,745	6,277	3,060	1,254	71,682	14.1
2. TRANSPORTATION	922	461	320	1,690	1,669	3,013	2,742	2,283	1,942	931	15,971	3.1
3. COMMUNICATIONS	202	183	128	512	630	1,510	1,858	1,327	2,305	8,142	16,797	3.3
4. UTILITIES	69	88	102	517	693	1,514	1,336	1,139	1,773	2,554	9,787	1.9
5. WHOLESALE TRADE	2,155	1,732	1,783	7,776	5,940	4,555	2,313	744	350	717	28,065	5.5
6. RETAIL TRADE	2,627	1,092	851	2,735	1,450	2,269	1,178	2,168	3,060	723	18,153	3.6
7. FINANCIAL INSTITUTIONS	340	465	588	3,812	5,867	9,476	7,348	8,599	9,276	15,998	61,769	12.2
8. INSURANCE & REAL ESTATE	169	136	249	1,597	3,404	8,687	10,702	9,807	6,413	2,097	43,261	8.5
9. HEALTH AND WELFARE	633	370	428	2,109	3,192	7,445	6,293	7,077	5,653	0	33,200	6.5
10. SERVICE TO BUSINESS MANGMNT	500	470	475	2,650	4,568	9,702	4,767	4,661	307	0	28,100	5.5
11. PUBLIC ADMINISTRATION	41	122	127	923	1,580	6,292	6,010	9,278	9,972	112,124	146,469	28.9
12. ALL OTHERS	2,176	926	697	2,847	3,612	6,418	4,410	3,205	4,700	5,341	34,333	6.8
TOTAL	16,873	9,930	8,723	39,116	44,564	76,421	56,701	56,565	48,811	149,882	507,587	100.0
%	3.3	2.0	1.7	7.7	8.8	15.1	11.2	11.1	9.6	29.5	100.0	

NOTE: THE SPECIFIC OCCUPATIONS INCLUDED IN OFFICE TYPE 2 ARE LISTED IN THE FIRST 2 TABLES OF REPORT TYPE 05.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 06: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS BY OFFICE SIZE AND INDUSTRY

OFFICE TYPE 3: STENOGRAPHIC, TYPING, CLERICAL, BOOKKEEPING, ACCOUNT RECORDING AND RELATED

SIZE OF OFFICE (NUMBER OF EMPLOYEES IN SPECIFIC GROUPS OF OCCUPATIONS WITHIN AN ESTABLISHMENT)

INDUSTRY CLASS	1 TO 2	3	4	5 TO 10	11 TO 20	21 TO 50	51 TO 100	101 TO 200	201 TO 500	500+	TOTAL	%
1. MANUFACTURING	4,459	3,869	3,578	16,922	17,491	25,693	12,574	8,894	4,210	1,271	98,961	16.9
2. TRANSPORTATION	780	525	418	2,086	1,775	3,964	2,835	1,949	3,699	1,851	19,884	3.4
3. COMMUNICATIONS	144	195	155	622	661	1,403	2,226	1,289	2,760	9,224	18,678	3.2
4. UTILITIES	66	74	70	452	786	1,708	1,398	1,858	1,879	2,676	10,967	1.9
5. WHOLESALE TRADE	993	1,144	1,717	9,758	10,218	10,669	3,486	1,876	339	730	40,931	7.0
6. RETAIL TRADE	2,047	1,653	1,379	4,888	2,573	3,310	1,559	1,338	4,251	1,365	24,363	4.2
7. FINANCIAL INSTITUTIONS	207	394	462	3,861	6,319	9,879	8,826	10,268	10,356	18,207	68,780	11.7
8. INSURANCE & REAL ESTATE	130	150	202	1,652	3,251	8,810	11,469	11,513	7,126	2,186	46,489	7.9
9. HEALTH AND WELFARE	523	384	465	2,063	3,475	7,935	6,739	7,555	6,892	0	36,029	6.2
10. SERVICE TO BUSINESS MANGMNT	420	406	455	2,451	4,916	10,637	5,736	5,596	333	0	30,950	5.3
11. PUBLIC ADMINISTRATION	30	54	103	791	1,828	6,427	6,542	9,513	9,281	115,096	149,664	25.6
12. ALL OTHERS	1,865	1,070	839	3,979	4,454	7,262	6,148	3,057	5,760	5,620	40,053	6.8
TOTAL	11,664	9,919	9,843	49,526	57,748	97,695	69,537	64,707	56,885	158,226	585,749	100.0
%	2.0	1.7	1.7	8.5	9.9	16.7	11.9	11.0	9.7	27.0	100.0	

NOTE: THE SPECIFIC OCCUPATIONS INCLUDED IN OFFICE TYPE 3 ARE LISTED IN THE FIRST 3 TABLES OF REPORT TYPE 05.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 06: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS BY OFFICE SIZE AND INDUSTRY

OFFICE TYPE 4: STENOGRAPHIC, TYPING, CLERICAL, BOOKKEEPING, ACCOUNT RECORDING,
OFFICE MACHINE OPERATORS AND RELATED

SIZE OF OFFICE (NUMBER OF EMPLOYEES IN SPECIFIC GROUPS OF OCCUPATIONS WITHIN AN ESTABLISHMENT)

INDUSTRY CLASS	1 TO 2	3	4	5 TO 10	11 TO 20	21 TO 50	51 TO 100	101 TO 200	201 TO 500	500+	TOTAL	%
1. MANUFACTURING	4,293	3,722	3,632	17,465	18,483	27,290	13,323	9,768	3,844	2,273	104,094	17.3
2. TRANSPORTATION	776	497	395	2,082	1,916	4,098	2,696	2,117	3,826	1,863	20,266	3.4
3. COMMUNICATIONS	138	185	152	654	649	1,263	2,440	1,318	2,259	9,940	18,998	3.2
4. UTILITIES	55	67	89	416	856	1,641	1,508	1,918	2,031	2,761	11,341	1.9
5. WHOLESALE TRADE	888	1,076	1,646	10,011	10,875	11,114	3,655	2,143	359	730	42,497	7.1
6. RETAIL TRADE	1,963	1,668	1,378	5,053	2,711	3,368	1,646	1,351	4,379	1,418	24,936	4.1
7. FINANCIAL INSTITUTIONS	172	346	437	3,710	6,394	10,245	9,137	9,960	11,240	18,573	70,215	11.7
8. INSURANCE & REAL ESTATE	130	150	193	1,627	3,244	8,960	11,369	11,615	6,970	2,860	47,118	7.8
9. HEALTH AND WELFARE	520	384	433	2,099	3,490	8,005	7,048	7,700	7,045	0	36,725	6.1
10. SERVICE TO BUSINESS MANGMNT	400	403	434	2,531	4,734	11,209	6,440	5,803	381	0	32,335	5.4
11. PUBLIC ADMINISTRATION	28	41	111	813	1,802	6,333	6,918	9,340	9,742	116,944	152,072	25.3
12. ALL OTHERS	1,820	1,106	821	4,096	4,595	7,544	6,572	3,150	5,949	5,703	41,355	6.9
TOTAL	11,181	9,645	9,721	50,557	59,748	101,071	72,752	66,183	58,026	163,066	601,950	100.0
%	1.9	1.6	1.6	8.4	9.9	16.8	12.1	11.0	9.6	27.1	100.0	

NOTE: THE SPECIFIC OCCUPATIONS INCLUDED IN OFFICE TYPE 4 ARE LISTED IN THE FIRST 4 TABLES OF REPORT TYPE 05.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 06: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS BY OFFICE SIZE AND INDUSTRY

OFFICE TYPE 5: STENOGRAPHIC, TYPING, CLERICAL, BOOKKEEPING, ACCOUNT RECORDING,
OFFICE MACHINE OPERATORS, COMPUTER AND RELATED

SIZE OF OFFICE (NUMBER OF EMPLOYEES IN SPECIFIC GROUPS OF OCCUPATIONS WITHIN AN ESTABLISHMENT)

INDUSTRY CLASS	1 TO 2	3	4	5 TO 10	11 TO 20	21 TO 50	51 TO 100	101 TO 200	201 TO 500	500+	TOTAL	%
1. MANUFACTURING	4,246	3,719	3,584	17,631	19,282	31,947	17,880	12,309	6,880	3,584	121,061	18.1
2. TRANSPORTATION	773	508	400	2,055	2,016	4,238	3,202	2,667	4,027	3,095	22,982	3.4
3. COMMUNICATIONS	131	198	146	662	738	1,305	2,370	1,330	2,370	11,506	20,757	3.1
4. UTILITIES	61	53	79	480	912	1,830	1,536	1,440	3,391	3,338	13,121	2.0
5. WHOLESALE TRADE	870	994	1,543	10,372	11,538	13,866	4,725	3,132	1,173	1,187	49,400	7.4
6. RETAIL TRADE	1,974	1,615	1,435	5,286	2,890	3,563	1,998	1,633	5,049	1,709	27,153	4.1
7. FINANCIAL INSTITUTIONS	163	347	432	3,634	6,640	10,439	9,609	10,523	11,342	22,804	75,934	11.4
8. INSURANCE & REAL ESTATE	131	151	194	1,588	3,093	9,230	11,090	12,763	10,717	3,545	52,502	7.9
9. HEALTH AND WELFARE	525	385	434	2,064	3,547	7,969	7,082	7,745	7,528	0	37,278	5.6
10. SERVICE TO BUSINESS MANGMNT	342	369	457	2,446	4,943	12,638	8,009	7,555	406	0	37,166	5.6
11. PUBLIC ADMINISTRATION	28	35	112	847	1,730	6,347	7,278	10,264	10,085	128,221	164,947	24.7
12. ALL OTHERS	1,803	1,116	839	4,153	4,721	7,777	7,083	5,223	6,313	7,220	46,248	6.9
TOTAL	11,047	9,492	9,654	51,218	62,048	111,151	81,862	76,584	69,283	186,209	668,548	100.0
%	1.7	1.4	1.4	7.7	9.3	16.6	12.2	11.5	10.4	27.9	100.0	

NOTE: THE SPECIFIC OCCUPATIONS INCLUDED IN OFFICE TYPE 5 ARE LISTED IN THE
FIRST 5 TABLES OF REPORT TYPE 05.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

REPORT TYPE 7

Relationship of Estimated Number of Employees in Specific
Office Occupations, by Office Type, and the Estimated
Total Number of Office Employees in Large Establishments

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 07: TOTAL EMPLOYEES, OFFICE EMPLOYEES AND
SPECIFIC GROUPS OF OFFICE EMPLOYEES, BY INDUSTRY CLASS.

OPTION 1: NUMBER OF EMPLOYEES

INDUSTRY CLASS	TOTAL EMPLOYEES	OFFICE EMPLOYEES	OFFICE TYPE *				
			1	2	3	4	5
1. MANUFACTURING	1,639,706	433,495	43,293	71,682	98,961	104,094	121,061
2. TRANSPORTATION	317,836	87,330	7,336	15,971	19,884	20,266	22,982
3. COMMUNICATIONS	161,522	80,376	3,794	16,797	18,678	18,998	20,757
4. UTILITIES	104,209	55,230	4,688	9,787	10,967	11,341	13,121
5. WHOLESALE TRADE	302,205	122,069	14,812	28,065	40,931	42,497	49,400
6. RETAIL TRADE	473,082	95,424	5,519	18,153	24,363	24,936	27,153
7. FINANCIAL INSTITUTIONS	234,469	232,335	31,243	61,769	68,780	70,215	75,934
8. INSURANCE & REAL ESTATE	114,630	101,305	20,321	43,261	46,489	47,118	52,502
9. HEALTH AND WELFARE	479,360	78,867	23,883	33,200	36,029	36,725	37,278
10. SERVICE TO BUSINESS MNGMNT	135,473	109,657	20,510	28,100	30,950	32,335	37,166
11. PUBLIC ADMINISTRATION	699,033	424,617	68,964	146,469	149,664	152,072	164,947
12. ALL OTHERS	548,942	150,108	24,029	34,333	40,053	41,355	46,248
TOTAL	5,210,466	1,970,812	268,391	507,587	585,748	601,950	668,547

* NOTE: OFFICE TYPES ARE LISTED IN REPORT TYPE 06, TABLES 1 TO 5,
SPECIFIC OCCUPATIONS OF WHICH ARE INDICATED IN REPORT TYPE 05.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 07: TOTAL EMPLOYEES, OFFICE EMPLOYEES AND
SPECIFIC GROUPS OF OFFICE EMPLOYEES, BY INDUSTRY CLASS

OPTION 2: PER CENT DISTRIBUTION OF EMPLOYEES BY GROUP **

INDUSTRY CLASS	TOTAL EMPLOYEES	OFFICE EMPLOYEES	OFFICE TYPE *				
			1	2	3	4	5
1. MANUFACTURING	31.5	22.0	16.1	14.1	16.9	17.3	18.1
2. TRANSPORTATION	6.1	4.4	2.7	3.1	3.4	3.4	3.4
3. COMMUNICATIONS	3.1	4.1	1.4	3.3	3.2	3.2	3.1
4. UTILITIES	2.0	2.8	1.7	1.9	1.9	1.9	2.0
5. WHOLESALE TRADE	5.8	6.2	5.5	5.5	7.0	7.1	7.4
6. RETAIL TRADE	9.1	4.8	2.1	3.6	4.2	4.1	4.1
7. FINANCIAL INSTITUTIONS	4.5	11.8	11.6	12.2	11.7	11.7	11.4
8. INSURANCE & REAL ESTATE	2.2	5.1	7.6	8.5	7.9	7.8	7.9
9. HEALTH AND WELFARE	9.2	4.0	8.9	6.5	6.2	6.1	5.6
10. SERVICE TO BUSINESS MNGMNT	2.6	5.6	7.6	5.5	5.3	5.4	5.6
11. PUBLIC ADMINISTRATION	13.4	21.5	25.7	28.9	25.6	25.3	24.7
12. ALL OTHERS	10.5	7.6	9.0	6.8	6.8	6.9	6.9
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* NOTE: OFFICE TYPES ARE LISTED IN REPORT TYPE 06, TABLES 1 TO 5,
SPECIFIC OCCUPATIONS OF WHICH ARE INDICATED IN REPORT TYPE 05.

** NOTE: PERCENTAGES ARE CALCULATED BY TAKING THE CORRESPONDING FIGURES IN 'OPTION 1'
AS A PER CENT OF THE TOTAL OF EACH COLUMN.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 07: TOTAL EMPLOYEES, OFFICE EMPLOYEES AND
SPECIFIC GROUPS OF OFFICE EMPLOYEES, BY INDUSTRY CLASS

OPTION 3: PER CENT OFFICE EMPLOYEES AND SPECIFIC GROUPS OF OFFICE EMPLOYEES OF TOTAL EMPLOYEES

INDUSTRY CLASS	TOTAL EMPLOYEES	OFFICE EMPLOYEES	% **	OFFICE TYPE *				
				1	2	3	4	5
						(PER CENT ***)		
1. MANUFACTURING	1,639,706	433,495	8.3	.8	1.4	1.9	2.0	2.3
2. TRANSPORTATION	317,836	87,330	1.7	.1	.3	.4	.4	.4
3. COMMUNICATIONS	161,522	80,376	1.5	.1	.3	.4	.4	.4
4. UTILITIES	104,209	55,230	1.1	.1	.2	.2	.2	.3
5. WHOLESALE TRADE	302,205	122,069	2.3	.3	.5	.8	.8	.9
6. RETAIL TRADE	473,082	95,424	1.8	.1	.3	.5	.5	.5
7. FINANCIAL INSTITUTIONS	234,469	232,335	4.5	.6	1.2	1.3	1.3	1.5
8. INSURANCE & REAL ESTATE	114,630	101,305	1.9	.4	.8	.9	.9	1.0
9. HEALTH AND WELFARE	479,360	78,867	1.5	.5	.6	.7	.7	.7
10. SERVICE TO BUSINESS MNGMNT	135,473	109,657	2.1	.4	.5	.6	.6	.7
11. PUBLIC ADMINISTRATION	699,033	424,617	8.1	1.3	2.8	2.9	2.9	3.2
12. ALL OTHERS	548,942	150,108	2.9	.5	.7	.8	.8	.9
TOTAL	5,210,466	1,970,812	37.8	5.2	9.7	11.2	11.6	12.8

* NOTE: OFFICE TYPES ARE LISTED IN REPORT TYPE 06, TABLES 1 TO 5,
SPECIFIC OCCUPATIONS OF WHICH ARE INDICATED IN REPORT TYPE 05.

** NOTE: PERCENTAGES ARE CALCULATED BY TAKING THE CORRESPONDING FIGURES IN COLUMN 2
AS A PER CENT OF TOTAL EMPLOYEES (TOTAL LINE, COL 1)

*** NOTE: PERCENTAGES ARE CALCULATED BY TAKING THE CORRESPONDING FIGURE IN 'OPTION 1'
AS A PER CENT OF TOTAL EMPLOYEES (TOTAL LINE, COL 1)

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 07: TOTAL EMPLOYEES, OFFICE EMPLOYEES AND
SPECIFIC GROUPS OF OFFICE EMPLOYEES, BY INDUSTRY CLASS

OPTION 4: PER CENT SPECIFIC GROUPS OF OFFICE EMPLOYEES OF TOTAL OFFICE EMPLOYEES

INDUSTRY CLASS	TOTAL EMPLOYEES	OFFICE EMPLOYEES	OFFICE TYPE *				
			1	2	3 (PER CENT **)	4	5
1. MANUFACTURING	1,639,706	433,495	2.2	3.6	5.0	5.3	6.1
2. TRANSPORTATION	317,836	87,330	.4	.8	1.0	1.0	1.2
3. COMMUNICATIONS	161,522	80,376	.2	.9	.9	1.0	1.1
4. UTILITIES	104,209	55,230	.2	.5	.6	.6	.7
5. WHOLESALE TRADE	302,205	122,069	.8	1.4	2.1	2.2	2.5
6. RETAIL TRADE	473,082	95,424	.3	.9	1.2	1.3	1.4
7. FINANCIAL INSTITUTIONS	234,469	232,335	1.6	3.1	3.5	3.6	3.9
8. INSURANCE & REAL ESTATE	114,630	101,305	1.0	2.2	2.4	2.4	2.7
9. HEALTH AND WELFARE	479,360	78,867	1.2	1.7	1.8	1.9	1.9
10. SERVICE TO BUSINESS MNGMNT	135,473	109,657	1.0	1.4	1.6	1.6	1.9
11. PUBLIC ADMINISTRATION	699,033	424,617	3.5	7.4	7.6	7.7	8.4
12. ALL OTHERS	548,942	150,108	1.2	1.7	2.0	2.1	2.3
TOTAL	5,210,466	1,970,812	13.6	25.8	29.7	30.5	33.9

* NOTE: OFFICE TYPES ARE LISTED IN REPORT TYPE 06, TABLES 1 TO 5,
SPECIFIC OCCUPATIONS OF WHICH ARE INDICATED IN REPORT TYPE 05.

** NOTE: PERCENTAGES ARE CALCULATED BY TAIING THE CORRESPONDING FIGURES IN *OPTION 1*
AS A PER CENT OF TOTAL OFFICE EMPLOYEES (TOTAL LINE, COL 2)

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 07: TOTAL EMPLOYEES, OFFICE EMPLOYEES AND
SPECIFIC GROUPS OF OFFICE EMPLOYEES, BY INDUSTRY CLASS

OPTION 5: PER CENT SPECIFIC GROUPS OF OFFICE EMPLOYEES OF TOTAL EMPLOYEE INDUSTRY CLASS

INDUSTRY CLASS	TOTAL EMPLOYEES	OFFICE EMPLOYEES	% OF CORRESPONDING FIGURES **	OFFICE TYPE *				
				1	2	3 (PER CENT ***)	4	5
1. MANUFACTURING	1,639,706	433,495	26.4	2.6	4.4	6.0	6.3	7.4
2. TRANSPORTATION	317,836	87,330	27.5	2.3	5.0	6.3	6.4	7.2
3. COMMUNICATIONS	161,522	80,376	49.8	2.3	10.4	11.6	11.8	12.9
4. UTILITIES	104,209	55,230	53.0	4.5	9.4	10.5	10.9	12.6
5. WHOLESALE TRADE	302,205	122,069	40.4	4.9	9.3	13.5	14.1	16.3
6. RETAIL TRADE	473,082	95,424	20.2	1.2	3.8	5.1	5.3	5.7
7. FINANCIAL INSTITUTIONS	234,469	232,335	99.1	13.3	26.3	29.3	29.9	32.4
8. INSURANCE & REAL ESTATE	114,630	101,305	88.4	17.7	37.7	40.6	41.1	45.8
9. HEALTH AND WELFARE	479,360	78,867	16.5	5.0	6.9	7.5	7.7	7.8
10. SERVICE TO BUSINESS MNGMNT	135,473	109,657	80.9	15.1	20.7	22.8	23.9	27.4
11. PUBLIC ADMINISTRATION	699,033	424,617	60.7	9.9	21.0	21.4	21.8	23.6
12. ALL OTHERS	548,942	150,108	27.3	4.4	6.3	7.3	7.5	8.4
TOTAL	5,210,466	1,970,812	37.8	5.2	9.7	11.2	11.6	12.8

* NOTE: OFFICE TYPES ARE LISTED IN REPORT TYPE 06, TABLES 1 TO 5,
SPECIFIC OCCUPATIONS OF WHICH ARE INDICATED IN REPORT TYPE 05.

** NOTE: PERCENTAGES ARE CALCULATED BY TAKING COLUMN 2 FIGURES AS A PER CENT
OF CORRESPONDING COLUMN 1 FIGURES (IE. TOTAL INDUSTRY CLASS EMPLOYEES)

*** NOTE: PERCENTAGES ARE CALCULATED BY TAKING THE CORRESPONDING FIGURES IN 'OPTION 1'
AS A PER CENT OF THE CORRESPONDING FIGURES IN COLUMN 1 (IE. TOTAL INDUSTRY CLASS EMPLOYEES)

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 07: TOTAL EMPLOYEES, OFFICE EMPLOYEES AND
SPECIFIC GROUPS OF OFFICE EMPLOYEES, BY INDUSTRY CLASS

OPTION 6: PER CENT SPECIFIC GROUPS OF OFFICE EMPLOYEES OF CORRESPONDING TOTAL OFFICE EMPLOYEE INDUSTRY CLASS

INDUSTRY CLASS	TOTAL OFFICE EMPLOYEES	OFFICE TYPE *				
		1	2	3 (PER CENT **)	4	5
1. MANUFACTURING	433,495	10.0	16.5	22.8	24.0	27.9
2. TRANSPORTATION	87,330	8.4	18.3	22.8	23.2	26.3
3. COMMUNICATIONS	80,376	4.7	20.9	23.2	23.6	25.8
4. UTILITIES	55,230	8.5	17.7	19.9	20.5	23.8
5. WHOLESALE TRADE	122,069	12.1	23.0	33.5	34.8	40.5
6. RETAIL TRADE	95,424	5.8	19.0	25.5	26.1	28.5
7. FINANCIAL INSTITUTIONS	232,335	13.4	26.6	29.6	30.2	32.7
8. INSURANCE & REAL ESTATE	101,305	20.1	42.7	45.9	46.5	51.8
9. HEALTH AND WELFARE	78,867	30.3	42.1	45.7	46.6	47.3
10. SERVICE TO BUSINESS MNGMNT	109,657	18.7	25.6	28.2	29.5	33.9
11. PUBLIC ADMINISTRATION	424,617	16.2	34.5	35.2	35.8	38.8
12. ALL OTHERS	150,108	16.0	22.9	26.7	27.6	30.8
TOTAL	1,970,812	13.6	25.8	29.7	30.5	33.9

* NOTE: OFFICE TYPES ARE LISTED IN REPORT TYPE 06, TABLES 1 TO 5,
SPECIFIC OCCUPATIONS OF WHICH ARE INDICATED IN REPORT TYPE 05.

** NOTE: PERCENTAGES ARE CALCULATED BY TAKING THE CORRESPONDING FIGURES IN 'OPTION 1'
AS A PER CENT OF THE CORRESPONDING FIGURES IN COLUMN 1 (IE. TOTAL INDUSTRY CLASS OFFICE EMPLOYEES)

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

REPORT TYPES 8, 9, AND 10

Information on Employment in Specific Office Occupations
by Establishment Size, Region and Industry

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 08: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND REGION

1. ATLANTIC REGION

OCCUPATION	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)								TOTAL	%	
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999			
1. SECRETARIES	1,091	1,607	1,152	760	372	913	77	603	371	6,948	16.8
2. STENOGRAPHERS	584	1,175	1,385	618	422	343	100	747	879	6,254	15.1
3. TRANSCRIBING MACHINE OPERATORS	40	175	99	98	35	3	0	28	0	478	1.2
4. TYPISTS	587	1,066	918	637	368	323	90	549	419	4,958	12.0
5. TELETYPEISTS	34	39	30	14	19	4	0	0	9	148	.4
6. VARI-TYPE OPERATORS	13	47	9	2	0	4	6	0	0	80	.2
7. BOOKKEEPERS	342	218	95	39	10	18	2	6	22	752	1.8
8. COST CLERKS	46	87	76	14	17	29	28	0	0	297	.7
9. ACCOUNTING CLERKS	672	965	663	292	100	67	51	194	32	3,036	7.3
10. STOCK RECORDS CLERK	173	285	169	103	53	43	17	31	35	909	2.2
11. FILE CLERKS	80	246	119	83	16	11	19	28	0	603	1.5
12. OFFICE BOY/GIRL	25	61	55	19	7	6	16	19	0	208	.5
13. CLERK, GENERAL OFFICE	1,639	3,401	1,953	1,223	668	1,642	523	568	1,323	12,940	31.2
14. ORDER CLERKS	163	128	40	32	3	4	17	0	0	386	.9
15. MACHINE OPERATORS *	9	53	57	68	69	31	20	60	89	456	1.1
16. OTHER OFFICE MACHINE OPERATORS **	96	99	39	10	6	5	1	6	2	263	.6
17. AUTOMATIC DATA TRANSCIEVER OPERATORS	2	0	2	0	0	1	0	0	30	35	.1
18. OFFSET DUPLICATING MACHINE OPERATORS	7	19	17	15	5	2	1	6	4	76	.2
19. COMPUTER OPERATORS	76	211	99	32	21	42	32	19	31	563	1.4
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	23	70	18	19	13	14	11	7	21	195	.5
21. KEYPUNCH OPERATORS	62	346	226	121	24	67	52	40	11	949	2.3
22. SYSTEM ANALYSTS	15	108	27	24	26	60	48	25	36	369	.9
23. PROGRAMMERS	35	204	59	28	21	83	54	43	20	547	1.3
TOTAL 1-23	5,811	10,612	7,309	4,248	2,277	3,714	1,165	2,981	3,333	41,452	100.0
%	14.0	25.6	17.6	10.2	5.5	9.0	2.8	7.2	8.0	100.0	

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSsing MACHINE OPERATORS, MICROFILM MOUNTERS

** INCLUDES: BOOKKEEPING, BILLING AND CALCULATING MACHINE OPERATORS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 08: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND REGION

2. QUEBEC REGION

OCCUPATION	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. SECRETARIES	4,550	10,468	8,088	3,723	2,942	1,066	1,738	1,367	4,151	38,092	20.6
2. STENOGRAPHERS	1,123	1,738	2,317	1,478	1,740	591	991	1,731	5,904	17,614	9.5
3. TRANSCRIBING MACHINE OPERATORS	196	441	489	206	174	11	182	42	83	1,822	1.0
4. TYPISTS	1,574	3,583	3,580	1,545	1,157	490	686	707	2,173	15,496	8.4
5. TELETYPISTS	78	290	187	96	63	28	35	1	312	1,090	.6
6. VARI-TYPE OPERATORS	72	118	49	30	184	6	6	40	11	517	.3
7. BOOKKEEPERS	1,189	1,303	498	169	148	70	100	0	14	3,491	1.9
8. COST CLERKS	223	699	468	228	154	23	7	0	29	1,830	1.0
9. ACCOUNTING CLERKS	2,363	4,269	2,858	908	796	317	521	0	340	12,372	6.7
10. STOCK RECORDS CLERK	558	1,288	770	362	342	68	83	47	254	3,773	2.0
11. FILE CLERKS	323	1,027	998	439	200	273	85	37	129	3,510	1.9
12. OFFICE BOY/GIRL	338	840	559	270	219	35	139	324	1,156	3,880	2.1
13. CLERK, GENERAL OFFICE	3,534	9,180	8,034	4,476	3,799	1,238	3,988	4,083	15,558	53,889	29.2
14. ORDER CLERKS	960	1,787	639	262	87	18	21	0	31	3,806	2.1
15. MACHINE OPERATORS *	245	808	747	384	337	93	262	140	254	3,270	1.8
16. OTHER OFFICE MACHINE OPERATORS **	211	410	116	89	18	2	28	208	13	1,094	.6
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	8	59	8	0	0	0	0	0	17	92	.1
18. OFFSET DUPLICATING MACHINE OPERATORS	33	81	97	34	225	6	37	2	40	554	.3
19. COMPUTER OPERATORS	357	891	816	375	280	77	132	76	632	3,636	2.0
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	15	120	128	64	60	12	16	40	255	711	.4
21. KEYPUNCH OPERATORS	170	1,061	1,147	629	617	165	279	197	1,165	5,431	2.9
22. SYSTEM ANALYSTS	71	419	568	468	387	49	488	266	1,268	3,983	2.2
23. PROGRAMMERS	102	683	1,036	534	507	52	474	190	1,135	4,713	2.6
TOTAL 1-23	18,296	41,563	34,195	16,768	14,437	4,687	10,300	9,498	34,923	184,667	100.0
%	9.9	22.5	18.5	9.1	7.8	2.5	5.6	5.1	18.9	100.0	

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSsing MACHINE OPERATORS, MICROFILM MOUNTERS

** INCLUDES: BOOKKEEPING, BILLING AND CALCULATING MACHINE OPERATORS

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AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 08: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND REGION

3. ONTARIO REGION

OCCUPATION	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. SECRETARIES	6,898	14,980	11,266	5,555	4,545	2,975	793	818	10,375	58,206	20.0
2. STENOGRAPHERS	1,988	4,251	3,883	2,382	2,125	1,497	581	4	5,529	22,240	7.7
3. TRANSCRIBING MACHINE OPERATORS	359	1,048	978	615	402	315	35	0	450	4,201	1.4
4. TYPISTS	2,518	5,450	5,304	2,534	2,008	1,310	421	37	4,627	24,210	8.3
5. TELETYPEISTS	99	343	397	211	83	43	11	6	184	1,377	.5
6. VARI-TYPE OPERATORS	61	183	67	25	42	8	0	1	60	448	.2
7. BOOKKEEPERS	2,111	1,956	619	182	115	85	5	0	10	5,083	1.8
8. COST CLERKS	302	1,118	828	377	173	69	11	1	105	2,984	1.0
9. ACCOUNTING CLERKS	3,209	6,997	4,753	1,724	1,129	490	76	35	1,175	19,587	6.7
10. STOCK RECORDS CLERK	775	1,823	1,419	463	293	39	33	0	360	5,204	1.8
11. FILE CLERKS	313	1,638	1,553	548	568	342	81	0	1,187	6,231	2.1
12. OFFICE BOY/GIRL	258	636	718	291	239	141	22	13	279	2,597	.9
13. CLERK, GENERAL OFFICE	6,197	15,857	14,744	8,223	7,705	3,011	2,015	1,264	33,272	92,288	31.8
14. ORDER CLERKS	1,292	2,696	1,224	297	133	29	2	0	46	5,719	2.0
15. MACHINE OPERATORS *	292	1,054	1,264	625	454	242	34	0	1,214	5,179	1.8
16. OTHER OFFICE MACHINE OPERATORS **	353	573	230	123	55	43	2	0	61	1,440	.5
17. AUTOMATIC DATA TRANSCIVER OPERATORS	10	22	14	1	0	0	0	0	85	132	.0
18. OFFSET DUPLICATING MACHINE OPERATORS	38	199	115	94	74	44	10	3	98	674	.2
19. COMPUTER OPERATORS	536	1,464	1,400	548	557	257	58	143	1,347	6,310	2.2
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	118	329	369	93	182	12	16	0	793	1,912	.7
21. KEYPUNCH OPERATORS	322	2,439	2,633	1,287	941	361	94	89	1,992	10,158	3.5
22. SYSTEM ANALYSTS	260	872	1,296	615	758	259	67	61	2,813	7,000	2.4
23. PROGRAMMERS	190	1,380	1,703	868	1,015	184	131	330	1,342	7,143	2.5
TOTAL 1-23	28,500	67,309	56,774	27,681	23,596	11,755	4,497	2,805	67,405	290,322	100.0
%	9.8	23.2	19.6	9.5	8.1	4.0	1.5	1.0	23.2	100.0	

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBROIDERING MACHINE OPERATORS, MICROFILM MOUNTERS

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 08: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND REGION

4. CENTRAL REGION

OCCUPATION	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)								5000+	TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999			
1. SECRETARIES	2,285	3,014	1,429	1,153	665	433	287	271	2,624	12,162	14.2
2. STENOGRAPHERS	853	1,522	1,397	1,215	1,248	277	365	871	1,656	9,405	11.0
3. TRANSCRIBING MACHINE OPERATORS	230	421	146	255	163	42	6	0	46	1,308	1.5
4. TYPISTS	983	1,922	1,418	1,713	1,339	334	709	709	3,597	12,726	14.9
5. TELETYPISTS	72	106	39	39	40	4	21	7	21	350	.4
6. VARI-TYPE OPERATORS	27	41	4	3	0	6	0	0	0	82	.1
7. BOOKKEEPERS	558	573	157	97	47	16	8	10	120	1,587	1.9
8. COST CLERKS	112	223	93	42	44	21	2	43	4	584	.7
9. ACCOUNTING CLERKS	1,219	2,315	1,253	852	1,137	155	83	380	148	7,542	8.8
10. STOCK RECORDS CLERK	282	502	188	78	82	32	28	16	92	1,301	1.5
11. FILE CLERKS	157	510	119	276	134	38	16	70	13	1,333	1.6
12. OFFICE BOY/GIRL	78	183	98	142	54	14	21	1	12	605	.7
13. CLERK, GENERAL OFFICE	2,284	4,728	2,662	3,714	2,274	1,251	1,178	1,337	6,592	26,019	30.5
14. ORDER CLERKS	443	530	157	51	13	6	1	1	0	1,203	1.4
15. MACHINE OPERATORS *	245	193	134	158	62	12	7	47	95	953	1.1
16. OTHER OFFICE MACHINE OPERATORS **	106	153	99	41	23	4	3	2	2	432	.5
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	2	2	17	35	0	0	0	0	19	74	.1
18. OFFSET DUPLICATING MACHINE OPERATORS	11	36	7	15	5	20	0	3	15	111	.1
19. COMPUTER OPERATORS	167	555	218	253	108	44	29	17	80	1,471	1.7
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	18	125	97	41	2	44	75	5	21	428	.5
21. KEYPUNCH OPERATORS	163	849	430	541	492	129	98	89	262	3,053	3.6
22. SYSTEM ANALYSTS	71	215	123	180	73	113	40	77	152	1,044	1.2
23. PROGRAMMERS	123	381	199	364	158	217	29	72	102	1,645	1.9
TOTAL 1-23	10,489	19,100	10,484	11,259	8,164	3,212	3,006	4,029	15,674	85,417	100.0
%	12.3	22.4	12.3	13.2	9.6	3.8	3.5	4.7	18.3	100.0	

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSSING MACHINE OPERATORS, MICROFILM MOUNTERS

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 08: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND REGION

5. PACIFIC AND TERRITORIES

OCCUPATION	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. SECRETARIES	1,747	2,224	1,414	613	905	77	61	32	4,209	11,283	16.9
2. STENOGRAPHERS	521	742	830	638	778	252	261	32	2,837	6,892	10.3
3. TRANSCRIBING MACHINE OPERATORS	139	291	111	78	470	0	0	3	19	1,111	1.7
4. TYPISTS	517	1,188	643	497	667	257	116	12	4,509	8,407	12.6
5. TELETYPEISTS	78	112	67	32	131	1	0	10	11	443	.7
6. VARI-TYPE OPERATORS	19	12	0	3	3	0	6	0	0	43	.1
7. BOOKKEEPERS	576	405	196	38	38	7	0	0	0	1,260	1.9
8. COST CLERKS	63	143	119	40	58	17	0	0	1	441	.7
9. ACCOUNTING CLERKS	798	1,490	1,091	379	530	90	0	215	129	4,721	7.1
10. STOCK RECORDS CLERK	151	287	243	77	79	59	0	0	1	897	1.3
11. FILE CLERKS	114	352	131	87	200	65	11	4	2	966	1.4
12. OFFICE BOY/GIRL	64	151	55	41	31	5	0	6	4	356	.5
13. CLERK, GENERAL OFFICE	1,677	3,216	2,173	1,288	2,785	397	125	153	9,783	21,597	32.4
14. ORDER CLERKS	323	422	182	61	577	0	0	0	3	1,569	2.4
15. MACHINE OPERATORS *	94	220	172	45	206	0	121	13	89	960	1.4
16. OTHER OFFICE MACHINE OPERATORS **	70	100	51	21	18	14	0	0	1	275	.4
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	7	2	0	4	0	13	0	0	12	38	.1
18. OFFSET DUPLICATING MACHINE OPERATORS	14	33	14	8	17	1	5	2	0	94	.1
19. COMPUTER OPERATORS	86	333	216	86	136	34	22	17	100	1,029	1.5
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	39	79	18	12	62	0	0	0	21	231	.3
21. KEYPUNCH OPERATORS	78	415	305	125	266	76	86	82	761	2,194	3.3
22. SYSTEM ANALYSTS	35	135	159	59	95	29	46	0	200	759	1.1
23. PROGRAMMERS	35	191	208	114	85	36	42	101	309	1,121	1.7
TOTAL 1-23	7,246	12,542	8,400	4,348	8,136	1,433	901	683	23,000	66,689	100.0
%	10.9	18.8	12.6	6.5	12.2	2.1	1.4	1.0	34.5	100.0	

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 08: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND REGION

6. TOTAL REGIONS

OCCUPATION	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. SECRETARIES	16,572	32,295	23,347	11,802	9,428	5,465	2,954	3,092	21,729	126,684	18.9
2. STENOGRAPHERS	5,071	9,427	9,813	6,330	6,312	2,960	2,298	3,384	16,807	62,402	9.3
3. TRANSCRIBING MACHINE OPERATORS	959	2,374	1,821	1,250	1,246	371	223	73	595	8,912	1.3
4. TYPISTS	6,178	13,209	11,863	6,927	5,542	2,713	2,026	2,014	15,327	65,799	9.8
5. TELETYPEISTS	361	894	717	391	340	80	68	24	538	3,413	.5
6. VARI-TYPE OPERATORS	190	406	125	65	230	24	19	41	72	1,172	.2
7. BOOKKEEPERS	4,778	4,456	1,564	524	355	195	115	16	164	12,167	1.8
8. COST CLERKS	750	2,266	1,583	702	443	157	49	44	138	6,132	.9
9. ACCOUNTING CLERKS	8,265	16,036	10,615	4,157	3,690	1,117	730	824	1,825	47,259	7.1
10. STOCK RECORDS CLERK	1,943	4,181	2,789	1,083	848	240	162	93	741	12,080	1.8
11. FILE CLERKS	983	3,773	2,926	1,437	1,118	732	213	139	1,331	12,652	1.9
12. OFFICE BOY/GIRL	762	1,872	1,485	760	549	200	197	364	1,450	7,639	1.1
13. CLERK, GENERAL OFFICE	15,333	36,384	29,569	18,923	17,232	7,540	7,828	7,406	66,526	206,741	30.9
14. ORDER CLERKS	3,182	5,564	2,244	701	813	59	42	1	80	12,686	1.9
15. MACHINE OPERATORS *	884	2,331	2,377	1,283	1,131	377	443	260	1,742	10,828	1.6
16. OTHER OFFICE MACHINE OPERATORS **	838	1,333	538	286	121	70	34	217	79	3,516	.5
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	29	86	42	40	0	14	0	0	163	374	.1
18. OFFSET DUPLICATING MACHINE OPERATORS	100	364	248	168	326	74	54	16	157	1,507	.2
19. COMPUTER OPERATORS	1,225	3,457	2,748	1,300	1,103	454	273	272	2,191	13,023	1.9
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	213	722	633	226	323	81	118	52	1,113	3,481	.5
21. KEYPUNCH OPERATORS	792	5,112	4,743	2,702	2,340	798	611	495	4,191	21,784	3.3
22. SYSTEM ANALYSTS	455	1,755	2,171	1,342	1,337	512	691	429	4,469	13,161	2.0
23. PROGRAMMERS	488	2,841	3,208	1,905	1,787	574	730	736	2,909	15,178	2.3
TOTAL 1-23	70,351	151,138	117,169	64,304	56,614	24,807	19,878	19,992	144,337	668,590	100.0
%	10.5	22.6	17.5	9.6	8.5	3.7	3.0	3.0	21.6	100.0	

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 09: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

1. MANUFACTURING

OCCUPATION	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 4	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. SECRETARIES	2,551	7,775	6,964	3,402	2,620	540	613	12	839	25,317	20.9
2. STENOGRAPHERS	281	1,439	2,040	1,073	1,125	217	475	4	388	7,043	5.8
3. TRANSCRIBING MACHINE OPERATORS	53	273	202	59	66	22	57	0	1	734	.6
4. TYPISTS	988	2,353	2,537	1,309	804	182	216	3	373	8,766	7.2
5. TELETYPISTS	30	217	288	164	102	15	12	0	27	854	.7
6. VARI-TYPE OPERATORS	89	181	54	29	204	7	5	0	13	581	.5
7. BOOKKEEPERS	1,447	1,505	619	205	189	9	6	0	5	3,985	3.3
8. COST CLERKS	356	1,469	1,245	551	313	65	10	0	85	4,094	3.4
9. ACCOUNTING CLERKS	1,745	4,770	3,627	1,255	1,032	158	45	7	237	12,876	10.6
10. STOCK RECORDS CLERK	450	1,790	1,388	456	381	24	29	0	135	4,653	3.8
11. FILE CLERKS	65	373	364	191	134	46	28	0	106	1,306	1.1
12. OFFICE BOY/GIRL	93	373	411	218	167	72	22	1	39	1,397	1.2
13. CLERK, GENERAL OFFICE	1,928	5,893	5,833	3,435	2,607	379	693	15	917	21,701	17.9
14. ORDER CLERKS	873	2,567	1,536	440	162	33	10	0	35	5,656	4.7
15. MACHINE OPERATORS *	292	782	1,149	542	440	118	188	0	134	3,645	3.0
16. OTHER OFFICE MACHINE OPERATORS **	154	459	226	70	23	17	3	0	5	957	.8
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	2	19	20	4	0	0	0	0	0	45	.0
18. OFFSET DUPLICATING MACHINE OPERATORS	42	84	60	44	227	6	5	0	20	487	.4
19. COMPUTER OPERATORS	222	1,100	1,085	602	409	128	63	3	166	3,777	3.1
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	39	228	199	64	88	2	15	0	68	701	.6
21. KEYPUNCH OPERATORS	88	1,087	1,858	1,096	786	198	114	13	409	5,650	4.7
22. SYSTEM ANALYSTS	59	450	821	553	596	175	99	0	369	3,122	2.6
23. PROGRAMMERS	79	691	1,095	672	622	104	112	0	343	3,718	3.1
TOTAL 1-23	11,922	35,879	33,620	16,433	13,098	2,517	2,821	58	4,715	121,062	100.0
%	9.8	29.6	27.8	13.6	10.8	2.1	2.3	.0	3.9	100.0	

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSSEING MACHINE OPERATORS, MICROFILM MOUNTERS

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 09: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

2. TRANSPORTATION

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 4	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1. SECRETARIES	593	1,121	437	480	251	47	132	32	470	3,563	15.5
2. STENOGRAPHERS	126	200	195	281	201	26	181	43	479	1,733	7.5
3. TRANSCRIBING MACHINE OPERATORS	4	14	13	15	12	0	23	28	83	192	.8
4. TYPISTS	228	360	135	145	82	42	33	12	128	1,165	5.1
5. TELETYPISTS	40	110	56	41	103	0	21	10	277	658	2.9
6. VARI-TYPE OPERATORS	17	2	0	0	0	0	0	0	6	25	.1
7. BOOKKEEPERS	188	168	37	28	16	4	5	0	18	464	2.0
8. COST CLERKS	16	68	24	14	3	11	1	0	7	145	.6
9. ACCOUNTING CLERKS	400	778	284	221	795	64	111	274	339	3,267	14.2
10. STOCK RECORDS CLERK	40	121	79	24	22	51	5	0	21	363	1.6
11. FILE CLERKS	27	65	53	58	29	47	19	9	47	354	1.5
12. OFFICE BOY/GIRL	31	87	31	51	19	0	34	14	192	458	2.0
13. CLERK, GENERAL OFFICE	854	2,160	1,346	756	624	62	571	160	825	7,359	32.0
14. ORDER CLERKS	47	37	8	22	9	0	1	0	14	138	.6
15. MACHINE OPERATORS *	0	53	10	23	0	0	7	13	76	182	.8
16. OTHER OFFICE MACHINE OPERATORS **	30	46	6	3	0	0	1	0	7	93	.4
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	0	0	17	32	0	13	0	0	0	62	.3
18. OFFSET DUPLICATING MACHINE OPERATORS	0	2	0	6	0	9	0	2	27	46	.2
19. COMPUTER OPERATORS	19	118	65	42	19	9	5	17	265	560	2.4
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	3	43	89	43	39	0	75	0	0	292	1.3
21. KEYPUNCH OPERATORS	24	104	103	87	126	11	56	82	257	849	3.7
22. SYSTEM ANALYSTS	12	74	18	24	13	12	19	0	194	365	1.6
23. PROGRAMMERS	6	82	21	65	26	4	2	101	343	649	2.8
TOTAL 1-23	2,703	5,813	3,028	2,461	2,390	414	1,302	797	4,074	22,983	100.0
%	11.8	25.3	13.2	10.7	10.4	1.8	5.7	3.5	17.7	100.0	

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSsing MACHINE OPERATORS, MICROFILM MOUNTERS

** INCLUDES: BOOKKEEPING, BILLING AND CALCULATING MACHINE OPERATORS

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 09: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

3. COMMUNICATIONS

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 4	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1. SECRETARIES	263	390	387	224	314	122	346	0	0	2,047	9.9
2. STENOGRAPHERS	54	69	192	89	130	109	218	0	33	895	4.3
3. TRANSCRIBING MACHINE OPERATORS	0	2	0	0	0	0	0	0	0	2	.0
4. TYPISTS	42	49	49	89	264	56	108	27	53	737	3.5
5. TELETYPEISTS	0	4	15	2	35	15	12	6	9	98	.5
6. VARI-TYPE OPERATORS	0	0	2	2	0	7	0	1	3	15	.1
7. BOOKKEEPERS	82	47	71	15	9	54	77	0	0	355	1.7
8. COST CLERKS	0	1	10	0	30	0	25	0	27	93	.4
9. ACCOUNTING CLERKS	104	146	111	34	257	44	225	17	112	1,050	5.1
10. STOCK RECORDS CLERK	11	15	13	8	44	4	20	0	17	132	.6
11. FILE CLERKS	0	7	5	10	62	7	34	0	102	226	1.1
12. OFFICE BOY/GIRL	13	10	46	15	7	13	75	0	10	188	.9
13. CLERK, GENERAL OFFICE	180	460	1,018	1,196	1,444	1,310	1,457	658	4,511	12,234	58.9
14. ORDER CLERKS	4	3	4	22	573	0	0	0	0	606	2.9
15. MACHINE OPERATORS *	0	9	10	15	151	0	27	0	0	212	1.0
16. OTHER OFFICE MACHINE OPERATORS **	9	13	1	0	1	2	0	0	0	26	.1
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	0	0	0	0	0	0	0	0	0	0	0.
18. OFFSET DUPLICATING MACHINE OPERATORS	1	2	16	3	9	27	26	0	0	83	.4
19. COMPUTER OPERATORS	5	38	24	11	50	28	31	0	133	321	1.5
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	0	10	0	0	6	37	11	0	205	268	1.3
21. KEYPUNCH OPERATORS	19	18	34	11	193	42	57	3	209	587	2.8
22. SYSTEM ANALYSTS	3	6	54	12	9	84	44	0	0	211	1.0
23. PROGRAMMERS	0	0	42	9	58	207	56	0	0	372	1.8
TOTAL 1-23	791	1,298	2,104	1,767	3,645	2,167	2,849	713	5,423	20,757	100.0
%	3.8	6.3	10.1	8.5	17.6	10.4	13.7	3.4	26.1	100.0	

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1977 SURVEY OF LARGE ESTABLISHMENTS

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4. UTILITIES

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 4	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1. SECRETARIES	63	283	247	204	123	124	73	0	361	1,479	11.3
2. STENOGRAPHERS	6	139	387	284	213	85	294	0	781	2,188	16.7
3. TRANSCRIBING MACHINE OPERATORS	0	2	0	0	8	0	0	0	1	11	.1
4. TYPISTS	15	61	191	155	83	124	183	0	175	987	7.5
5. TELETYPISTS	0	0	2	0	0	0	0	0	0	2	.0
6. VARI-TYPE OPERATORS	0	0	6	2	0	0	12	0	0	20	.2
7. BOOKKEEPERS	14	18	6	9	9	1	0	0	0	57	.4
8. COST CLERKS	0	6	31	1	9	12	0	0	5	65	.5
9. ACCOUNTING CLERKS	33	220	177	140	102	55	17	0	55	799	6.1
10. STOCK RECORDS CLERK	16	64	77	30	16	2	1	0	42	248	1.9
11. FILE CLERKS	0	0	30	28	15	8	19	0	173	273	2.1
12. OFFICE BOY/GIRL	0	7	9	13	25	6	0	0	77	138	1.0
13. CLERK, GENERAL OFFICE	136	703	1,030	327	478	557	415	0	986	4,631	35.3
14. ORDER CLERKS	0	4	24	3	2	2	15	0	19	69	.5
15. MACHINE OPERATORS *	0	0	19	45	28	12	134	0	83	321	2.4
16. OTHER OFFICE MACHINE OPERATORS **	10	16	9	0	2	1	1	0	2	41	.3
17. AUTOMATIC DATA TRANSCIVER OPERATORS	0	2	0	0	0	0	0	0	0	2	.0
18. OFFSET DUPLICATING MACHINE OPERATORS	0	0	2	3	0	0	5	0	0	10	.1
19. COMPUTER OPERATORS	19	40	46	10	19	14	29	0	130	307	2.3
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	5	5	8	6	2	5	0	0	23	53	.4
21. KEYPUNCH OPERATORS	19	108	96	53	71	39	104	0	168	658	5.0
22. SYSTEM ANALYSTS	0	22	36	57	17	39	63	0	188	422	3.2
23. PROGRAMMERS	6	54	30	47	53	21	60	0	69	340	2.6
TOTAL 1-23	342	1,752	2,464	1,416	1,275	1,107	1,426	0	3,338	13,121	100.0
%	2.6	13.4	18.8	10.8	9.7	8.4	10.9	0.	25.4	100.0	

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 09: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
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5. WHOLESALE TRADE

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 4	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1. SECRETARIES	2,368	4,189	1,269	389	136	0	0	324	0	8,675	17.6
2. STENOGRAPHERS	684	980	192	181	0	0	0	0	0	2,037	4.1
3. TRANSCRIBING MACHINE OPERATORS	97	205	84	0	0	0	0	0	0	385	.8
4. TYPISTS	1,093	1,606	326	88	34	0	0	0	0	3,146	6.4
5. TELETYPISTS	116	272	52	24	9	0	0	0	0	472	1.0
6. VARI-TYPE OPERATORS	34	55	6	0	0	0	0	0	0	95	.2
7. BOOKKEEPERS	780	622	88	13	0	0	0	0	0	1,503	3.0
8. COST CLERKS	261	426	127	25	0	0	0	1	0	841	1.7
9. ACCOUNTING CLERKS	1,813	2,589	789	222	5	0	0	11	0	5,429	11.0
10. STOCK RECORDS CLERK	789	974	248	38	0	0	0	0	0	2,049	4.1
11. FILE CLERKS	256	586	154	91	2	0	0	0	0	1,090	2.2
12. OFFICE BOY/GIRL	106	241	89	55	0	0	0	0	0	490	1.0
13. CLERK, GENERAL OFFICE	2,727	4,622	1,534	794	100	0	0	393	0	10,170	20.6
14. ORDER CLERKS	1,784	2,264	439	61	0	0	0	0	0	4,548	9.2
15. MACHINE OPERATORS *	292	281	249	75	0	0	0	0	0	897	1.8
16. OTHER OFFICE MACHINE OPERATORS **	275	269	34	8	0	0	0	0	0	586	1.2
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	8	3	0	0	0	0	0	0	0	11	.0
18. OFFSET DUPLICATING MACHINE OPERATORS	12	40	16	3	0	0	0	0	0	71	.1
19. COMPUTER OPERATORS	527	804	339	105	23	0	0	118	0	1,915	3.9
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	75	194	81	12	0	0	0	0	0	362	.7
21. KEYPUNCH OPERATORS	241	1,273	404	238	21	0	0	43	0	2,220	4.5
22. SYSTEM ANALYSTS	127	348	150	125	26	0	0	38	0	814	1.6
23. PROGRAMMERS	123	629	389	168	26	0	0	258	0	1,592	3.2
TOTAL 1-23	14,587	23,471	7,058	2,716	381	0	0	1,187	0	49,399	100.0
%	29.5	47.5	14.3	5.5	.8	0.	0.	2.4	0.	100.0	

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1977 SURVEY OF LARGE ESTABLISHMENTS

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6. RETAIL TRADE

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 4	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1. SECRETARIES	624	969	326	627	312	38	71	0	205	3,172	11.7
2. STENOGRAPHERS	95	174	73	98	109	8	12	0	157	724	2.7
3. TRANSCRIBING MACHINE OPERATORS	19	43	0	2	9	3	0	0	3	79	.3
4. TYPISTS	293	449	109	229	176	26	14	0	108	1,404	5.2
5. TELETYPISTS	25	51	9	10	12	3	2	0	1	113	.4
6. VARI-TYPE OPERATORS	6	10	9	0	2	0	0	0	0	26	.1
7. BOOKKEEPERS	882	475	71	23	28	0	3	0	0	1,482	5.5
8. COST CLERKS	54	94	11	16	3	0	0	0	10	189	.7
9. ACCOUNTING CLERKS	1,242	1,328	524	197	105	97	2	0	71	3,566	13.1
10. STOCK RECORDS CLERK	507	601	180	71	163	8	30	0	101	1,662	6.1
11. FILE CLERKS	42	148	30	32	51	0	0	0	18	322	1.2
12. OFFICE BOY/GIRL	71	88	20	17	27	12	10	0	15	261	1.0
13. CLERK, GENERAL OFFICE	1,631	2,691	1,565	1,374	1,251	350	481	0	1,227	10,570	38.9
14. ORDER CLERKS	292	376	78	33	8	1	0	0	6	793	2.9
15. MACHINE OPERATORS *	28	70	19	45	0	12	0	0	89	263	1.0
16. OTHER OFFICE MACHINE OPERATORS **	89	97	38	13	16	1	0	0	4	259	1.0
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	0	5	0	0	0	0	0	0	0	5	.0
18. OFFSET DUPLICATING MACHINE OPERATORS	0	10	1	16	9	0	2	0	7	45	.2
19. COMPUTER OPERATORS	60	191	39	59	68	16	2	0	125	559	2.1
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	15	38	10	25	6	2	11	0	49	156	.6
21. KEYPUNCH OPERATORS	57	302	94	104	185	45	29	0	228	1,044	3.8
22. SYSTEM ANALYSTS	6	30	18	17	37	0	0	0	48	155	.6
23. PROGRAMMERS	3	79	12	96	51	12	0	0	51	303	1.1
TOTAL 1-23	6,042	8,320	3,235	3,104	2,626	632	669	0	2,523	27,151	100.0
%	22.3	30.6	11.9	11.4	9.7	2.3	2.5	0.	9.3	100.0	

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1977 SURVEY OF LARGE ESTABLISHMENTS

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7. FINANCIAL INSTITUTIONS

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 4	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1. SECRETARIES	1,228	2,117	1,697	462	332	213	375	134	412	6,970	9.2
2. STENOGRAPHERS	1,862	2,430	1,776	1,124	1,585	1,107	453	577	1,144	12,057	15.9
3. TRANSCRIBING MACHINE OPERATORS	219	458	300	238	217	68	38	42	461	2,041	2.7
4. TYPISTS	1,055	1,966	2,033	1,047	1,008	690	318	131	1,485	9,734	12.8
5. TELETYPISTS	80	75	146	24	22	15	15	0	16	392	.5
6. VARI-TYPE OPERATORS	6	34	4	0	0	0	0	4	0	49	.1
7. BOOKKEEPERS	206	162	74	0	5	67	0	0	0	513	.7
8. COST CLERKS	5	6	2	0	0	0	0	0	0	12	.0
9. ACCOUNTING CLERKS	1,073	1,829	1,823	553	390	329	270	0	484	6,752	8.9
10. STOCK RECORDS CLERK	13	52	34	3	7	0	0	0	3	111	.1
11. FILE CLERKS	102	232	217	62	151	77	30	37	198	1,105	1.5
12. OFFICE BOY/GIRL	129	295	294	67	106	31	39	0	125	1,087	1.4
13. CLERK, GENERAL OFFICE	3,749	6,316	4,448	2,499	3,303	1,658	1,891	666	3,291	27,821	36.6
14. ORDER CLERKS	47	70	13	2	4	0	0	0	0	136	.2
15. MACHINE OPERATORS *	47	97	86	38	48	56	20	13	0	405	.5
16. OTHER OFFICE MACHINE OPERATORS **	180	294	81	111	26	31	26	208	10	966	1.3
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	8	0	0	0	0	0	0	0	0	8	.0
18. OFFSET DUPLICATING MACHINE OPERATORS	1	15	20	6	13	0	0	0	0	55	.1
19. COMPUTER OPERATORS	71	153	271	89	144	113	78	39	214	1,173	1.5
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	28	48	29	29	92	10	0	0	30	266	.3
21. KEYPUNCH OPERATORS	57	212	502	129	273	243	163	49	297	1,924	2.5
22. SYSTEM ANALYSTS	21	69	150	54	210	31	390	13	18	955	1.3
23. PROGRAMMERS	26	122	261	54	286	33	372	74	173	1,401	1.8
TOTAL 1-23	10,214	17,052	14,262	6,589	8,221	4,771	4,478	1,986	8,361	75,934	100.0
%	13.5	22.5	18.8	8.7	10.8	6.3	5.9	2.6	11.0	100.0	

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8. INSURANCE & REAL ESTATE

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 4	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1. SECRETARIES	2,334	3,700	2,058	705	439	0	0	0	0	9,235	17.6
2. STENOGRAPHERS	862	959	306	149	174	0	0	0	0	2,449	4.7
3. TRANSCRIBING MACHINE OPERATORS	245	625	377	115	80	0	0	0	0	1,442	2.7
4. TYPISTS	1,085	3,018	2,177	492	259	0	0	0	0	7,031	13.4
5. TELETYPISTS	6	30	21	29	19	0	0	0	0	105	.2
6. VARI-TYPE OPERATORS	4	26	11	12	6	0	0	0	0	59	.1
7. BOOKKEEPERS	161	162	146	8	14	0	0	0	0	491	.9
8. COST CLERKS	3	6	11	0	3	0	0	0	0	24	.0
9. ACCOUNTING CLERKS	435	1,312	834	227	140	0	0	0	0	2,947	5.6
10. STOCK RECORDS CLERK	13	92	84	13	1	0	0	0	0	202	.4
11. FILE CLERKS	291	1,659	1,313	405	176	0	0	0	0	3,845	7.3
12. OFFICE BOY/GIRL	58	261	172	79	33	0	0	0	0	603	1.1
13. CLERK, GENERAL OFFICE	1,846	6,484	5,097	2,317	2,256	0	0	0	0	18,001	34.3
14. ORDER CLERKS	15	15	15	7	3	0	0	0	0	55	.1
15. MACHINE OPERATORS *	28	53	163	151	34	0	0	0	0	429	.8
16. OTHER OFFICE MACHINE OPERATORS **	12	21	14	27	23	0	0	0	0	96	.2
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	0	2	0	0	0	0	0	0	0	2	.0
18. OFFSET DUPLICATING MACHINE OPERATORS	13	31	36	11	12	0	0	0	0	103	.2
19. COMPUTER OPERATORS	41	195	300	129	137	0	0	0	0	803	1.5
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	23	19	16	12	49	0	0	0	0	119	.2
21. KEYPUNCH OPERATORS	66	587	801	293	264	0	0	0	0	2,011	3.8
22. SYSTEM ANALYSTS	21	168	283	234	145	0	0	0	0	850	1.6
23. PROGRAMMERS	35	302	496	350	418	0	0	0	0	1,600	3.0
TOTAL 1-23	7,596	19,727	14,730	5,764	4,685	0	0	0	0	52,502	100.0
%	14.5	37.6	28.1	11.0	8.9	0.	0.	0.	0.	100.0	

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSSEING MACHINE OPERATORS, MICROFILM MOUNTERS

** INCLUDES: BOOKKEEPING, BILLING AND CALCULATING MACHINE OPERATORS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 09: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

9. HEALTH AND WELFARE

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 4	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1. SECRETARIES	189	1,001	2,666	2,164	2,647	1,940	664	65	0	11,336	30.4
2. STENOGRAPHERS	77	326	1,126	634	993	316	86	0	0	3,559	9.5
3. TRANSCRIBING MACHINE OPERATORS	25	256	639	715	587	179	105	0	0	2,505	6.7
4. TYPISTS	34	386	1,332	1,890	1,527	815	345	130	0	6,459	17.3
5. TELETYPEISTS	0	0	0	0	0	0	0	0	0	0	0.
6. VARI-TYPE OPERATORS	0	0	9	7	3	6	0	0	0	24	.1
7. BOOKKEEPERS	40	159	130	54	42	11	7	0	0	443	1.2
8. COST CLERKS	0	9	10	19	8	8	2	0	0	56	.2
9. ACCOUNTING CLERKS	60	330	495	451	307	127	21	162	0	1,953	5.2
10. STOCK RECORDS CLERK	6	120	253	152	91	57	8	0	0	687	1.8
11. FILE CLERKS	5	56	306	276	272	373	62	54	0	1,403	3.8
12. OFFICE BOY/GIRL	0	32	78	97	113	25	5	0	0	351	.9
13. CLERK, GENERAL OFFICE	107	709	1,688	1,678	1,588	701	471	177	0	7,120	19.1
14. ORDER CLERKS	0	18	29	41	20	12	14	0	0	133	.4
15. MACHINE OPERATORS *	0	35	144	105	138	50	40	40	0	552	1.5
16. OTHER OFFICE MACHINE OPERATORS **	0	10	22	18	17	10	0	0	0	77	.2
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	0	0	0	0	0	0	0	0	0	0	0.
18. OFFSET DUPLICATING MACHINE OPERATORS	0	2	9	19	21	12	5	0	0	67	.2
19. COMPUTER OPERATORS	0	9	17	19	21	11	10	5	0	92	.2
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	0	0	3	8	8	2	0	0	0	20	.1
21. KEYPUNCH OPERATORS	5	4	12	43	41	26	20	13	0	166	.4
22. SYSTEM ANALYSTS	0	6	21	14	52	35	15	4	0	147	.4
23. PROGRAMMERS	3	3	12	21	38	31	15	6	0	128	.3
TOTAL 1-23	551	3,470	8,999	8,427	8,534	4,745	1,895	657	0	37,278	100.0
%	1.5	9.3	24.1	22.6	22.9	12.7	5.1	1.8	0.	100.0	

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSSING MACHINE OPERATORS, MICROFILM MOUNTERS

** INCLUDES: BOOKKEEPING, BILLING AND CALCULATING MACHINE OPERATORS

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AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 09: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

10. SERVICE TO BUSINESS

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 4	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1. SECRETARIES	4,553	6,189	2,858	437	161	124	0	0	0	14,322	38.5
2. STENOGRAPHERS	610	694	405	227	6	15	0	0	0	1,957	5.3
3. TRANSCRIBING MACHINE OPERATORS	268	289	174	72	0	0	0	0	0	803	2.2
4. TYPISTS	905	1,305	693	196	32	7	0	0	0	3,138	8.4
5. TELETYPEISTS	57	61	62	12	0	0	0	0	0	192	.5
6. VARI-TYPE OPERATORS	21	41	24	3	9	0	0	0	0	99	.3
7. BOOKKEEPERS	495	600	82	4	0	0	0	0	0	1,181	3.2
8. COST CLERKS	33	53	24	6	3	0	0	0	0	120	.3
9. ACCOUNTING CLERKS	752	1,157	506	90	30	18	0	0	0	2,553	6.9
10. STOCK RECORDS CLERK	16	43	47	4	0	0	0	0	0	109	.3
11. FILE CLERKS	152	436	298	44	11	0	0	0	0	940	2.5
12. OFFICE BOY/GIRL	191	326	198	51	0	0	0	0	0	766	2.1
13. CLERK, GENERAL OFFICE	1,136	2,004	1,067	188	240	68	0	0	0	4,703	12.7
14. ORDER CLERKS	21	32	11	4	0	0	0	0	0	68	.2
15. MACHINE OPERATORS *	151	571	220	45	62	0	0	0	0	1,049	2.8
16. OTHER OFFICE MACHINE OPERATORS **	43	43	32	0	0	0	0	0	0	118	.3
17. AUTOMATIC DATA TRANSCIVER OPERATORS	5	51	0	0	0	0	0	0	0	56	.2
18. OFFSET DUPLICATING MACHINE OPERATORS	12	90	51	8	2	0	0	0	0	162	.4
19. COMPUTER OPERATORS	212	498	283	23	33	14	0	0	0	1,063	2.9
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	21	72	139	2	0	0	0	0	0	233	.6
21. KEYPUNCH OPERATORS	189	854	337	45	17	0	0	0	0	1,442	3.9
22. SYSTEM ANALYSTS	160	342	244	26	0	0	0	0	0	771	2.1
23. PROGRAMMERS	193	634	448	47	0	0	0	0	0	1,322	3.6
TOTAL 1-23	10,195	16,384	8,201	1,533	607	246	0	0	0	37,166	100.0
%	27.4	44.1	22.1	4.1	1.6	.7	0.	0.	0.	100.0	

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSSEING MACHINE OPERATORS, MICROFILM MOUNTERS

** INCLUDES: BOOKKEEPING, BILLING AND CALCULATING MACHINE OPERATORS

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 09: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

11. PUBLIC ADMINISTRATION

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 4	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1. SECRETARIES	195	1,065	1,752	1,190	732	734	428	2,043	18,091	26,230	15.9
2. STENOGRAPHERS	155	1,364	2,235	1,654	1,069	706	522	2,165	12,796	22,667	13.7
3. TRANSCRIBING MACHINE OPERATORS	0	73	15	20	259	94	0	3	47	511	.3
4. TYPISTS	49	760	1,604	966	818	357	623	1,661	12,272	19,110	11.6
5. TELETYPISTS	0	18	15	68	3	25	3	9	208	348	.2
6. VARI-TYPE OPERATORS	6	0	0	3	0	3	0	36	50	98	.1
7. BOOKKEEPERS	28	66	64	37	25	24	0	16	120	380	.2
8. COST CLERKS	2	7	24	14	38	29	1	43	3	161	.1
9. ACCOUNTING CLERKS	43	311	402	248	287	78	0	353	223	1,944	1.2
10. STOCK RECORDS CLERK	13	74	148	139	65	43	17	83	423	1,005	.6
11. FILE CLERKS	2	72	66	107	152	159	5	35	562	1,161	.7
12. OFFICE BOY/GIRL	11	32	54	32	13	24	0	336	992	1,494	.9
13. CLERK, GENERAL OFFICE	226	2,354	3,574	3,143	2,563	1,575	1,671	5,047	54,318	74,471	45.1
14. ORDER CLERKS	3	10	29	32	4	1	0	1	6	85	.1
15. MACHINE OPERATORS *	0	18	124	105	89	50	13	193	1,329	1,921	1.2
16. OTHER OFFICE MACHINE OPERATORS **	7	25	37	19	9	1	1	8	49	155	.1
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	0	0	2	0	0	1	0	0	164	167	.1
18. OFFSET DUPLICATING MACHINE OPERATORS	0	5	13	23	7	4	9	11	92	164	.1
19. COMPUTER OPERATORS	14	78	119	65	61	44	25	67	1,085	1,558	.9
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	0	22	18	25	24	15	7	53	738	902	.5
21. KEYPUNCH OPERATORS	5	273	221	316	197	89	24	233	2,545	3,901	2.4
22. SYSTEM ANALYSTS	0	22	129	47	67	47	32	333	3,430	4,106	2.5
23. PROGRAMMERS	0	52	95	82	92	46	54	213	1,775	2,408	1.5
TOTAL 1-23	758	6,701	10,741	8,334	6,575	4,147	3,435	12,939	111,316	164,947	100.0
%	.5	4.1	6.5	5.1	4.0	2.5	2.1	7.8	67.5	100.0	

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSSEING MACHINE OPERATORS, MICROFILM MOUNTERS

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 09: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

12. ALL OTHERS

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 4	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1. SECRETARIES	1,609	3,495	2,689	1,519	1,363	1,582	253	482	1,353	14,345	31.0
2. STENOGRAPHERS	258	654	885	538	709	371	57	597	1,028	5,097	11.0
3. TRANSCRIBING MACHINE OPERATORS	34	136	19	15	6	4	0	0	0	214	.5
4. TYPISTS	393	899	676	320	453	418	180	51	731	4,120	8.9
5. TELETYPEISTS	6	53	54	20	31	7	2	0	0	173	.4
6. VARI-TYPE OPERATORS	8	53	4	7	5	1	2	0	0	80	.2
7. BOOKKEEPERS	452	472	177	131	22	25	18	0	22	1,319	2.9
8. COST CLERKS	17	124	66	53	34	32	9	0	1	336	.7
9. ACCOUNTING CLERKS	560	1,267	1,047	517	242	149	39	0	303	4,124	8.9
10. STOCK RECORDS CLERK	65	241	238	147	59	51	51	11	1	864	1.9
11. FILE CLERKS	45	139	83	131	64	13	14	4	126	618	1.3
12. OFFICE BOY/GIRL	62	119	83	68	40	18	12	13	0	415	.9
13. CLERK, GENERAL OFFICE	811	1,985	1,365	1,214	776	880	178	288	454	7,951	17.2
14. ORDER CLERKS	97	167	57	36	28	8	2	0	0	396	.9
15. MACHINE OPERATORS *	47	360	182	90	138	81	13	0	32	943	2.0
16. OTHER OFFICE MACHINE OPERATORS **	28	40	35	15	4	5	2	1	0	130	.3
17. AUTOMATIC DATA TRANSCIVER OPERATORS	5	3	2	4	0	0	0	0	0	14	.0
18. OFFSET DUPLICATING MACHINE OPERATORS	22	87	26	24	26	17	1	3	11	216	.5
19. COMPUTER OPERATORS	33	231	160	141	117	77	31	22	71	882	1.9
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	5	43	39	2	6	8	0	0	0	104	.2
21. KEYPUNCH OPERATORS	26	289	279	287	166	106	42	60	80	1,335	2.9
22. SYSTEM ANALYSTS	44	212	250	182	168	88	29	42	222	1,237	2.7
23. PROGRAMMERS	12	191	306	299	117	115	58	85	154	1,335	2.9
TOTAL 1-23	4,639	11,260	8,722	5,760	4,573	4,056	991	1,658	4,588	46,248	100.0
%	10.0	24.3	18.9	12.5	9.9	8.8	2.1	3.6	9.9	100.0	

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 09: NUMBER OF OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

13. TOTAL

	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)											
OCCUPATION	1 TO 4	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%	
1. SECRETARIES	16,571	32,294	23,349	11,804	9,430	5,465	2,957	3,092	21,729	126,691	19.0	
2. STENOGRAPHERS	5,069	9,429	9,812	6,332	6,313	2,961	2,297	3,386	16,806	62,405	9.3	
3. TRANSCRIBING MACHINE OPERATORS	964	2,376	1,822	1,251	1,245	370	222	73	596	8,920	1.3	
4. TYPISTS	6,179	13,211	11,863	6,927	5,540	2,715	2,022	2,015	15,325	65,797	9.8	
5. TELETYPEISTS	361	890	719	392	336	81	66	25	537	3,408	.5	
6. VARI-TYPE OPERATORS	192	402	129	64	229	24	18	42	71	1,171	.2	
7. BOOKKEEPERS	4,775	4,457	1,565	526	359	195	115	16	165	12,173	1.8	
8. COST CLERKS	747	2,270	1,584	700	446	158	48	44	139	6,136	.9	
9. ACCOUNTING CLERKS	8,260	16,036	10,618	4,155	3,692	1,118	731	824	1,825	47,259	7.1	
10. STOCK RECORDS CLERK	1,938	4,185	2,789	1,084	849	241	161	94	743	12,084	1.8	
11. FILE CLERKS	987	3,773	2,920	1,434	1,118	729	212	139	1,332	12,643	1.9	
12. OFFICE BOY/GIRL	764	1,871	1,485	763	550	201	197	364	1,450	7,647	1.1	
13. CLERK, GENERAL OFFICE	15,332	36,381	29,566	18,924	17,231	7,540	7,829	7,404	66,528	206,733	30.9	
14. ORDER CLERKS	3,182	5,562	2,243	703	813	57	41	1	80	12,682	1.9	
15. MACHINE OPERATORS *	886	2,328	2,375	1,280	1,128	378	443	260	1,742	10,620	1.6	
16. OTHER OFFICE MACHINE OPERATORS **	837	1,333	535	284	121	67	33	216	78	3,504	.5	
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	28	84	41	40	0	14	0	0	164	370	.1	
18. OFFSET DUPLICATING MACHINE OPERATORS	103	367	249	165	325	73	54	16	157	1,510	.2	
19. COMPUTER OPERATORS	1,222	3,454	2,748	1,295	1,101	454	273	271	2,190	13,009	1.9	
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	214	722	630	228	319	81	119	53	1,111	3,477	.5	
21. KEYPUNCH OPERATORS	795	5,110	4,741	2,703	2,340	798	609	497	4,192	21,786	3.3	
22. SYSTEM ANALYSTS	453	1,749	2,174	1,345	1,339	510	691	429	4,468	13,156	2.0	
23. PROGRAMMERS	485	2,839	3,205	1,908	1,786	572	729	737	2,908	15,169	2.3	
TOTAL 1-23	70,343	151,126	117,163	64,305	56,610	24,801	19,868	19,996	144,337	668,549	100.0	
%	10.5	22.6	17.5	9.6	8.5	3.7	3.0	3.0	21.6	100.0		

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSsing MACHINE OPERATORS, MICROFILM MOUNTERS

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 10: PER CENT OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

1. MANUFACTURING

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1. SECRETARIES	2.11	6.42	5.75	2.81	2.16	.45	.51	.01	.69	20.91
2. STENOGRAPHERS	.23	1.19	1.69	.89	.93	.18	.39	.00	.32	5.82
3. TRANSCRIBING MACHINE OPERATORS	.04	.23	.17	.05	.05	.02	.05	0.	.00	.61
4. TYPISTS	.82	1.94	2.10	1.08	.66	.15	.18	.00	.31	7.24
5. TELETYPEISTS	.02	.18	.24	.14	.08	.01	.01	0.	.02	.71
6. VARI-TYPE OPERATORS	.07	.15	.04	.02	.17	.01	.00	0.	.01	.48
7. BOOKKEEPERS	1.20	1.24	.51	.17	.16	.01	.00	0.	.00	3.29
8. COST CLERKS	.29	1.21	1.03	.46	.26	.05	.01	0.	.07	3.38
9. ACCOUNTING CLERKS	1.44	3.94	3.00	1.04	.85	.13	.04	.01	.20	10.64
10. STOCK RECORDS CLERK	.37	1.48	1.15	.38	.31	.02	.02	0.	.11	3.84
11. FILE CLERKS	.05	.31	.30	.16	.11	.04	.02	0.	.09	1.08
12. OFFICE BOY/GIRL	.08	.31	.34	.18	.14	.06	.02	.00	.03	1.15
13. CLERK, GENERAL OFFICE	1.59	4.87	4.82	2.84	2.15	.31	.57	.01	.76	17.93
14. ORDER CLERKS	.72	2.12	1.27	.36	.13	.03	.01	0.	.03	4.67
15. MACHINE OPERATORS *	.24	.65	.95	.45	.36	.10	.16	0.	.11	3.01
16. OTHER OFFICE MACHINE OPERATORS **	.13	.38	.19	.06	.02	.01	.00	0.	.00	.79
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	.00	.02	.02	.00	0.	0.	0.	0.	0.	.04
18. OFFSET DUPLICATING MACHINE OPERATORS	.03	.07	.05	.04	.19	.00	.00	0.	.02	.40
19. COMPUTER OPERATORS	.18	.91	.90	.50	.34	.11	.05	.00	.14	3.12
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	.03	.19	.16	.05	.07	.00	.01	0.	.06	.58
21. KEYPUNCH OPERATORS	.07	.90	1.54	.91	.65	.16	.09	.01	.34	4.67
22. SYSTEM ANALYSTS	.05	.37	.68	.46	.49	.14	.08	0.	.31	2.58
23. PROGRAMMERS	.07	.57	.90	.55	.51	.09	.09	0.	.28	3.07
TOTAL 1-23	9.85	29.64	27.77	13.57	10.82	2.08	2.33	.05	3.89	100.00

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 10: PER CENT OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

2. TRANSPORTATION

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1. SECRETARIES	2.58	4.88	1.90	2.09	1.09	.20	.58	.14	2.04	15.51
2. STENOGRAPHERS	.55	.87	.85	1.22	.87	.11	.79	.19	2.09	7.54
3. TRANSCRIBING MACHINE OPERATORS	.02	.06	.06	.07	.05	0.	.10	.12	.36	.83
4. TYPISTS	.99	1.57	.59	.63	.36	.18	.14	.05	.56	5.07
5. TELETYPISTS	.17	.48	.24	.18	.45	0.	.09	.05	1.20	2.86
6. VARI-TYPE OPERATORS	.07	.01	0.	0.	0.	0.	0.	0.	.02	.11
7. BOOKKEEPERS	.82	.73	.16	.12	.07	.02	.02	0.	.08	2.02
8. COST CLERKS	.07	.30	.10	.06	.02	.05	.00	0.	.03	.63
9. ACCOUNTING CLERKS	1.74	3.39	1.24	.96	3.46	.28	.48	1.19	1.48	14.22
10. STOCK RECORDS CLERK	.17	.53	.34	.10	.10	.22	.02	0.	.09	1.58
11. FILE CLERKS	.12	.28	.23	.25	.13	.21	.08	.04	.20	1.54
12. OFFICE BOY/GIRL	.13	.38	.14	.22	.08	0.	.15	.06	.83	1.99
13. CLERK, GENERAL OFFICE	3.71	9.40	5.86	3.29	2.72	.27	2.49	.70	3.59	32.02
14. ORDER CLERKS	.20	.16	.04	.10	.04	0.	.00	0.	.06	.60
15. MACHINE OPERATORS *	0.	.23	.04	.10	0.	0.	.03	.06	.33	.79
16. OTHER OFFICE MACHINE OPERATORS **	.13	.20	.03	.01	0.	0.	.00	0.	.03	.40
17. AUTOMATIC DATA TRANSCIVER OPERATORS	0.	0.	.07	.14	0.	.06	0.	0.	0.	.27
18. OFFSET DUPLICATING MACHINE OPERATORS	0.	.01	0.	.03	0.	.04	0.	.01	.12	.20
19. COMPUTER OPERATORS	.08	.51	.28	.18	.08	.04	.02	.07	1.15	2.44
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	.01	.19	.39	.19	.17	0.	.33	0.	0.	1.27
21. KEYPUNCH OPERATORS	.10	.45	.45	.38	.55	.05	.24	.36	1.12	3.69
22. SYSTEM ANALYSTS	.05	.32	.08	.10	.06	.05	.08	0.	.84	1.59
23. PROGRAMMERS	.03	.36	.09	.28	.11	.02	.01	.44	1.49	2.82
TOTAL 1-23	11.76	25.29	13.18	10.71	10.40	1.80	5.67	3.47	17.73	100.00

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSsing MACHINE OPERATORS, MICROFILM MOUNTERS

** INCLUDES: BOOKKEEPING, BILLING AND CALCULATING MACHINE OPERATORS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 10: PER CENT OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

3. COMMUNICATIONS

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1. SECRETARIES	1.27	1.88	1.86	1.08	1.51	.59	1.67	0.	0.	9.86
2. STENOGRAPHERS	.26	.33	.93	.43	.62	.53	1.05	0.	.16	4.31
3. TRANSCRIBING MACHINE OPERATORS	0.	.01	0.	0.	0.	0.	0.	0.	0.	.01
4. TYPISTS	.20	.24	.24	.43	1.27	.27	.52	.13	.25	3.55
5. TELETYPISTS	0.	.02	.07	.01	.17	.07	.06	.03	.04	.47
6. VARI-TYPE OPERATORS	0.	0.	.01	.01	0.	.03	0.	.01	.01	.07
7. BOOKKEEPERS	.40	.23	.34	.07	.04	.26	.37	0.	0.	1.71
8. COST CLERKS	0.	.01	.05	0.	.14	0.	.12	0.	.13	.45
9. ACCOUNTING CLERKS	.50	.70	.53	.16	1.24	.21	1.08	.08	.54	5.06
10. STOCK RECORDS CLERK	.05	.07	.06	.04	.21	.02	.10	0.	.08	.64
11. FILE CLERKS	0.	.03	.02	.05	.30	.03	.16	0.	.49	1.09
12. OFFICE BOY/GIRL	.06	.05	.22	.07	.03	.06	.36	0.	.05	.91
13. CLERK, GENERAL OFFICE	.87	2.22	4.91	5.76	6.96	6.31	7.02	3.17	21.73	58.94
14. ORDER CLERKS	.02	.01	.02	.11	2.76	0.	0.	0.	0.	2.92
15. MACHINE OPERATORS *	0.	.04	.05	.07	.73	0.	.13	0.	0.	1.02
16. OTHER OFFICE MACHINE OPERATORS **	.04	.06	.00	0.	.01	.01	0.	0.	0.	.12
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18. OFFSET DUPLICATING MACHINE OPERATORS	.01	.01	.08	.01	.04	.13	.13	0.	0.	.40
19. COMPUTER OPERATORS	.02	.18	.12	.06	.24	.14	.15	0.	.64	1.55
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	0.	.05	0.	0.	.03	.18	.05	0.	.99	1.29
21. KEYPUNCH OPERATORS	.09	.09	.16	.05	.93	.20	.28	.02	1.01	2.83
22. SYSTEM ANALYSTS	.01	.03	.26	.06	.04	.40	.21	0.	0.	1.02
23. PROGRAMMERS	0.	0.	.20	.04	.28	1.00	.27	0.	0.	1.79
TOTAL 1-23	3.81	6.25	10.13	8.51	17.56	10.44	13.73	3.43	26.13	100.00

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSsing MACHINE OPERATORS, MICROFILM MOUNTERS

** INCLUDES: BOOKKEEPING, BILLING AND CALCULATING MACHINE OPERATORS

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 10: PER CENT OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

4. UTILITIES

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1. SECRETARIES	.48	2.16	1.89	1.55	.94	.95	.56	0.	2.75	11.27
2. STENOGRAPHERS	.04	1.06	2.95	2.16	1.63	.65	2.24	0.	5.95	16.67
3. TRANSCRIBING MACHINE OPERATORS	0.	.01	0.	0.	.06	0.	0.	0.	.01	.08
4. TYPISTS	.11	.46	1.45	1.18	.63	.94	1.40	0.	1.34	7.52
5. TELETYPEISTS	0.	0.	.02	0.	0.	0.	0.	0.	0.	.02
6. VARI-TYPE OPERATORS	0.	0.	.05	.01	0.	0.	.09	0.	0.	.15
7. BOOKKEEPERS	.11	.13	.05	.07	.07	.01	0.	0.	0.	.44
8. COST CLERKS	0.	.04	.23	.01	.07	.10	0.	0.	.04	.49
9. ACCOUNTING CLERKS	.25	1.67	1.35	1.07	.77	.42	.13	0.	.42	6.09
10. STOCK RECORDS CLERK	.12	.48	.59	.23	.12	.02	.01	0.	.32	1.89
11. FILE CLERKS	0.	0.	.23	.21	.11	.06	.15	0.	1.32	2.08
12. OFFICE BOY/GIRL	0.	.05	.07	.10	.19	.05	0.	0.	.59	1.05
13. CLERK, GENERAL OFFICE	1.04	5.36	7.85	2.49	3.64	4.25	3.16	0.	7.51	35.30
14. ORDER CLERKS	0.	.03	.18	.03	.02	.01	.11	0.	.15	.52
15. MACHINE OPERATORS *	0.	0.	.14	.34	.21	.09	1.02	0.	.63	2.45
16. OTHER OFFICE MACHINE OPERATORS **	.08	.12	.07	0.	.01	.01	.00	0.	.02	.31
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	0.	.01	0.	0.	0.	0.	0.	0.	0.	.01
18. OFFSET DUPLICATING MACHINE OPERATORS	0.	0.	.02	.02	0.	0.	.04	0.	0.	.08
19. COMPUTER OPERATORS	.15	.30	.35	.07	.15	.11	.22	0.	.99	2.34
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	.04	.04	.06	.05	.01	.04	0.	0.	.17	.41
21. KEYPUNCH OPERATORS	.14	.82	.73	.40	.54	.30	.80	0.	1.28	5.01
22. SYSTEM ANALYSTS	0.	.17	.27	.43	.13	.30	.48	0.	1.43	3.22
23. PROGRAMMERS	.04	.41	.23	.36	.41	.16	.46	0.	.53	2.59
TOTAL 1-23	2.61	13.35	18.78	10.79	9.72	8.44	10.87	0.	25.44	100.00

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSsing MACHINE OPERATORS, MICROFILM MOUNTERS

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 10: PER CENT OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

5. WHOLESALE TRADE

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1. SECRETARIES	4.79	8.48	2.57	.79	.28	0.	0.	.66	0.	17.56
2. STENOGRAPHERS	1.39	1.98	.39	.37	0.	0.	0.	0.	0.	4.12
3. TRANSCRIBING MACHINE OPERATORS	.20	.41	.17	0.	0.	0.	0.	0.	0.	.78
4. TYPISTS	2.21	3.25	.66	.18	.07	0.	0.	0.	0.	6.37
5. TELETYPISTS	.24	.55	.10	.05	.02	0.	0.	0.	0.	.96
6. VARI-TYPE OPERATORS	.07	.11	.01	0.	0.	0.	0.	0.	0.	.19
7. BOOKKEEPERS	1.58	1.26	.18	.03	0.	0.	0.	0.	0.	3.04
8. COST CLERKS	.53	.86	.26	.05	0.	0.	0.	.00	0.	1.70
9. ACCOUNTING CLERKS	3.67	5.24	1.60	.45	.01	0.	0.	.02	0.	10.99
10. STOCK RECORDS CLERK	1.60	1.97	.50	.08	0.	0.	0.	0.	0.	4.15
11. FILE CLERKS	.52	1.19	.31	.18	.00	0.	0.	0.	0.	2.21
12. OFFICE BOY/GIRL	.21	.49	.18	.11	0.	0.	0.	0.	0.	.99
13. CLERK, GENERAL OFFICE	5.52	9.36	3.11	1.61	.20	0.	0.	.80	0.	20.59
14. ORDER CLERKS	3.61	4.58	.89	.12	0.	0.	0.	0.	0.	9.21
15. MACHINE OPERATORS *	.59	.57	.50	.15	0.	0.	0.	0.	0.	1.82
16. OTHER OFFICE MACHINE OPERATORS **	.56	.55	.07	.02	0.	0.	0.	0.	0.	1.19
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	.02	.01	0.	0.	0.	0.	0.	0.	0.	.02
18. OFFSET DUPLICATING MACHINE OPERATORS	.02	.08	.03	.01	0.	0.	0.	0.	0.	.14
19. COMPUTER OPERATORS	1.07	1.63	.69	.21	.05	0.	0.	.24	0.	3.88
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	.15	.39	.16	.02	0.	0.	0.	0.	0.	.73
21. KEYPUNCH OPERATORS	.49	2.58	.82	.48	.04	0.	0.	.09	0.	4.49
22. SYSTEM ANALYSTS	.26	.70	.30	.25	.05	0.	0.	.08	0.	1.65
23. PROGRAMMERS	.25	1.27	.79	.34	.05	0.	0.	.52	0.	3.22
TOTAL 1-23	29.53	47.51	14.29	5.50	.77	0.	0.	2.40	0.	100.00

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSsing MACHINE OPERATORS, MICROFILM MOUNTERS

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 10: PER CENT OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

7. FINANCIAL INSTITUTIONS

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1. SECRETARIES	1.62	2.79	2.23	.61	.44	.28	.49	.18	.54	9.18
2. STENOGRAPHERS	2.45	3.20	2.34	1.48	2.09	1.46	.60	.76	1.51	15.88
3. TRANSCRIBING MACHINE OPERATORS	.29	.60	.40	.31	.29	.09	.05	.06	.61	2.69
4. TYPISTS	1.39	2.59	2.68	1.38	1.33	.91	.42	.17	1.96	12.82
5. TELETYPEISTS	.11	.10	.19	.03	.03	.02	.02	0.	.02	.52
6. VARI-TYPE OPERATORS	.01	.04	.01	0.	0.	0.	0.	.01	0.	.06
7. BOOKKEEPERS	.27	.21	.10	0.	.01	.09	0.	0.	0.	.68
8. COST CLERKS	.01	.01	.00	0.	0.	0.	0.	0.	0.	.02
9. ACCOUNTING CLERKS	1.41	2.41	2.40	.73	.51	.43	.36	0.	.64	8.89
10. STOCK RECORDS CLERK	.02	.07	.04	.00	.01	0.	0.	0.	.00	.15
11. FILE CLERKS	.13	.31	.29	.08	.20	.10	.04	.05	.26	1.45
12. OFFICE BOY/GIRL	.17	.39	.39	.09	.14	.04	.05	0.	.16	1.43
13. CLERK, GENERAL OFFICE	4.94	8.32	5.86	3.29	4.35	2.18	2.49	.88	4.33	36.64
14. ORDER CLERKS	.06	.09	.02	.00	.01	0.	0.	0.	0.	.18
15. MACHINE OPERATORS *	.06	.13	.11	.05	.06	.07	.03	.02	0.	.53
16. OTHER OFFICE MACHINE OPERATORS **	.24	.39	.11	.15	.03	.04	.03	.27	.01	1.27
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	.01	0.	0.	0.	0.	0.	0.	0.	0.	.01
18. OFFSET DUPLICATING MACHINE OPERATORS	.00	.02	.03	.01	.02	0.	0.	0.	0.	.07
19. COMPUTER OPERATORS	.09	.20	.36	.12	.19	.15	.10	.05	.28	1.55
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	.04	.06	.04	.04	.12	.01	0.	0.	.04	.35
21. KEYPUNCH OPERATORS	.07	.28	.66	.17	.36	.32	.22	.06	.39	2.53
22. SYSTEM ANALYSTS	.03	.09	.20	.07	.28	.04	.51	.02	.02	1.26
23. PROGRAMMERS	.03	.16	.34	.07	.38	.04	.49	.10	.23	1.85
TOTAL 1-23	13.45	22.46	18.78	8.68	10.83	6.28	5.90	2.62	11.01	100.00

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 10: PER CENT OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

8. INSURANCE & REAL ESTATE

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1. SECRETARIES	4.45	7.05	3.92	1.34	.84	0.	0.	0.	0.	17.59
2. STENOGRAPHERS	1.64	1.83	.58	.28	.33	0.	0.	0.	0.	4.66
3. TRANSCRIBING MACHINE OPERATORS	.47	1.19	.72	.22	.15	0.	0.	0.	0.	2.75
4. TYPISTS	2.07	5.75	4.15	.94	.49	0.	0.	0.	0.	13.39
5. TELETYPISTS	.01	.06	.04	.05	.04	0.	0.	0.	0.	.20
6. VARI-TYPE OPERATORS	.01	.05	.02	.02	.01	0.	0.	0.	0.	.11
7. BOOKKEEPERS	.31	.31	.28	.01	.03	0.	0.	0.	0.	.94
8. COST CLERKS	.01	.01	.02	0.	.01	0.	0.	0.	0.	.05
9. ACCOUNTING CLERKS	.83	2.50	1.59	.43	.27	0.	0.	0.	0.	5.61
10. STOCK RECORDS CLERK	.02	.17	.16	.02	.00	0.	0.	0.	0.	.38
11. FILE CLERKS	.55	3.16	2.50	.77	.34	0.	0.	0.	0.	7.32
12. OFFICE BOY/GIRL	.11	.50	.33	.15	.06	0.	0.	0.	0.	1.15
13. CLERK, GENERAL OFFICE	3.52	12.35	9.71	4.41	4.30	0.	0.	0.	0.	34.29
14. ORDER CLERKS	.03	.03	.03	.01	.01	0.	0.	0.	0.	.11
15. MACHINE OPERATORS *	.05	.10	.31	.29	.06	0.	0.	0.	0.	.82
16. OTHER OFFICE MACHINE OPERATORS **	.02	.04	.03	.05	.04	0.	0.	0.	0.	.18
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	0.	.00	0.	0.	0.	0.	0.	0.	0.	.00
18. OFFSET DUPLICATING MACHINE OPERATORS	.03	.06	.07	.02	.02	0.	0.	0.	0.	.20
19. COMPUTER OPERATORS	.08	.37	.57	.25	.26	0.	0.	0.	0.	1.53
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	.04	.04	.03	.02	.09	0.	0.	0.	0.	.23
21. KEYPUNCH OPERATORS	.13	1.12	1.52	.56	.50	0.	0.	0.	0.	3.83
22. SYSTEM ANALYSTS	.04	.32	.54	.45	.28	0.	0.	0.	0.	1.62
23. PROGRAMMERS	.07	.58	.94	.67	.80	0.	0.	0.	0.	3.05
TOTAL 1-23	14.47	37.57	28.06	10.98	8.92	0.	0.	0.	0.	100.00

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSsing MACHINE OPERATORS, MICROFILM MOUNTERS

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 10: PER CENT OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

9. HEALTH AND WELFARE

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1. SECRETARIES	.51	2.69	7.15	5.81	7.10	5.20	1.78	.17	0.	30.41
2. STENOGRAPHERS	.21	.87	3.02	1.70	2.66	.85	.23	0.	0.	9.55
3. TRANSCRIBING MACHINE OPERATORS	.07	.69	1.71	1.92	1.57	.48	.28	0.	0.	6.72
4. TYPISTS	.09	1.03	3.57	5.07	4.10	2.19	.93	.35	0.	17.33
5. TELETYPEISTS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. VARI-TYPE OPERATORS	0.	0.	.02	.02	.01	.01	0.	0.	0.	.06
7. BOOKKEEPERS	.11	.43	.35	.15	.11	.03	.02	0.	0.	1.19
8. COST CLERKS	0.	.02	.03	.05	.02	.02	.01	0.	0.	.15
9. ACCOUNTING CLERKS	.16	.89	1.33	1.21	.82	.34	.06	.43	0.	5.24
10. STOCK RECORDS CLERK	.02	.32	.68	.41	.25	.15	.02	0.	0.	1.84
11. FILE CLERKS	.01	.15	.82	.74	.73	1.00	.17	.15	0.	3.76
12. OFFICE BOY/GIRL	0.	.09	.21	.26	.30	.07	.01	0.	0.	.94
13. CLERK, GENERAL OFFICE	.29	1.90	4.53	4.50	4.26	1.88	1.26	.47	0.	19.10
14. ORDER CLERKS	0.	.05	.08	.11	.05	.03	.04	0.	0.	.36
15. MACHINE OPERATORS *	0.	.09	.39	.28	.37	.13	.11	.11	0.	1.48
16. OTHER OFFICE MACHINE OPERATORS **	0.	.03	.06	.05	.04	.03	0.	0.	0.	.21
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18. OFFSET DUPLICATING MACHINE OPERATORS	0.	.01	.02	.05	.06	.03	.01	0.	0.	.18
19. COMPUTER OPERATORS	0.	.02	.05	.05	.06	.03	.03	.01	0.	.25
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	0.	0.	.01	.02	.02	.00	0.	0.	0.	.05
21. KEYPUNCH OPERATORS	.01	.01	.03	.12	.11	.07	.05	.04	0.	.45
22. SYSTEM ANALYSTS	0.	.01	.06	.04	.14	.09	.04	.01	0.	.39
23. PROGRAMMERS	.01	.01	.03	.06	.10	.08	.04	.02	0.	.34
TOTAL 1-23	1.48	9.31	24.14	22.61	22.89	12.73	5.08	1.76	0.	100.00

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSsing MACHINE OPERATORS, MICROFILM MOUNTERS

** INCLUDES: BOOKKEEPING, BILLING AND CALCULATING MACHINE OPERATORS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 10: PER CENT OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

10. SERVICE TO BUSINESS

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1. SECRETARIES	12.25	16.65	7.69	1.18	.43	.33	0.	0.	0.	38.53
2. STENOGRAPHERS	1.64	1.87	1.09	.61	.02	.04	0.	0.	0.	5.26
3. TRANSCRIBING MACHINE OPERATORS	.72	.78	.47	.20	0.	0.	0.	0.	0.	2.16
4. TYPISTS	2.44	3.51	1.86	.53	.09	.02	0.	0.	0.	8.44
5. TELETYPEISTS	.15	.16	.17	.03	0.	0.	0.	0.	0.	.52
6. VARI-TYPE OPERATORS	.06	.11	.06	.01	.02	0.	0.	0.	0.	.27
7. BOOKKEEPERS	1.33	1.61	.22	.01	0.	0.	0.	0.	0.	3.18
8. COST CLERKS	.09	.14	.06	.02	.01	0.	0.	0.	0.	.32
9. ACCOUNTING CLERKS	2.02	3.11	1.36	.24	.08	.05	0.	0.	0.	6.87
10. STOCK RECORDS CLERK	.04	.12	.13	.01	0.	0.	0.	0.	0.	.29
11. FILE CLERKS	.41	1.17	.80	.12	.03	0.	0.	0.	0.	2.53
12. OFFICE BOY/GIRL	.51	.88	.53	.14	0.	0.	0.	0.	0.	2.06
13. CLERK, GENERAL OFFICE	3.06	5.39	2.87	.51	.65	.18	0.	0.	0.	12.65
14. ORDER CLERKS	.06	.09	.03	.01	0.	0.	0.	0.	0.	.18
15. MACHINE OPERATORS *	.41	1.54	.59	.12	.17	0.	0.	0.	0.	2.82
16. OTHER OFFICE MACHINE OPERATORS **	.11	.12	.09	0.	0.	0.	0.	0.	0.	.32
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	.01	.14	0.	0.	0.	0.	0.	0.	0.	.15
18. OFFSET DUPLICATING MACHINE OPERATORS	.03	.24	.14	.02	.00	0.	0.	0.	0.	.44
19. COMPUTER OPERATORS	.57	1.34	.76	.06	.09	.04	0.	0.	0.	2.86
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	.06	.19	.37	.01	0.	0.	0.	0.	0.	.63
21. KEYPUNCH OPERATORS	.51	2.30	.91	.12	.05	0.	0.	0.	0.	3.88
22. SYSTEM ANALYSTS	.43	.92	.66	.07	0.	0.	0.	0.	0.	2.08
23. PROGRAMMERS	.52	1.71	1.21	.13	0.	0.	0.	0.	0.	3.56
TOTAL 1-23	27.43	44.08	22.07	4.13	1.63	.66	0.	0.	0.	100.00

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSSEING MACHINE OPERATORS, MICROFILM MOUNTERS

** INCLUDES: BOOKKEEPING, BILLING AND CALCULATING MACHINE OPERATORS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 10: PER CENT OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

11. PUBLIC ADMINISTRATION

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1. SECRETARIES	.12	.65	1.06	.72	.44	.45	.26	1.24	10.97	15.90
2. STENOGRAPHERS	.09	.83	1.36	1.00	.65	.43	.32	1.31	7.76	13.74
3. TRANSCRIBING MACHINE OPERATORS	0.	.04	.01	.01	.16	.06	0.	.00	.03	.31
4. TYPISTS	.03	.46	.97	.59	.50	.22	.38	1.01	7.44	11.59
5. TELETYPE OPERATORS	0.	.01	.01	.04	.00	.02	.00	.01	.13	.21
6. VARI-TYPE OPERATORS	.00	0.	0.	.00	0.	.00	0.	.02	.03	.06
7. BOOKKEEPERS	.02	.04	.04	.02	.02	.01	0.	.01	.07	.23
8. COST CLERKS	.00	.00	.01	.01	.02	.02	.00	.03	.00	.10
9. ACCOUNTING CLERKS	.03	.19	.24	.15	.17	.05	0.	.21	.14	1.18
10. STOCK RECORDS CLERK	.01	.04	.09	.08	.04	.03	.01	.05	.26	.61
11. FILE CLERKS	.00	.04	.04	.07	.09	.10	.00	.02	.34	.70
12. OFFICE BOY/GIRL	.01	.02	.03	.02	.01	.01	0.	.20	.60	.91
13. CLERK, GENERAL OFFICE	.14	1.43	2.17	1.91	1.55	.95	1.01	3.06	32.93	45.15
14. ORDER CLERKS	.00	.01	.02	.02	.00	.00	0.	.00	.00	.05
15. MACHINE OPERATORS *	0.	.01	.08	.06	.05	.03	.01	.12	.81	1.16
16. OTHER OFFICE MACHINE OPERATORS **	.00	.02	.02	.01	.01	.00	.00	.00	.03	.09
17. AUTOMATIC DATA TRANSCIVER OPERATORS	0.	0.	.00	0.	0.	.00	0.	0.	.10	.10
18. OFFSET DUPLICATING MACHINE OPERATORS	0.	.00	.01	.01	.00	.00	.01	.01	.06	.10
19. COMPUTER OPERATORS	.01	.05	.07	.04	.04	.03	.02	.04	.66	.94
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	0.	.01	.01	.01	.01	.01	.00	.03	.45	.55
21. KEYPUNCH OPERATORS	.00	.17	.13	.19	.12	.05	.01	.14	1.54	2.37
22. SYSTEM ANALYSTS	0.	.01	.08	.03	.04	.03	.02	.20	2.08	2.49
23. PROGRAMMERS	0.	.03	.06	.05	.06	.03	.03	.13	1.08	1.46
TOTAL 1-23	.46	4.06	6.51	5.05	3.99	2.51	2.08	7.84	67.49	100.00

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSSEING MACHINE OPERATORS, MICROFILM MOUNTERS

** INCLUDES: BOOKKEEPING, BILLING AND CALCULATING MACHINE OPERATORS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 10: PER CENT OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

12. ALL OTHERS

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1. SECRETARIES	3.48	7.56	5.81	3.28	2.95	3.42	.55	1.04	2.92	31.02
2. STENOGRAPHERS	.56	1.41	1.91	1.16	1.53	.80	.12	1.29	2.22	11.02
3. TRANSCRIBING MACHINE OPERATORS	.07	.29	.04	.03	.01	.01	0.	0.	0.	.46
4. TYPISTS	.85	1.94	1.46	.69	.98	.90	.39	.11	1.58	8.91
5. TELETYPEISTS	.01	.11	.12	.04	.07	.02	.00	0.	0.	.37
6. VARI-TYPE OPERATORS	.02	.12	.01	.01	.01	.00	.00	0.	0.	.17
7. BOOKKEEPERS	.98	1.02	.38	.28	.05	.05	.04	0.	.05	2.85
8. COST CLERKS	.04	.27	.14	.11	.07	.07	.02	0.	.00	.73
9. ACCOUNTING CLERKS	1.21	2.74	2.26	1.12	.52	.32	.09	0.	.65	8.92
10. STOCK RECORDS CLERK	.14	.52	.52	.32	.13	.11	.11	.02	.00	1.87
11. FILE CLERKS	.10	.30	.18	.28	.14	.03	.03	.01	.27	1.34
12. OFFICE BOY/GIRL	.13	.26	.18	.15	.09	.04	.03	.03	0.	.90
13. CLERK, GENERAL OFFICE	1.75	4.29	2.95	2.62	1.68	1.90	.38	.62	.98	17.19
14. ORDER CLERKS	.21	.36	.12	.08	.06	.02	.00	0.	0.	.86
15. MACHINE OPERATORS *	.10	.78	.39	.19	.30	.18	.03	0.	.07	2.04
16. OTHER OFFICE MACHINE OPERATORS **	.06	.09	.08	.03	.01	.01	.00	.00	0.	.28
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	.01	.01	.00	.01	0.	0.	0.	0.	0.	.03
18. OFFSET DUPLICATING MACHINE OPERATORS	.05	.19	.06	.05	.06	.04	.00	.01	.02	.47
19. COMPUTER OPERATORS	.07	.50	.35	.30	.25	.17	.07	.05	.15	1.91
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	.01	.09	.08	.00	.01	.02	0.	0.	0.	.22
21. KEYPUNCH OPERATORS	.06	.62	.60	.62	.36	.23	.09	.13	.17	2.89
22. SYSTEM ANALYSTS	.10	.46	.54	.39	.36	.19	.06	.09	.48	2.68
23. PROGRAMMERS	.03	.41	.66	.65	.25	.25	.13	.18	.33	2.89
TOTAL 1-23	10.03	24.35	18.86	12.46	9.89	8.77	2.14	3.59	9.92	100.00

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSSEING MACHINE OPERATORS, MICROFILM MOUNTERS

** INCLUDES: BOOKKEEPING, BILLING AND CALCULATING MACHINE OPERATORS

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AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 10: PER CENT OFFICE EMPLOYEES IN SPECIFIC OCCUPATIONS
SUMMARIZED BY OCCUPATION, ESTABLISHMENT SIZE AND INDUSTRY CLASS

13. TOTAL

ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)

OCCUPATION	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1. SECRETARIES	2.48	4.83	3.49	1.77	1.41	.82	.44	.46	3.25	18.95
2. STENOGRAPHERS	.76	1.41	1.47	.95	.94	.44	.34	.51	2.51	9.33
3. TRANSCRIBING MACHINE OPERATORS	.14	.36	.27	.19	.19	.06	.03	.01	.09	1.33
4. TYPISTS	.92	1.98	1.77	1.04	.83	.41	.30	.30	2.29	9.84
5. TELETYPISTS	.05	.13	.11	.06	.05	.01	.01	.00	.08	.51
6. VARI-TYPE OPERATORS	.03	.06	.02	.01	.03	.00	.00	.01	.01	.18
7. BOOKKEEPERS	.71	.67	.23	.08	.05	.03	.02	.00	.02	1.82
8. COST CLERKS	.11	.34	.24	.10	.07	.02	.01	.01	.02	.92
9. ACCOUNTING CLERKS	1.24	2.40	1.59	.62	.55	.17	.11	.12	.27	7.07
10. STOCK RECORDS CLERK	.29	.63	.42	.16	.13	.04	.02	.01	.11	1.81
11. FILE CLERKS	.15	.56	.44	.21	.17	.11	.03	.02	.20	1.89
12. OFFICE BOY/GIRL	.11	.28	.22	.11	.08	.03	.03	.05	.22	1.14
13. CLERK, GENERAL OFFICE	2.29	5.44	4.42	2.83	2.58	1.13	1.17	1.11	9.95	30.92
14. ORDER CLERKS	.48	.83	.34	.11	.12	.01	.01	.00	.01	1.90
15. MACHINE OPERATORS *	.13	.35	.36	.19	.17	.06	.07	.04	.26	1.62
16. OTHER OFFICE MACHINE OPERATORS **	.13	.20	.08	.04	.02	.01	.00	.03	.01	.52
17. AUTOMATIC DATA TRANSCEIVER OPERATORS	.00	.01	.01	.01	0.	.00	0.	0.	.02	.06
18. OFFSET DUPLICATING MACHINE OPERATORS	.02	.05	.04	.02	.05	.01	.01	.00	.02	.23
19. COMPUTER OPERATORS	.18	.52	.41	.19	.16	.07	.04	.04	.33	1.95
20. COMPUTER-PERIPHERAL EQUIPMENT OPERATORS	.03	.11	.09	.03	.05	.01	.02	.01	.17	.52
21. KEYPUNCH OPERATORS	.12	.76	.71	.40	.35	.12	.09	.07	.63	3.26
22. SYSTEM ANALYSTS	.07	.26	.33	.20	.20	.08	.10	.06	.67	1.97
23. PROGRAMMERS	.07	.42	.48	.29	.27	.09	.11	.11	.43	2.27
TOTAL 1-23	10.52	22.61	17.52	9.62	8.47	3.71	2.97	2.99	21.59	100.00

* INCLUDES: DUPLICATING, BLUEPRINTING, ADDRESSING, EMBOSsing MACHINE OPERATORS, MICROFILM MOUNTERS

** INCLUDES: BOOKKEEPING, BILLING AND CALCULATING MACHINE OPERATORS

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AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

REPORT TYPES 11 AND 12

Information on Top 10 Occupations
in Large Establishments in Canada

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 11: NUMBER OF EMPLOYEES IN TEN OF THE TOP OCCUPATIONS

1. CLERK-GENERAL OFFICE PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 30.9 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	1,928	5,893	5,833	3,435	2,607	379	693	15	917	21,701	10.5
2. TRANSPORTATION	854	2,160	1,346	756	624	62	571	160	825	7,359	3.6
3. COMMUNICATIONS	180	460	1,018	1,196	1,444	1,310	1,457	658	4,511	12,234	5.9
4. UTILITIES	136	703	1,030	327	478	557	415	0	986	4,631	2.2
5. WHOLESALE TRADE	2,727	4,622	1,534	794	100	0	0	393	0	10,170	4.9
6. RETAIL TRADE	1,631	2,691	1,565	1,374	1,251	350	481	0	1,227	10,570	5.1
7. FINANCIAL INSTITUTIONS	3,749	6,316	4,448	2,499	3,303	1,658	1,891	666	3,291	27,821	13.5
8. INSURANCE & REAL ESTATE	1,846	6,484	5,097	2,317	2,256	0	0	0	0	18,001	8.7
9. HEALTH & WELFARE	107	709	1,688	1,678	1,588	701	471	177	0	7,120	3.4
10. SERVICE TO BUSINESS MANGMNT	1,136	2,004	1,067	188	240	68	0	0	0	4,703	2.3
11. PUBLIC ADMINISTRATION	226	2,354	3,574	3,143	2,563	1,575	1,671	5,047	54,318	74,471	36.0
12. ALL OTHERS	811	1,985	1,365	1,214	776	880	178	288	454	7,951	3.8
TOTAL	15,332	36,381	29,566	18,924	17,231	7,540	7,829	7,404	66,528	206,733	100.0
%	7.4	17.6	14.3	9.2	8.3	3.6	3.8	3.6	32.2	100.0	

* NOTE: THE 'PERCENTAGE OF ALL OCCUPATIONS SURVEYED' IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 11: NUMBER OF EMPLOYEES IN TEN OF THE TOP OCCUPATIONS

2. SECRETARY PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 19.0 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	2,551	7,775	6,964	3,402	2,620	540	613	12	839	25,317	20.0
2. TRANSPORTATION	593	1,121	437	480	251	47	132	32	470	3,563	2.8
3. COMMUNICATIONS	263	390	387	224	314	122	346	0	0	2,047	1.6
4. UTILITIES	63	283	247	204	123	124	73	0	361	1,479	1.2
5. WHOLESALE TRADE	2,368	4,189	1,269	389	136	0	0	324	0	8,675	6.8
6. RETAIL TRADE	624	969	326	627	312	38	71	0	205	3,172	2.5
7. FINANCIAL INSTITUTIONS	1,228	2,117	1,697	462	332	213	375	134	412	6,970	5.5
8. INSURANCE & REAL ESTATE	2,334	3,700	2,058	705	439	0	0	0	0	9,235	7.3
9. HEALTH & WELFARE	189	1,001	2,666	2,164	2,647	1,940	664	65	0	11,336	8.9
10. SERVICE TO BUSINESS MANGMNT	4,553	6,189	2,858	437	161	124	0	0	0	14,322	11.3
11. PUBLIC ADMINISTRATION	195	1,065	1,752	1,190	732	734	428	2,043	18,091	26,230	20.7
12. ALL OTHERS	1,609	3,495	2,689	1,519	1,363	1,582	253	482	1,353	14,345	11.3
TOTAL	16,571	32,294	23,349	11,804	9,430	5,465	2,957	3,092	21,729	126,691	100.0
%	13.1	25.5	18.4	9.3	7.4	4.3	2.3	2.4	17.2	100.0	

* NOTE: THE "PERCENTAGE OF ALL OCCUPATIONS SURVEYED" IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 11: NUMBER OF EMPLOYEES IN TEN OF THE TOP OCCUPATIONS

3. TYPIST PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 9.8 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	988	2,353	2,537	1,309	804	182	216	3	373	8,766	13.3
2. TRANSPORTATION	228	360	135	145	82	42	33	12	128	1,165	1.8
3. COMMUNICATIONS	42	49	49	89	264	56	108	27	53	737	1.1
4. UTILITIES	15	61	191	155	83	124	183	0	175	987	1.5
5. WHOLESALE TRADE	1,093	1,606	326	88	34	0	0	0	0	3,146	4.8
6. RETAIL TRADE	293	449	109	229	176	26	14	0	108	1,404	2.1
7. FINANCIAL INSTITUTIONS	1,055	1,966	2,033	1,047	1,008	690	318	131	1,485	9,734	14.8
8. INSURANCE & REAL ESTATE	1,085	3,018	2,177	492	259	0	0	0	0	7,031	10.7
9. HEALTH & WELFARE	34	386	1,332	1,890	1,527	815	345	130	0	6,459	9.8
10. SERVICE TO BUSINESS MANGMNT	905	1,305	693	196	32	7	0	0	0	3,138	4.8
11. PUBLIC ADMINISTRATION	49	760	1,604	966	818	357	623	1,661	12,272	19,110	29.0
12. ALL OTHERS	393	899	676	320	453	418	180	51	731	4,120	6.3
TOTAL	6,179	13,211	11,863	6,927	5,540	2,715	2,022	2,015	15,325	65,797	100.0
%	9.4	20.1	18.0	10.5	8.4	4.1	3.1	3.1	23.3	100.0	

* NOTE: THE "PERCENTAGE OF ALL OCCUPATIONS SURVEYED" IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 11: NUMBER OF EMPLOYEES IN TEN OF THE TOP OCCUPATIONS

4. STENOGRAPHER

PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 9.3 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	281	1,439	2,040	1,073	1,125	217	475	4	388	7,043	11.3
2. TRANSPORTATION	126	200	195	281	201	26	181	43	479	1,733	2.8
3. COMMUNICATIONS	54	69	192	89	130	109	218	0	33	895	1.4
4. UTILITIES	6	139	387	284	213	85	294	0	781	2,188	3.5
5. WHOLESALE TRADE	684	980	192	181	0	0	0	0	0	2,037	3.3
6. RETAIL TRADE	95	174	73	98	109	8	12	0	157	724	1.2
7. FINANCIAL INSTITUTIONS	1,862	2,430	1,776	1,124	1,585	1,107	453	577	1,144	12,057	19.3
8. INSURANCE & REAL ESTATE	862	959	306	149	174	0	0	0	0	2,449	3.9
9. HEALTH & WELFARE	77	326	1,126	634	993	316	86	0	0	3,559	5.7
10. SERVICE TO BUSINESS MANGMNT	610	694	405	227	6	15	0	0	0	1,957	3.1
11. PUBLIC ADMINISTRATION	155	1,364	2,235	1,654	1,069	706	522	2,165	12,796	22,667	36.3
12. ALL OTHERS	258	654	885	538	709	371	57	597	1,028	5,097	8.2
TOTAL	5,069	9,429	9,812	6,332	6,313	2,961	2,297	3,386	16,806	62,405	100.0
%	8.1	15.1	15.7	10.1	10.1	4.7	3.7	5.4	26.9	100.0	

* NOTE: THE "PERCENTAGE OF ALL OCCUPATIONS SURVEYED" IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 11: NUMBER OF EMPLOYEES IN TEN OF THE TOP OCCUPATIONS

5. ACCOUNTING-CLERK PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 7.1 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	1,745	4,770	3,627	1,255	1,032	158	45	7	237	12,876	27.2
2. TRANSPORTATION	400	778	284	221	795	64	111	274	339	3,267	6.9
3. COMMUNICATIONS	104	146	111	34	257	44	225	17	112	1,050	2.2
4. UTILITIES	33	220	177	140	102	55	17	0	55	799	1.7
5. WHOLESALE TRADE	1,813	2,589	789	222	5	0	0	11	0	5,429	11.5
6. RETAIL TRADE	1,242	1,328	524	197	105	97	2	0	71	3,566	7.5
7. FINANCIAL INSTITUTIONS	1,073	1,829	1,823	553	390	329	270	0	484	6,752	14.3
8. INSURANCE & REAL ESTATE	435	1,312	834	227	140	0	0	0	0	2,947	6.2
9. HEALTH & WELFARE	60	330	495	451	307	127	21	162	0	1,953	4.1
10. SERVICE TO BUSINESS MANGMNT	752	1,157	506	90	30	18	0	0	0	2,553	5.4
11. PUBLIC ADMINISTRATION	43	311	402	248	287	78	0	353	223	1,944	4.1
12. ALL OTHERS	560	1,267	1,047	517	242	149	39	0	303	4,124	8.7
TOTAL	8,260	16,036	10,618	4,155	3,692	1,118	731	824	1,825	47,259	100.0
%	17.5	33.9	22.5	8.8	7.8	2.4	1.5	1.7	3.9	100.0	

* NOTE: THE "PERCENTAGE OF ALL OCCUPATIONS SURVEYED" IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 11: NUMBER OF EMPLOYEES IN TEN OF THE TOP OCCUPATIONS

6. KEYPUNCH OPERATOR PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 3.3 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	88	1,087	1,858	1,096	786	198	114	13	409	5,650	25.9
2. TRANSPORTATION	24	104	103	87	126	11	56	82	257	849	3.9
3. COMMUNICATIONS	19	18	34	11	193	42	57	3	209	587	2.7
4. UTILITIES	19	108	96	53	71	39	104	0	168	658	3.0
5. WHOLESALE TRADE	241	1,273	404	238	21	0	0	43	0	2,220	10.2
6. RETAIL TRADE	57	302	94	104	185	45	29	0	228	1,044	4.8
7. FINANCIAL INSTITUTIONS	57	212	502	129	273	243	163	49	297	1,924	8.8
8. INSURANCE & REAL ESTATE	66	587	801	293	264	0	0	0	0	2,011	9.2
9. HEALTH & WELFARE	5	4	12	43	41	26	20	13	0	166	.8
10. SERVICE TO BUSINESS MANGMNT	189	854	337	45	17	0	0	0	0	1,442	6.6
11. PUBLIC ADMINISTRATION	5	273	221	316	197	89	24	233	2,545	3,901	17.9
12. ALL OTHERS	26	289	279	287	166	106	42	60	80	1,335	6.1
TOTAL	795	5,110	4,741	2,703	2,340	798	609	497	4,192	21,786	100.0
%	3.6	23.5	21.8	12.4	10.7	3.7	2.8	2.3	19.2	100.0	

* NOTE: THE 'PERCENTAGE OF ALL OCCUPATIONS SURVEYED' IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 11: NUMBER OF EMPLOYEES IN TEN OF THE TOP OCCUPATIONS

7. COMPUTER OPERATOR

PERCENTAGE OF ALL OCCUPATIONS SURVEYED=

1.9 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	222	1,100	1,085	602	409	128	63	3	166	3,777	29.0
2. TRANSPORTATION	19	118	65	42	19	9	5	17	265	560	4.3
3. COMMUNICATIONS	5	38	24	11	50	28	31	0	133	321	2.5
4. UTILITIES	19	40	46	10	19	14	29	0	130	307	2.4
5. WHOLESALE TRADE	527	804	339	105	23	0	0	118	0	1,915	14.7
6. RETAIL TRADE	60	191	39	59	68	16	2	0	125	559	4.3
7. FINANCIAL INSTITUTIONS	71	153	271	89	144	113	78	39	214	1,173	9.0
8. INSURANCE & REAL ESTATE	41	195	300	129	137	0	0	0	0	803	6.2
9. HEALTH & WELFARE	0	9	17	19	21	11	10	5	0	92	.7
10. SERVICE TO BUSINESS MANGMNT	212	498	283	23	33	14	0	0	0	1,063	8.2
11. PUBLIC ADMINISTRATION	14	78	119	65	61	44	25	67	1,085	1,558	12.0
12. ALL OTHERS	33	231	160	141	117	77	31	22	71	882	6.8
TOTAL	1,222	3,454	2,748	1,295	1,101	454	273	271	2,190	13,009	100.0
%	9.4	26.6	21.1	10.0	8.5	3.5	2.1	2.1	16.8	100.0	

* NOTE: THE 'PERCENTAGE OF ALL OCCUPATIONS SURVEYED' IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 11: NUMBER OF EMPLOYEES IN TEN OF THE TOP OCCUPATIONS

8. ORDER CLERK

PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 1.9 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	873	2,567	1,536	440	162	33	10	0	35	5,656	44.6
2. TRANSPORTATION	47	37	8	22	9	0	1	0	14	138	1.1
3. COMMUNICATIONS	4	3	4	22	573	0	0	0	0	606	4.8
4. UTILITIES	0	4	24	3	2	2	15	0	19	69	.5
5. WHOLESALE TRADE	1,784	2,264	439	61	0	0	0	0	0	4,548	35.9
6. RETAIL TRADE	292	376	78	33	8	1	0	0	6	793	6.3
7. FINANCIAL INSTITUTIONS	47	70	13	2	4	0	0	0	0	136	1.1
8. INSURANCE & REAL ESTATE	15	15	15	7	3	0	0	0	0	55	.4
9. HEALTH & WELFARE	0	18	29	41	20	12	14	0	0	133	1.0
10. SERVICE TO BUSINESS MANGMNT	21	32	11	4	0	0	0	0	0	68	.5
11. PUBLIC ADMINISTRATION	3	10	29	32	4	1	0	1	6	85	.7
12. ALL OTHERS	97	167	57	36	28	8	2	0	0	396	3.1
TOTAL	3,182	5,562	2,243	703	813	57	41	1	80	12,682	100.0
%	25.1	43.9	17.7	5.5	6.4	.4	.3	.0	.6	100.0	

* NOTE: THE "PERCENTAGE OF ALL OCCUPATIONS SURVEYED" IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 11: NUMBER OF EMPLOYEES IN TEN OF THE TOP OCCUPATIONS

9. BOOKKEEPER

PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 1.8 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	1,447	1,505	619	205	189	9	6	0	5	3,985	32.7
2. TRANSPORTATION	188	168	37	28	16	4	5	0	18	464	3.8
3. COMMUNICATIONS	82	47	71	15	9	54	77	0	0	355	2.9
4. UTILITIES	14	18	6	9	9	1	0	0	0	57	.5
5. WHOLESALE TRADE	780	622	88	13	0	0	0	0	0	1,503	12.3
6. RETAIL TRADE	882	475	71	23	28	0	3	0	0	1,482	12.2
7. FINANCIAL INSTITUTIONS	206	162	74	0	5	67	0	0	0	513	4.2
8. INSURANCE & REAL ESTATE	161	162	146	8	14	0	0	0	0	491	4.0
9. HEALTH & WELFARE	40	159	130	54	42	11	7	0	0	443	3.6
10. SERVICE TO BUSINESS MANGMNT.	495	600	82	4	0	0	0	0	0	1,181	9.7
11. PUBLIC ADMINISTRATION	28	66	64	37	25	24	0	16	120	380	3.1
12. ALL OTHERS	452	472	177	131	22	25	18	0	22	1,319	10.8
TOTAL	4,775	4,457	1,565	526	359	195	115	16	165	12,173	100.0
%	39.2	36.6	12.9	4.3	2.9	1.6	.9	.1	1.4	100.0	

* NOTE: THE 'PERCENTAGE OF ALL OCCUPATIONS SURVEYED' IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 11: NUMBER OF EMPLOYEES IN TEN OF THE TOP OCCUPATIONS

10. STOCK-RECORDS CLERK PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 1.8 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	450	1,790	1,388	456	381	24	29	0	135	4,653	38.5
2. TRANSPORTATION	40	121	79	24	22	51	5	0	21	363	3.0
3. COMMUNICATIONS	11	15	13	8	44	4	20	0	17	132	1.1
4. UTILITIES	16	64	77	30	16	2	1	0	42	248	2.1
5. WHOLESALE TRADE	789	974	248	38	0	0	0	0	0	2,049	17.0
6. RETAIL TRADE	507	601	180	71	163	8	30	0	101	1,662	13.8
7. FINANCIAL INSTITUTIONS	13	52	34	3	7	0	0	0	3	111	.9
8. INSURANCE & REAL ESTATE	13	92	84	13	1	0	0	0	0	202	1.7
9. HEALTH & WELFARE	6	120	253	152	91	57	8	0	0	687	5.7
10. SERVICE TO BUSINESS MANGMNT	16	43	47	4	0	0	0	0	0	109	.9
11. PUBLIC ADMINISTRATION	13	74	148	139	65	43	17	83	423	1,005	8.3
12. ALL OTHERS	65	241	238	147	59	51	51	11	1	864	7.2
TOTAL	1,938	4,185	2,789	1,084	849	241	161	94	743	12,084	100.0
%	16.0	34.6	23.1	9.0	7.0	2.0	1.3	.8	6.1	100.0	

* NOTE: THE 'PERCENTAGE OF ALL OCCUPATIONS SURVEYED' IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 11: NUMBER OF EMPLOYEES IN TEN OF THE TOP OCCUPATIONS

11. TOTAL PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 86.8 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL	%
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+		
1. MANUFACTURING	10,572	30,280	27,488	13,273	10,115	1,869	2,265	57	3,504	99,422	17.1
2. TRANSPORTATION	2,517	5,168	2,690	2,087	2,145	317	1,100	619	2,816	19,461	3.4
3. COMMUNICATIONS	766	1,234	1,903	1,700	3,278	1,769	2,539	705	5,068	18,963	3.3
4. UTILITIES	321	1,638	2,281	1,215	1,117	1,003	1,131	0	2,717	11,423	2.0
5. WHOLESALE TRADE	12,806	19,922	5,628	2,129	318	0	0	890	0	41,692	7.2
6. RETAIL TRADE	5,683	7,555	3,058	2,815	2,403	589	645	0	2,227	24,976	4.3
7. FINANCIAL INSTITUTIONS	9,361	15,307	12,671	5,908	7,051	4,419	3,548	1,595	7,330	67,191	11.6
8. INSURANCE & REAL ESTATE	6,857	16,525	11,817	4,340	3,687	0	0	0	0	43,226	7.4
9. HEALTH & WELFARE	518	3,062	7,748	7,127	7,278	4,016	1,647	552	0	31,948	5.5
10. SERVICE TO BUSINESS MANGMNT	8,890	13,375	6,288	1,217	520	246	0	0	0	30,535	5.3
11. PUBLIC ADMINISTRATION	730	6,355	10,149	7,789	5,821	3,650	3,310	11,668	101,878	151,351	26.1
12. ALL OTHERS	4,304	9,701	7,573	4,850	3,934	3,666	850	1,512	4,043	40,433	7.0
TOTAL	63,323	130,121	99,295	54,451	47,668	21,544	17,035	17,599	129,583	580,619	100.0
%	10.9	22.4	17.1	9.4	8.2	3.7	2.9	3.0	22.3	100.0	

* NOTE: THE 'PERCENTAGE OF ALL OCCUPATIONS SURVEYED' IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 12: PER CENT DISTRIBUTION OF EMPLOYEES BY OCCUPATION, INDUSTRY CLASS AND ESTABLISHMENT SIZE, FOR TEN OF THE TOP OCCUPATIONS

1. CLERK-GENERAL OFFICE PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 30.9 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	.93	2.85	2.82	1.66	1.26	.18	.34	.01	.44	10.50
2. TRANSPORTATION	.41	1.05	.65	.37	.30	.03	.28	.08	.40	3.56
3. COMMUNICATIONS	.09	.22	.49	.58	.70	.63	.70	.32	2.18	5.92
4. UTILITIES	.07	.34	.50	.16	.23	.27	.20	0.	.48	2.24
5. WHOLESALE TRADE	1.32	2.24	.74	.38	.05	0.	0.	.19	0.	4.92
6. RETAIL TRADE	.79	1.30	.76	.66	.61	.17	.23	0.	.59	5.11
7. FINANCIAL INSTITUTIONS	1.81	3.06	2.15	1.21	1.60	.80	.91	.32	1.59	13.46
8. INSURANCE & REAL ESTATE	.89	3.14	2.47	1.12	1.09	0.	0.	0.	0.	8.71
9. HEALTH & WELFARE	.05	.34	.82	.81	.77	.34	.23	.09	0.	3.44
10. SERVICE TO BUSINESS MANGMNT	.55	.97	.52	.09	.12	.03	0.	0.	0.	2.27
11. PUBLIC ADMINISTRATION	.11	1.14	1.73	1.52	1.24	.76	.81	2.44	26.27	36.02
12. ALL OTHERS	.39	.96	.66	.59	.38	.43	.09	.14	.22	3.85
TOTAL	7.42	17.60	14.30	9.15	8.33	3.65	3.79	3.58	32.18	100.00

* NOTE: THE "PERCENTAGE OF ALL OCCUPATIONS SURVEYED" IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 12: PER CENT DISTRIBUTION OF EMPLOYEES BY OCCUPATION, INDUSTRY CLASS AND ESTABLISHMENT SIZE, FOR TEN OF THE TOP OCCUPATIONS

2. SECRETARY

PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 19.0 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	2.01	6.14	5.50	2.69	2.07	.43	.48	.01	.66	19.98
2. TRANSPORTATION	.47	.89	.34	.38	.20	.04	.10	.03	.37	2.81
3. COMMUNICATIONS	.21	.31	.31	.18	.25	.10	.27	0.	0.	1.62
4. UTILITIES	.05	.22	.20	.16	.10	.10	.06	0.	.29	1.17
5. WHOLESALE TRADE	1.87	3.31	1.00	.31	.11	0.	0.	.26	0.	6.85
6. RETAIL TRADE	.49	.76	.26	.49	.25	.03	.06	0.	.16	2.50
7. FINANCIAL INSTITUTIONS	.97	1.67	1.34	.36	.26	.17	.30	.11	.32	5.50
8. INSURANCE & REAL ESTATE	1.84	2.92	1.62	.56	.35	0.	0.	0.	0.	7.29
9. HEALTH & WELFARE	.15	.79	2.10	1.71	2.09	1.53	.52	.05	0.	8.95
10. SERVICE TO BUSINESS MANGMNT	3.59	4.88	2.26	.34	.13	.10	0.	0.	0.	11.30
11. PUBLIC ADMINISTRATION	.15	.84	1.38	.94	.58	.58	.34	1.61	14.28	20.70
12. ALL OTHERS	1.27	2.76	2.12	1.20	1.08	1.25	.20	.38	1.07	11.32
TOTAL	13.08	25.49	18.43	9.32	7.44	4.31	2.33	2.44	17.15	100.00

* NOTE: THE 'PERCENTAGE OF ALL OCCUPATIONS SURVEYED' IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 12: PER CENT DISTRIBUTION OF EMPLOYEES BY OCCUPATION, INDUSTRY CLASS AND ESTABLISHMENT SIZE, FOR TEN OF THE TOP OCCUPATIONS

3. TYPIST PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 9.8 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	1.50	3.58	3.86	1.99	1.22	.28	.33	.00	.57	13.32
2. TRANSPORTATION	.35	.55	.21	.22	.12	.06	.05	.02	.19	1.77
3. COMMUNICATIONS	.06	.07	.07	.14	.40	.08	.16	.04	.08	1.12
4. UTILITIES	.02	.09	.29	.24	.13	.19	.28	0.	.27	1.50
5. WHOLESALE TRADE	1.66	2.44	.50	.13	.05	0.	0.	0.	0.	4.78
6. RETAIL TRADE	.45	.68	.17	.35	.27	.04	.02	0.	.16	2.13
7. FINANCIAL INSTITUTIONS	1.60	2.99	3.09	1.59	1.53	1.05	.48	.20	2.26	14.79
8. INSURANCE & REAL ESTATE	1.65	4.59	3.31	.75	.39	0.	0.	0.	0.	10.69
9. HEALTH & WELFARE	.05	.59	2.02	2.87	2.32	1.24	.53	.20	0.	9.82
10. SERVICE TO BUSINESS MANGMNT	1.38	1.98	1.05	.30	.05	.01	0.	0.	0.	4.77
11. PUBLIC ADMINISTRATION	.07	1.15	2.44	1.47	1.24	.54	.95	2.52	18.65	29.04
12. ALL OTHERS	.60	1.37	1.03	.49	.69	.63	.27	.08	1.11	6.26
TOTAL	9.39	20.08	18.03	10.53	8.42	4.13	3.07	3.06	23.29	100.00

* NOTE: THE 'PERCENTAGE OF ALL OCCUPATIONS SURVEYED' IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 12: PER CENT DISTRIBUTION OF EMPLOYEES BY OCCUPATION, INDUSTRY CLASS AND ESTABLISHMENT SIZE, FOR TEN OF THE TOP OCCUPATIONS

4. STENOGRAPHER PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 9.3 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	.45	2.31	3.27	1.72	1.80	.35	.76	.01	.62	11.29
2. TRANSPORTATION	.20	.32	.31	.45	.32	.04	.29	.07	.77	2.78
3. COMMUNICATIONS	.09	.11	.31	.14	.21	.18	.35	0.	.05	1.43
4. UTILITIES	.01	.22	.62	.45	.34	.14	.47	0.	1.25	3.51
5. WHOLESALE TRADE	1.10	1.57	.31	.29	0.	0.	0.	0.	0.	3.26
6. RETAIL TRADE	.15	.28	.12	.16	.17	.01	.02	0.	.25	1.16
7. FINANCIAL INSTITUTIONS	2.98	3.89	2.85	1.80	2.54	1.77	.73	.92	1.83	19.32
8. INSURANCE & REAL ESTATE	1.38	1.54	.49	.24	.28	0.	0.	0.	0.	3.92
9. HEALTH & WELFARE	.12	.52	1.81	1.02	1.59	.51	.14	0.	0.	5.70
10. SERVICE TO BUSINESS MANGMNT	.98	1.11	.65	.36	.01	.02	0.	0.	0.	3.14
11. PUBLIC ADMINISTRATION	.25	2.19	3.58	2.65	1.71	1.13	.84	3.47	20.50	36.32
12. ALL OTHERS	.41	1.05	1.42	.86	1.14	.59	.09	.96	1.65	8.17
TOTAL	8.12	15.11	15.72	10.15	10.12	4.74	3.68	5.43	26.93	100.00

* NOTE: THE 'PERCENTAGE OF ALL OCCUPATIONS SURVEYED' IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 12: PER CENT DISTRIBUTION OF EMPLOYEES BY OCCUPATION, INDUSTRY CLASS AND ESTABLISHMENT SIZE, FOR TEN OF THE TOP OCCUPATIONS

5. ACCOUNTING-CLERK PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 7.1 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	3.69	10.09	7.68	2.66	2.18	.33	.10	.01	.50	27.25
2. TRANSPORTATION	.85	1.65	.60	.47	1.68	.14	.24	.58	.72	6.91
3. COMMUNICATIONS	.22	.31	.23	.07	.54	.09	.48	.04	.24	2.22
4. UTILITIES	.07	.46	.37	.30	.21	.12	.04	0.	.12	1.69
5. WHOLESALE TRADE	3.84	5.48	1.67	.47	.01	0.	0.	.02	0.	11.49
6. RETAIL TRADE	2.63	2.81	1.11	.42	.22	.20	.00	0.	.15	7.55
7. FINANCIAL INSTITUTIONS	2.27	3.87	3.86	1.17	.83	.70	.57	0.	1.02	14.29
8. INSURANCE & REAL ESTATE	.92	2.78	1.76	.48	.30	0.	0.	0.	0.	6.24
9. HEALTH & WELFARE	.13	.70	1.05	.95	.65	.27	.05	.34	0.	4.13
10. SERVICE TO BUSINESS MANGMNT	1.59	2.45	1.07	.19	.06	.04	0.	0.	0.	5.40
11. PUBLIC ADMINISTRATION	.09	.66	.85	.52	.61	.16	0.	.75	.47	4.11
12. ALL OTHERS	1.18	2.68	2.22	1.09	.51	.31	.08	0.	.64	8.73
TOTAL	17.48	33.93	22.47	8.79	7.81	2.37	1.55	1.74	3.86	100.00

* NOTE: THE "PERCENTAGE OF ALL OCCUPATIONS SURVEYED" IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 12: PER CENT DISTRIBUTION OF EMPLOYEES BY OCCUPATION, INDUSTRY CLASS AND ESTABLISHMENT SIZE, FOR TEN OF THE TOP OCCUPATIONS

6. KEYPUNCH OPERATOR PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 3.3 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	.40	4.99	8.53	5.03	3.61	.91	.53	.06	1.88	25.93
2. TRANSPORTATION	.11	.48	.47	.40	.58	.05	.26	.38	1.18	3.90
3. COMMUNICATIONS	.09	.08	.15	.05	.89	.19	.26	.02	.96	2.69
4. UTILITIES	.09	.50	.44	.24	.33	.18	.48	0.	.77	3.02
5. WHOLESALE TRADE	1.11	5.84	1.85	1.09	.10	0.	0.	.20	0.	10.19
6. RETAIL TRADE	.26	1.39	.43	.48	.85	.21	.13	0.	1.05	4.79
7. FINANCIAL INSTITUTIONS	.26	.97	2.31	.59	1.25	1.11	.75	.22	1.36	8.83
8. INSURANCE & REAL ESTATE	.30	2.69	3.67	1.34	1.21	0.	0.	0.	0.	9.23
9. HEALTH & WELFARE	.02	.02	.06	.20	.19	.12	.09	.06	0.	.76
10. SERVICE TO BUSINESS MANGMNT	.87	3.92	1.54	.21	.08	0.	0.	0.	0.	6.62
11. PUBLIC ADMINISTRATION	.02	1.26	1.02	1.45	.90	.41	.11	1.07	11.68	17.91
12. ALL OTHERS	.12	1.33	1.28	1.32	.76	.49	.19	.28	.37	6.13
TOTAL	3.65	23.46	21.76	12.41	10.74	3.66	2.80	2.28	19.24	100.00

* NOTE: THE 'PERCENTAGE OF ALL OCCUPATIONS SURVEYED' IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 12: PER CENT DISTRIBUTION OF EMPLOYEES BY OCCUPATION, INDUSTRY CLASS AND ESTABLISHMENT SIZE, FOR TEN OF THE TOP OCCUPATIONS

7. COMPUTER OPERATOR PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 1.9 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	1.70	8.45	8.34	4.62	3.14	.99	.48	.03	1.27	29.03
2. TRANSPORTATION	.15	.91	.50	.32	.15	.07	.04	.13	2.04	4.30
3. COMMUNICATIONS	.04	.29	.19	.09	.39	.22	.23	0.	1.03	2.47
4. UTILITIES	.15	.31	.35	.07	.15	.11	.22	0.	1.00	2.36
5. WHOLESALE TRADE	4.05	6.18	2.61	.80	.17	0.	0.	.91	0.	14.72
6. RETAIL TRADE	.46	1.47	.30	.45	.52	.12	.01	0.	.96	4.30
7. FINANCIAL INSTITUTIONS	.55	1.18	2.08	.69	1.11	.87	.60	.30	1.64	9.02
8. INSURANCE & REAL ESTATE	.31	1.50	2.31	1.00	1.06	0.	0.	0.	0.	6.17
9. HEALTH & WELFARE	0.	.07	.13	.15	.16	.08	.08	.04	0.	.71
10. SERVICE TO BUSINESS MANGMNT	1.63	3.83	2.18	.18	.25	.11	0.	0.	0.	8.17
11. PUBLIC ADMINISTRATION	.11	.60	.91	.50	.47	.34	.20	.52	8.34	11.98
12. ALL OTHERS	.26	1.78	1.23	1.08	.90	.59	.23	.17	.54	6.78
TOTAL	9.40	26.55	21.13	9.95	8.46	3.49	2.10	2.08	16.83	100.00

* NOTE: THE 'PERCENTAGE OF ALL OCCUPATIONS SURVEYED' IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 12: PER CENT DISTRIBUTION OF EMPLOYEES BY OCCUPATION, INDUSTRY CLASS AND ESTABLISHMENT SIZE, FOR TEN OF THE TOP OCCUPATIONS

8. ORDER CLERK PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 1.9 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	6.88	20.24	12.11	3.47	1.28	.26	.08	0.	.28	44.60
2. TRANSPORTATION	.37	.29	.07	.17	.07	0.	.01	0.	.11	1.09
3. COMMUNICATIONS	.03	.02	.03	.17	4.52	0.	0.	0.	0.	4.78
4. UTILITIES	0.	.03	.19	.03	.02	.01	.12	0.	.15	.54
5. WHOLESALE TRADE	14.07	17.85	3.46	.48	0.	0.	0.	0.	0.	35.86
6. RETAIL TRADE	2.30	2.96	.61	.26	.06	.01	0.	0.	.04	6.25
7. FINANCIAL INSTITUTIONS	.37	.55	.10	.02	.03	0.	0.	0.	0.	1.07
8. INSURANCE & REAL ESTATE	.12	.12	.12	.05	.02	0.	0.	0.	0.	.44
9. HEALTH & WELFARE	0.	.14	.23	.32	.16	.09	.11	0.	0.	1.05
10. SERVICE TO BUSINESS MANGMNT.	.16	.25	.09	.03	0.	0.	0.	0.	0.	.54
11. PUBLIC ADMINISTRATION	.02	.08	.23	.25	.03	.01	0.	.01	.04	.67
12. ALL OTHERS	.77	1.32	.45	.28	.22	.06	.02	0.	0.	3.12
TOTAL	25.09	43.86	17.69	5.54	6.41	.45	.32	.01	.63	100.00

* NOTE: THE 'PERCENTAGE OF ALL OCCUPATIONS SURVEYED' IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 12: PER CENT DISTRIBUTION OF EMPLOYEES BY OCCUPATION, INDUSTRY CLASS AND ESTABLISHMENT SIZE, FOR TEN OF THE TOP OCCUPATIONS

9. BOOKKEEPER PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 1.8 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	11.89	12.37	5.08	1.68	1.56	.08	.05	0.	.04	32.74
2. TRANSPORTATION	1.55	1.38	.30	.23	.13	.03	.04	0.	.15	3.81
3. COMMUNICATIONS	.68	.39	.58	.12	.08	.44	.63	0.	0.	2.92
4. UTILITIES	.12	.15	.05	.07	.08	.01	0.	0.	0.	.47
5. WHOLESALE TRADE	6.40	5.11	.73	.10	0.	0.	0.	0.	0.	12.34
6. RETAIL TRADE	7.25	3.90	.58	.19	.23	0.	.03	0.	0.	12.17
7. FINANCIAL INSTITUTIONS	1.69	1.33	.61	0.	.04	.55	0.	0.	0.	4.21
8. INSURANCE & REAL ESTATE	1.32	1.33	1.20	.06	.11	0.	0.	0.	0.	4.03
9. HEALTH & WELFARE	.32	1.31	1.07	.45	.34	.09	.06	0.	0.	3.64
10. SERVICE TO BUSINESS MANGMNT	4.07	4.93	.67	.03	0.	0.	0.	0.	0.	9.70
11. PUBLIC ADMINISTRATION	.23	.54	.53	.30	.21	.20	0.	.13	.98	3.12
12. ALL OTHERS	3.71	3.88	1.45	1.08	.18	.21	.15	0.	.18	10.84
TOTAL	39.23	36.61	12.86	4.32	2.95	1.61	.94	.13	1.36	100.00

* NOTE: THE 'PERCENTAGE OF ALL OCCUPATIONS SURVEYED' IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 12: PER CENT DISTRIBUTION OF EMPLOYEES BY OCCUPATION, INDUSTRY CLASS AND ESTABLISHMENT SIZE, FOR TEN OF THE TOP OCCUPATIONS

10. STOCK-RECORDS CLERK PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 1.8 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	3.72	14.82	11.49	3.77	3.15	.20	.24	0.	1.11	38.50
2. TRANSPORTATION	.33	1.00	.65	.20	.18	.42	.04	0.	.18	3.00
3. COMMUNICATIONS	.09	.12	.11	.06	.36	.03	.17	0.	.14	1.09
4. UTILITIES	.13	.53	.64	.25	.13	.02	.01	0.	.35	2.05
5. WHOLESALE TRADE	6.53	8.06	2.05	.31	0.	0.	0.	0.	0.	16.95
6. RETAIL TRADE	4.20	4.98	1.49	.59	1.35	.07	.25	0.	.83	13.75
7. FINANCIAL INSTITUTIONS	.10	.43	.28	.02	.06	0.	0.	0.	.03	.92
8. INSURANCE & REAL ESTATE	.10	.76	.69	.10	.01	0.	0.	0.	0.	1.67
9. HEALTH & WELFARE	.05	.99	2.09	1.26	.76	.47	.07	0.	0.	5.69
10. SERVICE TO BUSINESS MANGMNT	.13	.35	.39	.03	0.	0.	0.	0.	0.	.90
11. PUBLIC ADMINISTRATION	.10	.61	1.23	1.15	.54	.35	.14	.69	3.50	8.31
12. ALL OTHERS	.54	1.99	1.97	1.22	.49	.42	.42	.09	.01	7.15
TOTAL	16.04	34.63	23.08	8.97	7.03	1.99	1.33	.78	6.15	100.00

* NOTE: THE 'PERCENTAGE OF ALL OCCUPATIONS SURVEYED' IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 12: PER CENT DISTRIBUTION OF EMPLOYEES BY OCCUPATION, INDUSTRY CLASS AND ESTABLISHMENT SIZE, FOR TEN OF THE TOP OCCUPATIONS

11. TOTAL PERCENTAGE OF ALL OCCUPATIONS SURVEYED= 86.8 *

INDUSTRY CLASS	ESTABLISHMENT SIZE (NUMBER OF EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	1.82	5.22	4.73	2.29	1.74	.32	.39	.01	.60	17.12
2. TRANSPORTATION	.43	.89	.46	.36	.37	.05	.19	.11	.49	3.35
3. COMMUNICATIONS	.13	.21	.33	.29	.56	.30	.44	.12	.87	3.27
4. UTILITIES	.06	.28	.39	.21	.19	.17	.19	0.	.47	1.97
5. WHOLESALE TRADE	2.21	3.43	.97	.37	.05	0.	0.	.15	0.	7.18
6. RETAIL TRADE	.98	1.30	.53	.48	.41	.10	.11	0.	.38	4.30
7. FINANCIAL INSTITUTIONS	1.61	2.64	2.18	1.02	1.21	.76	.61	.27	1.26	11.57
8. INSURANCE & REAL ESTATE	1.18	2.85	2.04	.75	.64	0.	0.	0.	0.	7.44
9. HEALTH & WELFARE	.09	.53	1.33	1.23	1.25	.69	.28	.10	0.	5.50
10. SERVICE TO BUSINESS MANGMNT	1.53	2.30	1.08	.21	.09	.04	0.	0.	0.	5.26
11. PUBLIC ADMINISTRATION	.13	1.09	1.75	1.34	1.00	.63	.57	2.01	17.55	26.07
12. ALL OTHERS	.74	1.67	1.30	.84	.68	.63	.15	.26	.70	6.96
TOTAL	10.91	22.41	17.10	9.38	8.21	3.71	2.93	3.03	22.32	100.00

* NOTE: THE 'PERCENTAGE OF ALL OCCUPATIONS SURVEYED' IS THE FOLLOWING RATIO:

TOTAL EMPLOYEES IN THE PARTICULAR OCCUPATION DIVIDED-BY
TOTAL EMPLOYEES IN ALL OCCUPATIONS

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 13: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT SUMMARIZED BY
ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR TEN OF THE TOP OCCUPATIONS *

1. CLERK-GENERAL OFFICE

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	.58	1.64	5.07	12.14	24.03	21.47	88.00	13.00	95.55	2.56
2. TRANSPORTATION	1.39	5.14	11.64	18.72	31.82	15.00	127.00	71.50	96.62	5.99
3. COMMUNICATIONS	1.12	4.59	20.45	59.19	125.10	209.99	431.65	588.98	2,114.42	34.46
4. UTILITIES	1.91	6.45	21.37	25.90	69.00	178.66	184.49	0.	461.98	18.16
5. WHOLESALE TRADE	1.29	3.86	12.90	41.93	43.50	0.	0.	351.99	0.	2.94
6. RETAIL TRADE	.83	2.67	12.02	34.00	72.26	112.33	427.98	0.	287.49	3.33
7. FINANCIAL INSTITUTIONS	3.81	15.09	42.60	104.15	220.15	265.82	840.47	595.98	514.15	17.83
8. INSURANCE & REAL ESTATE	3.80	21.15	59.87	152.91	325.82	0.	0.	0.	0.	20.02
9. HEALTH & WELFARE	.54	1.56	5.45	13.56	27.52	42.12	104.75	157.99	0.	6.10
10. SERVICE TO BUSINESS MANGMNT	1.70	4.76	13.83	21.28	104.00	65.00	0.	0.	0.	4.00
11. PUBLIC ADMINISTRATION	3.11	10.58	23.92	56.57	92.54	168.33	296.99	645.12	2,036.92	128.62
12. ALL OTHERS	.76	1.99	4.64	13.93	24.89	77.00	39.50	86.00	106.50	3.17
TOTAL	1.31	3.94	11.23	25.92	56.13	96.67	211.58	411.34	1,039.49	8.32

* NOTE: THE RATIOS EQUAL THE NUMBER OF EMPLOYEES IN A GIVEN CELL
DIVIDED BY THE NUMBER OF ESTABLISHMENTS IN THAT CELL.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 13: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT SUMMARIZED BY
ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR TEN OF THE TOP OCCUPATIONS.*

2. SECRETARY

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	.77	2.17	6.05	12.03	24.15	30.58	77.90	10.87	87.36	2.99
2. TRANSPORTATION	.97	2.67	3.77	11.89	12.79	11.32	29.44	14.49	55.03	2.90
3. COMMUNICATIONS	1.63	3.89	7.77	11.10	27.17	19.63	102.66	0.	0.	5.77
4. UTILITIES	.89	2.59	5.13	16.12	17.81	39.85	32.61	0.	169.38	5.80
5. WHOLESALE TRADE	1.12	3.50	10.67	20.53	58.88	0.	0.	289.85	0.	2.51
6. RETAIL TRADE	.32	.96	2.50	15.51	18.00	12.08	63.41	0.	48.01	1.00
7. FINANCIAL INSTITUTIONS	1.25	5.06	16.25	19.26	22.16	34.12	166.67	119.56	64.31	4.47
8. INSURANCE & REAL ESTATE	4.81	12.07	24.17	46.50	63.41	0.	0.	0.	0.	10.27
9. HEALTH & WELFARE	.96	2.21	8.60	17.49	45.87	116.62	147.64	57.97	0.	9.71
10. SERVICE TO BUSINESS MANGMNT	6.83	14.68	37.06	49.43	69.75	119.56	0.	0.	0.	12.17
11. PUBLIC ADMINISTRATION	2.68	4.79	11.73	21.41	26.42	78.50	76.09	261.13	678.40	45.30
12. ALL OTHERS	1.50	3.50	9.15	17.43	43.75	138.34	56.16	143.72	317.03	5.72
TOTAL	1.41	3.50	8.87	16.17	30.72	70.06	79.92	171.76	339.52	5.10

* NOTE: THE RATIOS EQUAL THE NUMBER OF EMPLOYEES IN A GIVEN CELL
DIVIDED BY THE NUMBER OF ESTABLISHMENTS IN THAT CELL.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 13: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT SUMMARIZED BY
ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR TEN OF THE TOP OCCUPATIONS *

3. TYPIST

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	.30	.66	2.21	4.63	7.41	10.29	27.47	2.67	38.87	1.03
2. TRANSPORTATION	.37	.86	1.17	3.59	4.16	10.01	7.34	5.34	15.02	.95
3. COMMUNICATIONS	.26	.49	.99	4.42	22.83	8.90	32.04	24.03	24.70	2.08
4. UTILITIES	.21	.56	3.96	12.28	12.02	39.61	81.44	0.	82.11	3.87
5. WHOLESALE TRADE	.52	1.34	2.74	4.63	14.69	0.	0.	0.	0.	.91
6. RETAIL TRADE	.15	.45	.84	5.67	10.15	8.46	12.02	0.	25.37	.44
7. FINANCIAL INSTITUTIONS	1.07	4.70	19.47	43.64	67.17	110.59	141.53	117.49	232.09	6.24
8. INSURANCE & REAL ESTATE	2.24	9.85	25.57	32.49	37.38	0.	0.	0.	0.	7.82
9. HEALTH & WELFARE	.17	.85	4.30	15.27	26.46	48.98	76.77	116.16	0.	5.53
10. SERVICE TO BUSINESS MANGMNT	1.36	3.10	8.98	22.13	14.02	6.68	0.	0.	0.	2.67
11. PUBLIC ADMINISTRATION	.67	3.41	10.74	17.39	29.54	38.13	110.82	212.29	460.20	33.00
12. ALL OTHERS	.37	.90	2.30	3.68	14.54	36.53	40.05	15.13	171.23	1.64
TOTAL	.53	1.43	4.51	9.49	18.04	34.80	54.64	111.92	239.46	2.65

* NOTE: THE RATIOS EQUAL THE NUMBER OF EMPLOYEES IN A GIVEN CELL
DIVIDED BY THE NUMBER OF ESTABLISHMENTS IN THAT CELL.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 13: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT SUMMARIZED BY
ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR TEN OF THE TOP OCCUPATIONS *

4. STENOGRAPHER

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	.08	.40	1.77	3.79	10.37	12.26	60.31	3.62	40.46	.83
2. TRANSPORTATION	.21	.48	1.69	6.96	10.23	6.34	40.31	19.02	56.17	1.41
3. COMMUNICATIONS	.34	.69	3.86	4.42	11.23	17.51	64.62	0.	15.40	2.52
4. UTILITIES	.08	1.27	8.03	22.47	30.80	27.18	130.45	0.	366.00	8.58
5. WHOLESALE TRADE	.32	.82	1.62	9.54	0.	0.	0.	0.	0.	.59
6. RETAIL TRADE	.05	.17	.56	2.43	6.28	2.42	10.87	0.	36.69	.23
7. FINANCIAL INSTITUTIONS	1.89	5.81	17.00	46.82	105.65	177.56	201.12	516.38	178.77	7.73
8. INSURANCE & REAL ESTATE	1.78	3.13	3.59	9.81	25.06	0.	0.	0.	0.	2.72
9. HEALTH & WELFARE	.39	.72	3.63	5.12	17.21	19.02	19.02	0.	0.	3.05
10. SERVICE TO BUSINESS MANGMNT	.91	1.65	5.25	25.62	2.72	14.49	0.	0.	0.	1.66
11. PUBLIC ADMINISTRATION	2.13	6.13	14.96	29.77	38.58	75.49	92.77	276.70	479.85	39.15
12. ALL OTHERS	.24	.66	3.01	6.17	22.75	32.45	12.68	178.17	240.98	2.03
TOTAL	.43	1.02	3.73	8.67	20.56	37.96	62.09	188.10	262.60	2.51

* NOTE: THE RATIOS EQUAL THE NUMBER OF EMPLOYEES IN A GIVEN CELL
DIVIDED BY THE NUMBER OF ESTABLISHMENTS IN THAT CELL.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 13: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT SUMMARIZED BY
ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR TEN OF THE TOP OCCUPATIONS *

5. ACCOUNTING-CLERK

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	.53	1.33	3.15	4.44	9.51	8.94	5.71	6.00	24.67	1.52
2. TRANSPORTATION	.65	1.85	2.46	5.47	40.53	15.50	24.75	122.49	39.75	2.66
3. COMMUNICATIONS	.65	1.46	2.23	1.69	22.30	7.00	66.66	15.00	52.50	2.96
4. UTILITIES	.47	2.01	3.67	11.10	14.67	17.67	7.50	0.	26.00	3.13
5. WHOLESALE TRADE	.86	2.16	6.63	11.73	2.00	0.	0.	10.00	0.	1.57
6. RETAIL TRADE	.63	1.32	4.02	4.87	6.07	31.00	2.00	0.	16.75	1.12
7. FINANCIAL INSTITUTIONS	1.09	4.37	17.46	23.05	26.00	52.83	119.99	0.	75.66	4.33
8. INSURANCE & REAL ESTATE	.90	4.28	9.79	15.00	20.17	0.	0.	0.	0.	3.28
9. HEALTH & WELFARE	.30	.73	1.60	3.64	5.32	7.62	4.75	144.99	0.	1.67
10. SERVICE TO BUSINESS MANGMNT	1.13	2.74	6.56	10.14	13.00	17.00	0.	0.	0.	2.17
11. PUBLIC ADMINISTRATION	.59	1.40	2.69	4.45	10.37	8.33	0.	45.14	8.36	3.36
12. ALL OTHERS	.52	1.27	3.56	5.93	7.78	13.00	8.75	0.	71.00	1.65
TOTAL	.70	1.74	4.03	5.69	12.03	14.34	19.76	45.76	28.51	1.90

* NOTE: THE RATIOS EQUAL THE NUMBER OF EMPLOYEES IN A GIVEN CELL
DIVIDED BY THE NUMBER OF ESTABLISHMENTS IN THAT CELL.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 13: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT SUMMARIZED BY
ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR TEN OF THE TOP OCCUPATIONS *

7. COMPUTER OPERATOR

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1. MANUFACTURING	.07	.31	.94	2.13	3.77	7.27	7.97	3.01	17.25	.45
2. TRANSPORTATION	.03	.28	.57	1.04	.98	2.26	1.13	7.54	31.09	.46
3. COMMUNICATIONS	.03	.38	.49	.57	4.37	4.52	9.04	0.	62.55	.90
4. UTILITIES	.27	.37	.95	.75	2.76	4.52	12.81	0.	61.05	1.20
5. WHOLESALE TRADE	.25	.67	2.85	5.53	9.80	0.	0.	105.51	0.	.55
6. RETAIL TRADE	.03	.19	.30	1.46	3.92	5.02	1.51	0.	29.39	.18
7. FINANCIAL INSTITUTIONS	.07	.37	2.60	3.73	9.62	18.09	34.67	34.67	33.41	.75
8. INSURANCE & REAL ESTATE	.08	.64	3.53	8.54	19.85	0.	0.	0.	0.	.89
9. HEALTH & WELFARE	0.	.02	.05	.15	.36	.66	2.26	4.52	0.	.08
10. SERVICE TO BUSINESS MANGMNT	.32	1.18	3.67	2.58	14.32	13.57	0.	0.	0.	.90
11. PUBLIC ADMINISTRATION	.20	.35	.79	1.16	2.20	4.69	4.52	8.61	40.70	2.69
12. ALL OTHERS	.03	.23	.54	1.62	3.74	6.71	6.78	6.53	16.58	.35
TOTAL	.10	.37	1.04	1.77	3.59	5.83	7.38	15.07	34.22	.52

* NOTE: THE RATIOS EQUAL THE NUMBER OF EMPLOYEES IN A GIVEN CELL
DIVIDED BY THE NUMBER OF ESTABLISHMENTS IN THAT CELL.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 13: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT SUMMARIZED BY
ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR TEN OF THE TOP OCCUPATIONS *

8. ORDER CLERK

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	.26	.72	1.34	1.56	1.49	1.89	1.24	0.	3.66	.67
2. TRANSPORTATION	.08	.09	.07	.54	.46	0.	.22	0.	1.63	.11
3. COMMUNICATIONS	.03	.03	.08	1.08	49.67	0.	0.	0.	0.	1.71
4. UTILITIES	0.	.04	.49	.26	.29	.58	6.50	0.	9.10	.27
5. WHOLESALE TRADE	.84	1.89	3.69	3.24	0.	0.	0.	0.	0.	1.32
6. RETAIL TRADE	.15	.37	.60	.81	.46	.29	0.	0.	1.30	.25
7. FINANCIAL INSTITUTIONS	.05	.17	.12	.09	.27	0.	0.	0.	0.	.09
8. INSURANCE & REAL ESTATE	.03	.05	.18	.43	.43	0.	0.	0.	0.	.06
9. HEALTH & WELFARE	0.	.04	.09	.33	.35	.70	3.03	0.	0.	.11
10. SERVICE TO BUSINESS MANGMNT	.03	.08	.14	.50	0.	0.	0.	0.	0.	.06
11. PUBLIC ADMINISTRATION	.04	.05	.20	.57	.14	.10	0.	.12	.21	.15
12. ALL OTHERS	.09	.17	.19	.41	.90	.71	.43	0.	0.	.16
TOTAL	.27	.60	.85	.96	2.65	.73	1.11	.05	1.24	.51

* NOTE: THE RATIOS EQUAL THE NUMBER OF EMPLOYEES IN A GIVEN CELL
DIVIDED BY THE NUMBER OF ESTABLISHMENTS IN THAT CELL.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 13: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT SUMMARIZED BY
ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR TEN OF THE TOP OCCUPATIONS *

9. BOOKKEEPER

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	.44	.42	.54	.72	1.75	.53	.71	0.	.56	.47
2. TRANSPORTATION	.31	.40	.32	.69	.82	1.00	1.00	0.	2.13	.38
3. COMMUNICATIONS	.51	.47	1.42	.75	.80	8.67	22.67	0.	0.	1.00
4. UTILITIES	.20	.16	.13	.70	1.33	.33	0.	0.	0.	.23
5. WHOLESALE TRADE	.37	.52	.74	.67	0.	0.	0.	0.	0.	.43
6. RETAIL TRADE	.45	.47	.54	.56	1.60	0.	3.00	0.	0.	.47
7. FINANCIAL INSTITUTIONS	.21	.39	.71	0.	.31	10.67	0.	0.	0.	.33
8. INSURANCE & REAL ESTATE	.33	.53	1.72	.50	2.00	0.	0.	0.	0.	.55
9. HEALTH & WELFARE	.20	.35	.42	.44	.72	.69	1.50	0.	0.	.38
10. SERVICE TO BUSINESS MANGMNT	.74	1.42	1.06	.43	0.	0.	0.	0.	0.	1.00
11. PUBLIC ADMINISTRATION	.39	.30	.43	.66	.92	2.56	0.	2.00	4.48	.66
12. ALL OTHERS	.42	.47	.60	1.51	.70	2.18	4.00	0.	5.25	.53
TOTAL	.41	.48	.59	.72	1.17	2.51	3.10	.87	2.58	.49

* NOTE: THE RATIOS EQUAL THE NUMBER OF EMPLOYEES IN A GIVEN CELL
DIVIDED BY THE NUMBER OF ESTABLISHMENTS IN THAT CELL.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES(EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 13: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT SUMMARIZED BY
ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR TEN OF THE TOP OCCUPATIONS *

10. STOCK-RECORDS CLERK

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	.14	.50	1.21	1.61	3.51	1.36	3.72	0.	14.03	.55
2. TRANSPORTATION	.06	.29	.68	.60	1.12	12.28	1.00	0.	2.51	.30
3. COMMUNICATIONS	.07	.15	.26	.38	3.81	.67	6.01	0.	8.02	.37
4. UTILITIES	.22	.58	1.60	2.41	2.34	.67	.50	0.	19.55	.97
5. WHOLESALE TRADE	.37	.81	2.09	2.00	0.	0.	0.	0.	0.	.59
6. RETAIL TRADE	.26	.60	1.39	1.75	9.42	2.67	27.06	0.	23.56	.52
7. FINANCIAL INSTITUTIONS	.01	.12	.32	.11	.46	0.	0.	0.	.50	.07
8. INSURANCE & REAL ESTATE	.03	.30	.98	.84	.17	0.	0.	0.	0.	.22
9. HEALTH & WELFARE	.03	.26	.82	1.23	1.58	3.45	1.75	0.	0.	.59
10. SERVICE TO BUSINESS MANGMNT	.02	.10	.61	.43	0.	0.	0.	0.	0.	.09
11. PUBLIC ADMINISTRATION	.17	.33	.99	2.51	2.34	4.57	3.01	10.60	15.88	1.74
12. ALL OTHERS	.06	.24	.81	1.69	1.89	4.47	11.28	3.34	.25	.34
TOTAL	.17	.45	1.06	1.48	2.77	3.09	4.36	5.23	11.61	.49

* NOTE: THE RATIOS EQUAL THE NUMBER OF EMPLOYEES IN A GIVEN CELL
DIVIDED BY THE NUMBER OF ESTABLISHMENTS IN THAT CELL.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 13: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT SUMMARIZED BY
ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR TEN OF THE TOP OCCUPATIONS *

11. TOTAL

INDUSTRY CLASS	ESTABLISHMENT SIZE (EMPLOYEES)									TOTAL
	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	
1. MANUFACTURING	3.19	8.45	23.90	46.92	93.23	105.76	287.57	51.15	364.98	11.73
2. TRANSPORTATION	4.10	12.30	23.26	51.64	109.34	76.34	244.54	277.05	330.05	15.83
3. COMMUNICATIONS	4.75	12.31	38.22	84.14	284.04	283.63	752.33	631.00	2,375.61	53.42
4. UTILITIES	4.51	15.02	47.34	96.18	161.25	321.54	502.71	0.	1,273.74	44.80
5. WHOLESALE TRADE	6.05	16.65	47.34	112.37	137.84	0.	0.	796.26	0.	12.06
6. RETAIL TRADE	2.88	7.49	23.50	69.66	138.83	188.73	573.29	0.	522.06	7.86
7. FINANCIAL INSTITUTIONS	9.52	36.57	121.34	246.21	469.96	708.60	1,577.02	1,427.48	1,145.29	43.07
8. INSURANCE & REAL ESTATE	14.13	53.91	138.79	286.35	532.45	0.	0.	0.	0.	48.08
9. HEALTH & WELFARE	2.62	6.74	24.99	57.58	126.11	241.46	365.97	493.61	0.	27.38
10. SERVICE TO BUSINESS MANGMNT	13.33	31.73	81.54	137.68	225.28	236.30	0.	0.	0.	25.94
11. PUBLIC ADMINISTRATION	10.03	28.56	67.93	140.17	210.16	390.17	588.38	1,491.42	3,820.42	261.40
12. ALL OTHERS	4.01	9.72	25.76	55.66	126.26	320.64	188.99	450.85	947.52	16.13
TOTAL	5.40	14.08	37.73	74.59	155.27	276.20	460.42	977.70	2,024.74	23.38

* NOTE: THE RATIOS EQUAL THE NUMBER OF EMPLOYEES IN A GIVEN CELL
DIVIDED BY THE NUMBER OF ESTABLISHMENTS IN THAT CELL.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

REPORT TYPES 14 AND 15

Information on the Average Number of Employees
per Establishment in the Top 10 Occupations

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 14: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT FOR ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.*

1 CLERK-GENERAL OFFICE

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1 MANUFACTURING	1.69	2.95	6.95	14.37	26.33	25.27	86.63	15.00	91.70	4.99
2 TRANSPORTATION	3.05	7.63	15.84	23.63	41.60	15.50	114.20	80.00	91.67	10.29
3 COMMUNICATIONS	3.10	7.67	21.66	59.80	120.33	218.33	485.67	658.00	2,255.50	58.54
4 UTILITIES	2.67	7.25	22.89	25.15	68.29	185.67	207.50	0.00	493.00	21.05
5 WHOLESALE TRADE	2.35	5.33	15.19	49.63	50.00	0.00	0.00	393.00	0.00	4.74
6 RETAIL TRADE	1.82	4.10	15.65	37.14	78.19	116.67	481.00	0.00	306.75	6.17
7 FINANCIAL INSTITUTIONS	5.24	17.40	50.55	108.65	220.20	276.33	945.50	666.00	548.50	22.80
8 INSURANCE & REAL ESTATE	6.45	25.03	63.71	154.47	322.29	0.00	0.00	0.00	0.00	27.82
9 HEALTH & WELFARE	1.45	2.89	7.31	16.95	33.08	41.24	94.20	177.00	0.00	9.89
10 SERVICES TO BUSINESS MGMT	4.79	9.36	19.40	23.50	120.00	68.00	0.00	0.00	0.00	9.10
11 PUBLIC ADMINISTRATION	4.35	13.77	25.53	59.30	94.93	175.00	278.50	630.88	2,011.78	151.06
12 ALL OTHERS	2.33	4.62	8.27	17.59	28.74	80.00	35.60	144.00	113.50	7.49
TOTAL	2.89	6.45	14.96	30.32	62.20	100.53	211.57	435.53	1,039.52	14.75

* NOTE: THE BODY OF THE TABLE DIFFERS FROM REPORT TYPE 13 SINCE IN THIS TABLE THE DENOMINATOR (NUMBER OF ESTABLISHMENTS) INCLUDES ONLY THE NUMBER OF ESTABLISHMENTS REPORTING THE GIVEN OCCUPATION LISTED ABOVE, RATHER THAN INCLUDING (OR AVERAGING OVER) ALL ESTABLISHMENTS.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 14: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT FOR ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.*

2 SECRETARY

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1 MANUFACTURING	2.42	4.03	7.53	13.19	25.44	31.76	76.63	12.00	93.22	5.88
2 TRANSPORTATION	2.94	4.98	6.83	15.00	16.73	11.75	44.00	32.00	94.00	6.47
3 COMMUNICATIONS	2.83	6.19	17.59	44.80	52.33	61.00	115.33	0.00	0.00	10.55
4 UTILITIES	1.91	4.35	8.52	20.40	24.60	41.33	36.50	0.00	361.00	9.99
5 WHOLESALE TRADE	2.75	5.20	12.20	24.31	68.00	0.00	0.00	324.00	0.00	4.85
6 RETAIL TRADE	2.25	3.39	5.17	19.59	20.80	19.00	71.00	0.00	51.25	4.66
7 FINANCIAL INSTITUTIONS	3.72	8.40	19.28	20.09	25.54	53.25	187.50	134.00	103.00	9.72
8 INSURANCE & REAL ESTATE	6.48	13.96	24.21	47.00	62.71	0.00	0.00	0.00	0.00	12.62
9 HEALTH & WELFARE	2.45	3.58	9.07	18.82	48.13	114.12	132.80	65.00	0.00	13.43
10 SERVICES TO BUSINESS MGMT	9.83	17.63	41.42	48.56	80.50	124.00	0.00	0.00	0.00	16.00
11 PUBLIC ADMINISTRATION	3.82	6.09	12.08	22.88	26.14	81.56	71.33	291.86	670.04	52.46
12 ALL OTHERS	4.20	6.89	12.51	18.52	50.48	143.82	50.60	482.00	338.25	11.62
TOTAL	3.96	6.21	11.10	18.19	33.92	78.06	84.43	237.85	402.43	10.06

* NOTE: THE BODY OF THE TABLE DIFFERS FROM REPORT TYPE 13 SINCE IN THIS TABLE THE DENOMINATOR (NUMBER OF ESTABLISHMENTS) INCLUDES ONLY THE NUMBER OF ESTABLISHMENTS REPORTING THE GIVEN OCCUPATION LISTED ABOVE, RATHER THAN INCLUDING (OR AVERAGING OVER) ALL ESTABLISHMENTS.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 14: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT FOR ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.*

3 TYPIST

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000*	TOTAL
1 MANUFACTURING	1.70	2.24	4.22	6.68	9.80	12.13	43.20	3.00	53.29	3.45
2 TRANSPORTATION	2.26	3.24	4.35	6.90	8.20	14.00	6.60	12.00	21.33	4.03
3 COMMUNICATIONS	1.68	2.58	6.13	29.67	44.00	18.67	54.00	27.00	26.50	10.68
4 UTILITIES	1.88	2.54	6.59	11.92	11.86	41.33	91.50	0.00	87.50	11.22
5 WHOLESALE TRADE	1.93	3.13	5.34	8.00	34.00	0.00	0.00	0.00	0.00	2.73
6 RETAIL TRADE	1.93	2.10	3.11	16.36	13.54	13.00	14.00	0.00	27.00	3.23
7 FINANCIAL INSTITUTIONS	2.66	6.78	21.18	45.52	67.20	115.00	159.00	131.00	247.50	11.64
8 INSURANCE & REAL ESTATE	5.40	12.79	27.56	32.80	37.00	0.00	0.00	0.00	0.00	13.07
9 HEALTH & WELFARE	1.62	2.95	7.84	19.69	28.81	47.94	69.00	130.00	0.00	13.07
10 SERVICES TO BUSINESS MGMT	3.47	5.72	13.08	24.50	16.00	7.00	0.00	0.00	0.00	5.67
11 PUBLIC ADMINISTRATION	2.58	7.92	14.85	19.71	34.08	44.63	103.83	207.63	472.00	55.55
12 ALL OTHERS	2.73	3.37	5.41	5.42	21.57	41.80	36.00	25.50	243.67	6.48
TOTAL	2.49	4.15	8.50	13.63	22.99	39.96	61.21	134.33	273.66	8.25

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 14: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT FOR ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.*

4 STENOGRAPHER

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1 MANUFACTURING	.21	.65	2.31	4.67	12.50	13.56	95.00	4.00	43.11	1.48
2 TRANSPORTATION	.51	.87	3.36	10.04	20.10	13.00	36.20	21.50	79.83	2.95
3 COMMUNICATIONS	.68	1.11	13.71	17.80	21.67	54.50	109.00	0.00	16.50	5.17
4 UTILITIES	.27	2.32	12.09	31.56	30.43	42.50	294.00	0.00	390.50	16.21
5 WHOLESALE TRADE	.65	1.20	1.96	12.07	0.00	0.00	0.00	0.00	0.00	1.03
6 RETAIL TRADE	.11	.32	.92	4.26	10.90	4.00	12.00	0.00	52.33	.49
7 FINANCIAL INSTITUTIONS	3.87	8.90	21.66	74.93	158.50	276.75	226.50	0.00	228.80	13.83
8 INSURANCE & REAL ESTATE	4.12	4.01	4.14	9.93	24.86	0.00	0.00	0.00	0.00	4.50
9 HEALTH & WELFARE	1.33	1.48	5.74	6.54	21.59	26.33	28.67	0.00	0.00	5.61
10 SERVICES TO BUSINESS MGMT	1.92	2.33	5.70	25.22	3.00	15.00	0.00	0.00	0.00	2.80
11 PUBLIC ADMINISTRATION	4.84	12.87	23.28	66.16	62.88	117.67	0.00	721.67	2,132.67	77.89
12 ALL OTHERS	.69	1.13	3.70	7.80	28.36	37.10	19.00	0.00	342.67	3.92
TOTAL	1.01	1.67	5.11	11.73	27.33	51.93	104.45	376.22	466.83	4.64

* NOTE: THE BODY OF THE TABLE DIFFERS FROM REPORT TYPE 13 SINCE IN THIS TABLE THE DENOMINATOR (NUMBER OF ESTABLISHMENTS) INCLUDES ONLY THE NUMBER OF ESTABLISHMENTS REPORTING THE GIVEN OCCUPATION LISTED ABOVE, RATHER THAN INCLUDING (OR AVERAGING OVER) ALL ESTABLISHMENTS.

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 14: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT FOR ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.*

5 ACCOUNTING-CLERK

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1 MANUFACTURING	13.32	11.02	10.27	10.04	15.18	15.80	9.00	7.00	26.33	11.34
2 TRANSPORTATION	7.69	14.15	9.16	9.61	53.00	32.00	22.20	137.00	37.67	16.84
3 COMMUNICATIONS	4.16	9.13	6.94	6.80	42.83	11.00	75.00	0.00	56.00	13.64
4 UTILITIES	11.00	6.47	4.78	12.73	17.00	18.33	8.50	0.00	27.50	8.15
5 WHOLESALE TRADE	6.71	8.57	21.32	24.67	0.00	0.00	0.00	0.00	0.00	8.78
6 RETAIL TRADE	27.00	24.15	27.58	17.91	11.67	97.00	2.00	0.00	23.67	24.59
7 FINANCIAL INSTITUTIONS	2.08	6.68	28.48	26.33	27.86	54.83	135.00	0.00	80.67	7.48
8 INSURANCE & REAL ESTATE	3.09	13.25	26.90	25.22	28.00	0.00	0.00	0.00	0.00	10.34
9 HEALTH & WELFARE	3.16	4.78	5.38	10.74	9.59	21.17	10.50	0.00	0.00	7.45
10 SERVICES TO BUSINESS MGMT	6.11	11.57	21.08	18.00	30.00	18.00	0.00	0.00	0.00	10.05
11 PUBLIC ADMINISTRATION	1.95	2.75	3.35	5.28	12.48	8.67	0.00	44.13	8.58	5.20
12 ALL OTHERS	8.62	9.90	12.77	18.46	11.00	18.63	19.50	0.00	75.75	12.13
TOTAL	5.85	9.56	11.72	12.37	18.37	22.38	26.07	63.38	29.90	10.09

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 14: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT FOR ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.*

6 KEYPUNCH OPERATOR

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1 MANUFACTURING	2.51	3.06	3.85	5.29	9.25	11.00	14.25	13.00	40.90	4.70
2 TRANSPORTATION	2.67	3.59	5.72	5.44	18.00	5.50	11.20	82.00	36.71	9.04
3 COMMUNICATIONS	2.11	2.00	6.80	11.00	32.17	42.00	28.50	3.00	104.50	16.28
4 UTILITIES	2.11	3.38	5.33	10.60	11.83	19.50	52.00	0.00	84.00	8.66
5 WHOLESALE TRADE	2.54	3.98	6.03	17.00	10.50	0.00	0.00	43.00	0.00	4.45
6 RETAIL TRADE	2.04	2.48	3.62	8.00	14.23	15.00	29.00	0.00	57.00	4.97
7 FINANCIAL INSTITUTIONS	2.71	3.79	7.97	8.06	34.13	60.75	81.50	49.00	99.00	11.06
8 INSURANCE & REAL ESTATE	2.75	6.91	14.30	20.93	44.00	0.00	0.00	0.00	0.00	10.87
9 HEALTH & WELFARE	2.50	4.00	2.00	3.31	2.93	6.50	6.67	13.00	0.00	3.73
10 SERVICES TO BUSINESS MGMT	6.30	11.09	7.49	5.00	8.50	0.00	0.00	0.00	0.00	8.85
11 PUBLIC ADMINISTRATION	2.50	8.53	5.67	10.90	11.59	17.80	12.00	38.83	110.65	25.18
12 ALL OTHERS	2.00	4.25	3.32	5.86	7.55	10.60	8.40	20.00	26.67	5.19
TOTAL	2.87	4.31	5.22	7.00	12.45	16.31	20.30	33.07	77.65	7.04

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 14: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT FOR ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.*

7 COMPUTER OPERATOR

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1 MANUFACTURING	.32	.74	1.73	4.33	10.23	12.80	31.50	0.00	41.50	1.26
2 TRANSPORTATION	.76	4.37	8.13	8.40	6.33	0.00	5.00	0.00	132.50	7.87
3 COMMUNICATIONS	1.00	38.00	12.00	11.00	25.00	0.00	0.00	0.00	0.00	29.09
4 UTILITIES	0.00	10.00	7.67	2.50	19.00	14.00	29.00	0.00	130.00	17.06
5 WHOLESALE TRADE	.60	1.29	5.06	9.55	0.00	0.00	0.00	0.00	0.00	1.21
6 RETAIL TRADE	.31	1.22	1.86	9.83	34.00	16.00	0.00	0.00	125.00	1.47
7 FINANCIAL INSTITUTIONS	3.23	6.38	54.20	89.00	72.00	0.00	0.00	0.00	0.00	21.70
8 INSURANCE & REAL ESTATE	5.13	13.00	30.00	25.80	137.00	0.00	0.00	0.00	0.00	20.56
9 HEALTH & WELFARE	0.00	.47	.59	.70	1.50	5.50	3.33	0.00	0.00	.98
10 SERVICES TO BUSINESS MGMT	23.56	23.71	35.38	23.00	0.00	0.00	0.00	0.00	0.00	27.26
11 PUBLIC ADMINISTRATION	4.67	6.50	5.41	8.13	30.50	44.00	0.00	67.00	542.50	30.55
12 ALL OTHERS	.50	2.48	3.14	6.71	13.00	38.50	31.00	0.00	0.00	3.63
TOTAL	.64	1.40	3.21	5.66	14.49	26.71	34.25	271.00	218.90	2.33

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 14: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT FOR ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.*

8 ORDER CLERK

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1 MANUFACTURING	2.29	2.14	2.55	2.86	2.25	4.71	2.00	0.00	5.83	2.35
2 TRANSPORTATION	1.57	.47	.24	2.75	1.29	0.00	.33	0.00	7.00	.84
3 COMMUNICATIONS	.44	.23	.80	5.50	114.60	0.00	0.00	0.00	0.00	14.43
4 UTILITIES	0.00	.11	.71	.60	.40	2.00	15.00	0.00	9.50	.70
5 WHOLESALE TRADE	3.26	4.85	6.97	10.17	0.00	0.00	0.00	0.00	0.00	4.20
6 RETAIL TRADE	.80	1.26	2.89	3.30	2.67	1.00	0.00	0.00	3.00	1.12
7 FINANCIAL INSTITUTIONS	4.27	2.06	.93	.67	2.00	0.00	0.00	0.00	0.00	2.06
8 INSURANCE & REAL ESTATE	1.67	.22	.41	1.17	3.00	0.00	0.00	0.00	0.00	.45
9 HEALTH & WELFARE	0.00	.17	.19	.62	.63	1.09	14.00	0.00	0.00	.36
10 SERVICES TO BUSINESS MGMT	1.62	.80	.38	4.00	0.00	0.00	0.00	0.00	0.00	.82
11 PUBLIC ADMINISTRATION	.23	.17	.42	1.07	.29	.25	0.00	.33	.55	.42
12 ALL OTHERS	1.80	1.04	.49	.73	1.33	1.00	.40	0.00	0.00	.95
TOTAL	2.19	2.19	1.90	2.06	5.02	1.58	2.21	.25	2.86	2.20

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1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 14: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT FOR ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.*

9 BOOKKEEPER

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1 MANUFACTURING	1.05	1.14	1.53	2.14	4.11	3.00	6.00	0.00	5.00	1.25
2 TRANSPORTATION	1.06	1.35	1.37	2.15	3.20	4.00	1.67	0.00	6.00	1.31
3 COMMUNICATIONS	1.08	1.09	5.46	15.00	4.50	54.00	77.00	0.00	0.00	2.59
4 UTILITIES	1.00	1.38	1.20	9.00	3.00	1.00	0.00	0.00	0.00	1.54
5 WHOLESALE TRADE	1.13	1.36	2.75	4.33	0.00	0.00	0.00	0.00	0.00	1.27
6 RETAIL TRADE	1.11	1.24	1.78	1.77	4.00	0.00	3.00	0.00	0.00	1.20
7 FINANCIAL INSTITUTIONS	1.29	2.03	3.89	0.00	2.50	67.00	0.00	0.00	0.00	1.96
8 INSURANCE & REAL ESTATE	1.16	1.50	3.65	2.00	14.00	0.00	0.00	0.00	0.00	1.68
9 HEALTH & WELFARE	1.05	1.14	1.40	1.35	1.83	1.83	3.50	0.00	0.00	1.30
10 SERVICES TO BUSINESS MGMT	1.60	2.47	2.34	4.00	0.00	0.00	0.00	0.00	0.00	2.01
11 PUBLIC ADMINISTRATION	1.17	1.40	1.73	2.31	2.78	8.00	0.00	5.33	60.00	2.70
12 ALL OTHERS	1.09	1.25	1.70	3.54	2.20	3.57	6.00	0.00	22.00	1.38
TOTAL	1.13	1.36	1.84	2.34	3.32	8.48	10.55	5.33	23.57	1.39

* NOTE: THE BODY OF THE TABLE DIFFERS FROM REPORT TYPE 13 SINCE IN THIS TABLE THE DENOMINATOR (NUMBER OF ESTABLISHMENTS) INCLUDES ONLY THE NUMBER OF ESTABLISHMENTS REPORTING THE GIVEN OCCUPATION LISTED ABOVE, RATHER THAN INCLUDING (OR AVERAGING OVER) ALL ESTABLISHMENTS.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 14: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT FOR ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.*

10 STOCK-RECORDS CLERK

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1 MANUFACTURING	4.05	3.56	3.28	2.80	5.22	1.50	4.14	0.00	13.50	3.56
2 TRANSPORTATION	3.64	3.27	4.94	1.60	11.00	17.00	5.00	0.00	3.50	3.95
3 COMMUNICATIONS	3.67	1.50	2.17	8.00	8.80	2.00	10.00	0.00	8.50	4.26
4 UTILITIES	1.78	2.91	5.50	30.00	5.33	1.00	.50	0.00	21.00	4.51
5 WHOLESALE TRADE	3.46	3.27	4.07	3.45	0.00	0.00	0.00	0.00	0.00	3.41
6 RETAIL TRADE	15.36	6.68	16.36	6.45	16.30	2.67	30.00	0.00	25.25	10.19
7 FINANCIAL INSTITUTIONS	.62	1.21	.81	.27	.58	0.00	0.00	0.00	1.00	.81
8 INSURANCE & REAL ESTATE	.62	1.53	1.65	.87	.20	0.00	0.00	0.00	0.00	1.34
9 HEALTH & WELFARE	0.00	30.00	25.30	15.20	11.38	19.00	4.00	0.00	0.00	18.08
10 SERVICES TO BUSINESS MGMT	.30	.41	1.38	.50	0.00	0.00	0.00	0.00	0.00	.54
11 PUBLIC ADMINISTRATION	2.17	2.00	3.15	6.62	4.06	6.14	3.40	13.83	16.27	5.88
12 ALL OTHERS	3.82	2.59	4.03	4.90	3.47	6.38	10.20	11.00	.33	3.71
TOTAL	3.77	3.21	3.60	3.65	5.48	4.90	5.96	7.83	13.27	3.79

* NOTE: THE BODY OF THE TABLE DIFFERS FROM REPORT TYPE 13 SINCE IN THIS TABLE THE DENOMINATOR (NUMBER OF ESTABLISHMENTS) INCLUDES ONLY THE NUMBER OF ESTABLISHMENTS REPORTING THE GIVEN OCCUPATION LISTED ABOVE, RATHER THAN INCLUDING (OR AVERAGING OVER) ALL ESTABLISHMENTS.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 14: AVERAGE NUMBER OF EMPLOYEES PER ESTABLISHMENT FOR ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.*

TOTAL (TOP 10)		ESTABLISHMENT SIZE (EMPLOYEES)								
INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL
1 MANUFACTURING	3.31	8.55	23.92	46.90	93.66	103.83	283.13	57.00	350.40	11.97
2 TRANSPORTATION	4.22	12.70	25.38	53.51	119.17	79.25	220.00	309.50	312.89	16.41
3 COMMUNICATIONS	4.79	12.46	38.06	85.00	273.17	294.83	846.33	705.00	2,534.00	53.72
4 UTILITIES	4.59	15.03	47.52	93.46	159.57	334.33	565.50	0.00	1,358.50	44.97
5 WHOLESALE TRADE	6.11	16.76	47.29	112.05	159.00	0.00	0.00	890.00	0.00	12.17
6 RETAIL TRADE	2.99	7.61	23.71	70.38	141.35	196.33	645.00	0.00	556.75	8.09
7 FINANCIAL INSTITUTIONS	9.53	36.53	121.84	246.17	470.07	736.50	1,774.00	1,595.00	1,221.67	43.10
8 INSURANCE & REAL ESTATE	14.38	53.83	139.02	289.33	526.71	0.00	0.00	0.00	0.00	48.51
9 HEALTH & WELFARE	2.71	6.85	24.99	57.48	125.48	236.24	329.40	552.00	0.00	27.71
10 SERVICES TO BUSINESS MGMT	13.55	31.77	81.66	135.22	260.00	246.00	0.00	0.00	0.00	26.19
11 PUBLIC ADMINISTRATION	10.00	28.50	68.11	139.09	207.89	405.56	551.67	1,458.50	3,773.26	261.40
12 ALL OTHERS	4.29	9.88	25.93	55.75	126.90	333.27	170.00	504.00	1,010.75	16.71
TOTAL	5.56	14.24	37.93	74.69	156.29	276.21	460.41	977.67	2,024.73	23.81

* NOTE: THE BODY OF THE TABLE DIFFERS FROM REPORT TYPE 13 SINCE IN THIS TABLE THE DENOMINATOR (NUMBER OF ESTABLISHMENTS) INCLUDES ONLY THE NUMBER OF ESTABLISHMENTS REPORTING THE GIVEN OCCUPATION LISTED ABOVE, RATHER THAN INCLUDING (OR AVERAGING OVER) ALL ESTABLISHMENTS.

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 15: NUMBER OF ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.

1	ESTABLISHMENT SIZE (EMPLOYEES)										
CLERK-GENERAL OFFICE	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
INDUSTRY CLASS											
1 MANUFACTURING	1,144	1,497	839	239	99	15	8	1	10	4,352	31.05
2 TRANSPORTATION	280	283	85	32	15	4	5	2	9	715	5.10
3 COMMUNICATIONS	58	60	47	20	12	6	3	1	2	209	1.49
4 UTILITIES	51	97	45	13	7	3	2	0	2	220	1.57
5 WHOLESALE TRADE	1,159	867	101	16	2	0	0	1	0	2,146	15.31
6 RETAIL TRADE	896	657	100	37	16	3	1	0	4	1,714	12.23
7 FINANCIAL INSTITUTIONS	716	363	88	23	15	6	2	1	6	1,220	8.71
8 INSURANCE & REAL ESTATE	286	259	80	15	7	0	0	0	0	647	4.62
9 HEALTH & WELFARE	74	245	231	99	48	17	5	1	0	720	5.14
10 SERVICES TO BUSINESS MGMT	237	214	55	8	2	1	0	0	0	517	3.69
11 PUBLIC ADMINISTRATION	52	171	140	53	27	9	6	8	27	493	3.52
12 ALL OTHERS	348	430	165	69	27	11	5	2	4	1,061	7.57
TOTAL	5,301	5,643	1,976	624	277	75	37	17	64	14,014	100.00
%	37.83	40.27	14.10	4.45	1.98	.54	.26	.12	.46	100.00	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 15: NUMBER OF ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.

2 SECRETARY

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1 MANUFACTURING	1,053	1,429	925	258	103	17	8	1	9	4,303	34.18
2 TRANSPORTATION	202	225	64	32	15	4	3	1	5	551	4.38
3 COMMUNICATIONS	93	63	22	5	6	2	3	0	0	194	1.54
4 UTILITIES	33	65	29	10	5	3	2	0	1	148	1.18
5 WHOLESALE TRADE	861	805	104	16	2	0	0	1	0	1,789	14.21
6 RETAIL TRADE	277	286	63	32	15	2	1	0	4	680	5.40
7 FINANCIAL INSTITUTIONS	330	252	88	23	13	4	2	1	4	717	5.70
8 INSURANCE & REAL ESTATE	360	265	85	15	7	0	0	0	0	732	5.82
9 HEALTH & WELFARE	77	280	294	115	55	17	5	1	0	844	6.70
10 SERVICES TO BUSINESS MGMT	463	351	69	9	2	1	0	0	0	895	7.11
11 PUBLIC ADMINISTRATION	51	175	145	52	28	9	6	7	27	500	3.97
12 ALL OTHERS	383	507	215	82	27	11	5	1	4	1,235	9.81
TOTAL	4,183	5,203	2,103	649	278	70	35	13	54	12,588	100.00
%	33.23	41.33	16.71	5.16	2.21	.56	.28	.10	.43	100.00	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 15: NUMBER OF ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.

3 TYPIST

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1 MANUFACTURING	582	1,052	601	196	82	15	5	1	7	2,541	31.86
2 TRANSPORTATION	101	111	31	21	10	3	5	1	6	289	3.62
3 COMMUNICATIONS	25	19	8	3	6	3	2	1	2	69	.87
4 UTILITIES	8	24	29	13	7	3	2	0	2	88	1.10
5 WHOLESALE TRADE	567	513	61	11	1	0	0	0	0	1,153	14.46
6 RETAIL TRADE	152	214	35	14	13	2	1	0	4	435	5.45
7 FINANCIAL INSTITUTIONS	397	290	96	23	15	6	2	1	6	836	10.48
8 INSURANCE & REAL ESTATE	201	236	79	15	7	0	0	0	0	538	6.75
9 HEALTH & WELFARE	21	131	170	96	53	17	5	1	0	494	6.19
10 SERVICES TO BUSINESS MGMT	261	228	53	8	2	1	0	0	0	553	6.93
11 PUBLIC ADMINISTRATION	19	96	108	49	24	8	6	8	26	344	4.31
12 ALL OTHERS	144	267	125	59	21	10	5	2	3	636	7.97
TOTAL	2,478	3,181	1,396	508	241	68	33	15	56	7,976	100.00
%	31.07	39.88	17.50	6.37	3.02	.85	.41	.19	.70	100.00	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 15: NUMBER OF ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.

4 STENOGRAPHER

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1 MANUFACTURING	1,307	2,211	882	230	90	16	5	1	9	4,751	35.30
2 TRANSPORTATION	245	231	58	28	10	2	5	2	6	587	4.36
3 COMMUNICATIONS	79	62	14	5	6	2	2	1	2	173	1.29
4 UTILITIES	22	60	32	9	7	2	1	0	2	135	1.00
5 WHOLESALE TRADE	1,046	816	98	15	1	0	0	1	0	1,977	14.69
6 RETAIL TRADE	839	538	79	23	10	2	1	0	3	1,495	11.11
7 FINANCIAL INSTITUTIONS	481	273	82	15	10	4	2	0	5	872	6.48
8 INSURANCE & REAL ESTATE	209	239	74	15	7	0	0	0	0	544	4.04
9 HEALTH & WELFARE	58	221	196	97	46	12	3	1	0	634	4.71
10 SERVICES TO BUSINESS MGMT.	318	298	71	9	2	1	0	0	0	699	5.19
11 PUBLIC ADMINISTRATION	32	106	96	25	17	6	0	3	6	291	2.16
12 ALL OTHERS	373	578	239	69	25	10	3	0	3	1,300	9.66
TOTAL	5,009	5,633	1,921	540	231	57	22	9	36	13,458	100.00
%	37.22	41.86	14.27	4.01	1.72	.42	.16	.07	.27	100.00	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION
AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 15: NUMBER OF ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.

5 ACCOUNTING-CLERK

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1 MANUFACTURING	131	433	353	125	68	10	5	1	9	1,135	24.23
2 TRANSPORTATION	52	55	31	23	15	2	5	2	9	194	4.14
3 COMMUNICATIONS	25	16	16	5	6	4	3	0	2	77	1.64
4 UTILITIES	3	34	37	11	6	3	2	0	2	98	2.09
5 WHOLESALE TRADE	270	302	37	9	0	0	0	0	0	618	13.19
6 RETAIL TRADE	46	55	19	11	9	1	1	0	3	145	3.09
7 FINANCIAL INSTITUTIONS	515	274	64	21	14	6	2	1	6	903	19.27
8 INSURANCE & REAL ESTATE	141	99	31	9	5	0	0	0	0	285	6.08
9 HEALTH & WELFARE	19	69	92	42	32	6	2	0	0	262	5.59
10 SERVICES TO BUSINESS MGMT	123	100	24	5	1	1	0	0	0	254	5.42
11 PUBLIC ADMINISTRATION	22	113	120	47	23	9	6	8	26	374	7.98
12 ALL OTHERS	65	128	82	28	22	8	2	1	4	340	7.26
TOTAL	1,412	1,678	906	336	201	50	28	13	61	4,685	100.00
%	30.14	35.82	19.34	7.17	4.29	1.07	.60	.28	1.30	100.00	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 15: NUMBER OF ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.

6 KEYPUNCH OPERATOR

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1 MANUFACTURING	35	355	482	207	85	18	8	1	10	1,201	38.82
2 TRANSPORTATION	9	29	18	16	7	2	5	1	7	94	3.04
3 COMMUNICATIONS	9	9	5	1	6	1	2	1	2	36	1.16
4 UTILITIES	9	32	18	5	6	2	2	0	2	76	2.46
5 WHOLESALE TRADE	95	320	67	14	2	0	0	1	0	499	16.13
6 RETAIL TRADE	28	122	26	13	13	3	1	0	4	210	6.79
7 FINANCIAL INSTITUTIONS	21	56	63	16	8	4	2	1	3	174	5.62
8 INSURANCE & REAL ESTATE	24	85	56	14	6	0	0	0	0	185	5.98
9 HEALTH & WELFARE	2	1	6	13	14	4	3	1	0	44	1.42
10 SERVICES TO BUSINESS MGMT	30	77	45	9	2	0	0	0	0	163	5.27
11 PUBLIC ADMINISTRATION	2	32	39	29	17	5	2	6	23	155	5.01
12 ALL OTHERS	13	68	84	49	22	10	5	3	3	257	8.31
TOTAL	277	1,186	909	386	188	49	30	15	54	3,094	100.00
%	8.95	38.33	29.38	12.48	6.08	1.58	.97	.48	1.75	100.00	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 15: NUMBER OF ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.

7 COMPUTER OPERATOR

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1 MANUFACTURING	689	1,477	627	139	40	10	2	0	4	2,988	53.59
2 TRANSPORTATION	25	27	8	5	3	0	1	0	2	71	1.27
3 COMMUNICATIONS	5	1	2	1	2	0	0	0	0	11	.20
4 UTILITIES	0	4	6	4	1	1	1	0	1	18	.32
5 WHOLESALE TRADE	885	625	67	11	0	0	0	0	0	1,588	28.48
6 RETAIL TRADE	193	156	21	6	2	1	0	0	1	380	6.81
7 FINANCIAL INSTITUTIONS	22	24	5	1	2	0	0	0	0	54	.97
8 INSURANCE & REAL ESTATE	8	15	10	5	1	0	0	0	0	39	.70
9 HEALTH & WELFARE	0	19	29	27	14	2	3	0	0	94	1.69
10 SERVICES TO BUSINESS MGMT	9	21	8	1	0	0	0	0	0	39	.70
11 PUBLIC ADMINISTRATION	3	12	22	8	2	1	0	1	2	51	.91
12 ALL OTHERS	66	93	51	21	9	2	1	0	0	243	4.36
TOTAL	1,905	2,474	856	229	76	17	8	1	10	5,576	100.00
%	34.16	44.37	15.35	4.11	1.36	.30	.14	.02	.18	100.00	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 15: NUMBER OF ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.

8 ORDER CLERK

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1 MANUFACTURING	381	1,180	602	154	72	7	5	0	6	2,407	41.73
2 TRANSPORTATION	30	76	34	8	7	2	3	0	2	164	2.84
3 COMMUNICATIONS	9	13	5	4	5	2	2	0	2	42	.73
4 UTILITIES	14	37	34	5	5	1	1	0	2	99	1.72
5 WHOLESALE TRADE	548	467	63	6	0	0	0	0	0	1,084	18.79
6 RETAIL TRADE	364	299	27	10	3	1	1	0	2	707	12.26
7 FINANCIAL INSTITUTIONS	11	34	14	3	2	0	0	0	2	66	1.14
8 INSURANCE & REAL ESTATE	9	69	37	6	1	0	0	0	0	122	2.12
9 HEALTH & WELFARE	5	106	153	66	32	11	1	0	0	374	6.48
10 SERVICES TO BUSINESS MGMT	13	40	29	1	0	0	0	0	0	83	1.44
11 PUBLIC ADMINISTRATION	13	59	69	30	14	4	1	3	11	204	3.54
12 ALL OTHERS	54	161	116	49	21	8	5	1	1	416	7.21
TOTAL	1,451	2,543	1,183	342	162	36	19	4	28	5,768	100.00
%	25.16	44.09	20.51	5.93	2.81	.62	.33	.07	.49	100.00	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 15: NUMBER OF ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.

9 BOOKKEEPER

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1 MANUFACTURING	1,374	1,270	405	96	46	3	1	0	1	3,196	36.62
2 TRANSPORTATION	177	124	27	13	5	1	3	0	3	353	4.04
3 COMMUNICATIONS	76	43	13	1	2	1	1	0	0	137	1.57
4 UTILITIES	14	13	5	1	3	1	0	0	0	37	.42
5 WHOLESALE TRADE	691	457	32	3	0	0	0	0	0	1,183	13.56
6 RETAIL TRADE	797	382	40	13	7	0	1	0	0	1,240	14.21
7 FINANCIAL INSTITUTIONS	160	80	19	0	2	1	0	0	0	262	3.00
8 INSURANCE & REAL ESTATE	139	108	40	4	1	0	0	0	0	292	3.35
9 HEALTH & WELFARE	38	140	93	40	23	6	2	0	0	342	3.92
10 SERVICES TO BUSINESS MGMT	310	243	35	1	0	0	0	0	0	589	6.75
11 PUBLIC ADMINISTRATION	24	47	37	16	9	3	0	3	2	141	1.62
12 ALL OTHERS	416	377	104	37	10	7	3	0	1	955	10.94
TOTAL	4,216	3,284	850	225	108	23	11	3	7	8,727	100.00
%	48.31	37.63	9.74	2.58	1.24	.26	.13	.03	.08	100.00	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 15: NUMBER OF ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.

10 STOCK-RECORDS CLERK

ESTABLISHMENT SIZE (EMPLOYEES)

INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1 MANUFACTURING	111	503	423	163	73	16	7	1	10	1,307	41.01
2 TRANSPORTATION	11	37	16	15	2	3	1	1	6	92	2.89
3 COMMUNICATIONS	3	10	6	1	5	2	2	0	2	31	.97
4 UTILITIES	9	22	14	1	3	2	2	0	2	55	1.73
5 WHOLESALE TRADE	228	298	61	11	2	0	0	1	0	601	18.86
6 RETAIL TRADE	33	90	11	11	10	3	1	0	4	163	5.11
7 FINANCIAL INSTITUTIONS	21	43	42	11	12	4	2	1	3	139	4.36
8 INSURANCE & REAL ESTATE	21	60	51	15	5	0	0	0	0	152	4.77
9 HEALTH & WELFARE	0	4	10	10	8	3	2	1	0	38	1.19
10 SERVICES TO BUSINESS MGMT	54	106	34	8	2	1	0	0	0	205	6.43
11 PUBLIC ADMINISTRATION	6	37	47	21	16	7	5	6	26	171	5.37
12 ALL OTHERS	17	93	59	30	17	8	5	1	3	233	7.31
TOTAL	514	1,303	774	297	155	49	27	12	56	3,187	100.00
%	16.13	40.88	24.29	9.32	4.86	1.54	.85	.38	1.76	100.00	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

1977 SURVEY OF LARGE ESTABLISHMENTS

REPORT TYPE 15: NUMBER OF ESTABLISHMENTS WITH THE GIVEN OCCUPATION, SUMMARIZED BY ESTABLISHMENT SIZE AND INDUSTRY CLASS, FOR 10 OF THE TOP OCCUPATIONS.

TOTAL (TOP 10)**	ESTABLISHMENT SIZE (EMPLOYEES)										
INDUSTRY CLASS	1 TO 49	50 TO 199	200 TO 499	500 TO 999	1000 TO 1999	2000 TO 2999	3000 TO 3999	4000 TO 4999	5000+	TOTAL	%
1 MANUFACTURING	3,190	3,541	1,149	283	108	18	8	1	10	8,308	34.08
2 TRANSPORTATION	596	407	106	39	18	4	5	2	9	1,186	4.86
3 COMMUNICATIONS	160	99	50	20	12	6	3	1	2	353	1.45
4 UTILITIES	70	109	48	13	7	3	2	0	2	254	1.04
5 WHOLESALE TRADE	2,096	1,189	119	19	2	0	0	1	0	3,426	14.05
6 RETAIL TRADE	1,900	993	129	40	17	3	1	0	4	3,087	12.66
7 FINANCIAL INSTITUTIONS	982	419	104	24	15	6	2	1	6	1,559	6.39
8 INSURANCE & REAL ESTATE	477	307	85	15	7	0	0	0	0	891	3.65
9 HEALTH & WELFARE	191	447	310	124	58	17	5	1	0	1,153	4.73
10 SERVICES TO BUSINESS MGMT	656	421	77	9	2	1	0	0	0	1,166	4.78
11 PUBLIC ADMINISTRATION	73	223	149	56	28	9	6	8	27	579	2.37
12 ALL OTHERS	1,004	982	292	87	31	11	5	3	4	2,419	9.92
TOTAL	11,395	9,137	2,618	729	305	78	37	18	64	24,381	100.00
%	46.74	37.48	10.74	2.99	1.25	.32	.15	.07	.26	100.00	

* NOTE: EXCLUDES AGRICULTURE, FORESTRY, FISHING, TRAPPING, CONSTRUCTION AND EDUCATION AND RELATED SERVICES (EXCEPT UNIVERSITY TEACHING AND RELATED)

** NOTE: THIS REPORT CONTAINS THE NUMBER OF ESTABLISHMENTS WITH ONE OR MORE OF THE TEN OF THE TOP OCCUPATIONS LISTED IN TABLES 1 TO 10 OF THIS REPORT, BY INDUSTRY CLASS AND SIZE OF ESTABLISHMENT.

Appendix A: Supplementary Tables

Appendix A: Supplementary Tables

Table of Contents

1. Census and Estimated Population of Canada for the Years 1951 to 1978, Men, Women and Total.
2. Historical and Projected Population of Canada by Age Group and Sex, 1961 to 2031.
3. Number of Persons by Sex, 1961 to 1979.
4. Employed Workers in the Labour Force by Sex, 1961 to 1979.
5. Employed Paid Workers in the Labour Force by Sex, 1961 to 1979.
6. Estimated Employed Persons in the Labour Force by Occupation, 1973 to 1979.
7. Estimated Employed Paid Persons in the Labour Force by Occupation, 1973 to 1979.
8. Estimated Employment by Industry Group, 1970 to 1979.
9. Estimated Employed Paid Persons in the Labour Force by Industry Group, 1970 to 1979.
10. Persons in the Labour Force by Industry and Occupation, 1977 Annual Average.
11. Persons in the Labour Force and Employed by Industry and Occupation, 1977 Annual Average.
12. Employed Paid Workers in the Labour Force by Industry and Occupation, 1977 Annual Average.
13. Expenditure on the Gross Domestic Product in Purchasers' Values, for the years 1960 to 1977.
14. Gross Domestic Product by Kind of Economic Activity in Producers' Values, at Current Prices, for the years 1960 to 1977.

Supplementary Tables

Introduction

This appendix contains published and unpublished data on the population; on the labour force; and on expenditures, cost structure, and industrial breakdown of the Gross Domestic Product in Canada. The majority of the tables, however, contain selected historical trends on the total labour force, employed labour force, and on the paid labour force in Canada, by sex, occupation and industry group. These tables are based on the Labour Force Survey, which is conducted monthly by Statistics Canada. The purpose of these tables is to supplement some of the detailed tables in section 2.

There are important differences in the two sets of labour data that are worth noting. Whereas the occupational data in section 2 excludes certain industrial sectors, (as pointed out in the introduction to that section and in tables themselves), the labour force data in these supplementary tables covers all industry sectors. Also Labour Canada's survey, upon which the tables in section 2 are based, covers only paid workers in large establishments (those with 20 or more people). In contrast, the Labour Force Survey and the tables in this appendix cover all paid, unpaid and unemployed members of the labour force. In other words, these supplementary tables cover not only those who work in large establishments, but also those who are employed in small establishments, are self-employed, or are unemployed and looking for work, (although some breakouts of the employed and employed-paid portions of the labour force are included). Another important distinction is that the tables in section 2 pertain only to selected occupations while the supplementary tables in this appendix cover all occupational groups. For these, and other reasons, the data are not directly comparable - but they are complementary.

The labour force is composed of that portion of the civilian non-institutional population 15 years of age and over who, during the reference week, were employed or unemployed. Employed includes not only those who did any work at all during the reference week, but also those who had a job but were not at work due to such reasons as illness, vacation, bad weather, labour disputes, etc. Persons are considered unemployed when they are without work but are available and actively looking for work in the past 4 weeks; or are actively looking for work but have been on layoff for 26 weeks or less; or have a new job to start in four weeks or less from the reference week. Excluded from labour force is that portion of the civilian non-institutional population 15 years of age and over who, during the reference week, were neither employed or unemployed.

The Labour Force Survey provides information about the occupation and industry attachment of the employed and unemployed. In this section tables are included showing the employed by industry and occupation. These statistics are based on the 1971 Census Classification of Occupations and the 1970 Standard Industrial Classification system.

The labour force statistics contained in these tables are based on information obtained through a sample survey of about 56,000 representative households across the country. Although the Labour Force Survey commenced in November 1956, beginning in January 1976 substantial revisions to the Labour Force Survey were introduced. Details of these changes are available on request from the Labour Force Survey Division, Statistics Canada.

Starting with January 1973, for a limited period of time, the Labour Force Survey section used two occupational coding systems: the former system under which data were published since 1965, and a revised system based on the Canadian Classifications and Dictionary of Occupations. The August 1973 issue of Catalogue 71-001 shows the movement between the statistical series of the two systems. In the clerical area the impact of the new classification system was significant. While some 94.5 percent of the new group were classified identically, some 5.5 percent or approximately 81 thousand were previously classified into one of the other occupational groups. The larger portion of these were previously classified under Communications (62K), whereas some 12 thousand were previously classified as Managerial. In addition to these changes some of those who had previously been classified as Clerical were now classified into some other occupational group. The most significant of the groups affected were Medicine and Health (8K), Services (3K), and Managerial and Administrative (2K).

On a broader scale, the occupational groups that had less than 80 percent homogeneity (agreement) were as follows:

- i) Managerial - only 38% of the former "Managerial" group corresponded to this new group. The largest portion (36%) was transferred to the new "Sales" group.
- ii) Professional and Technical - because of more precise definitions, many of the occupations were transferred into Group 21 (Natural Sciences, Engineering, and Mathematics); Group 23 (Social Sciences); Group 25 (Religion); Group 27 (Teaching); Group 31 (Medicine and Health); and Group 33 (Artists, Literary and Recreational).
- iii) Sales - the new group increased in size. Thirty-one percent of the new group came from the former "managerial" category, and 3 percent from the former "transport group".
- iv) Communications - 89% of the professions which belonged to this former Classification were classified under the new system into "Clerical".
- v) Craftsmen - six new categories were created: (Processing; Machining; Product Fabricating, Assembling, and Repairing; Construction Trades; Transport Equipment Operations; and Material Handling), and the "Craftmen" category was eliminated. Over 90 percent of the occupations in this old group fell into one of these six new categories.

- vi) Labourers - unlike the preceding group, this one was not eliminated but subdivided into more precise categories of employment. The highest portion (32%) of the former labourer group was transferred to the Construction category.

For a more precise understanding of these changes please refer to the August 1973 issue of Catalogue 71-001.

Finally, it should be pointed out that the revised survey questionnaire and methodology that was introduced by the Labour Force Survey Division of Statistics Canada in 1976, significantly affected the response rates in certain categories of occupations, as well as in the size of the total Labour Force. Therefore when using these series, adjustments will be necessary to account not only for the new occupational coding system, discussed previously, but also for changes in the questionnaire design itself.

Table 1

Census and Estimated Population of Canada
for the Years 1951-1978 (in thousands)

		Total Population		
Years		Male	Female	Total
1951	(1)	7,088.8	6,920.6	14,009.4
1952	(1)	7,325.3	7,133.7	14,459.0
1953	(1)	7,524.6	7,320.4	14,845.0
1954	(1)	7,752.1	7,534.9	15,287.0
1955	(1)	7,958.6	7,739.4	15,698.0
1956	(1)	8,151.9	7,928.9	16,080.8
1957	(1)	8,419.7	8,190.3	16,610.0
1958	(1)	8,652.0	8,428.0	17,080.0
1959	(1)	8,854.9	8,628.1	17,483.0
1960	(1)	9,042.6	8,827.4	17,870.0
1961	(1)	9,218.9	9,019.4	18,238.3
1962	(1)	9,379.0	9,204.0	18,583.0
1963	(1)	9,542.4	9,388.6	18,931.0
1964	(1)	9,711.3	9,579.7	19,291.0
1965	(1)	9,879.2	9,764.8	19,644.0
1966	(1)	10,054.4	9,960.5	20,014.9
1967	(1)	10,232.2	10,145.8	20,378.0
1968	(1)	10,387.8	10,313.2	20,701.0
1969	(1)	10,530.7	10,470.3	21,001.0
1970	(1)	10,669.1	10,627.9	21,297.0
1971	(1)	10,795.4	10,772.9	21,568.3
1972	(2)	10,900.8	10,900.5	21,801.3
1973	(2)	11,010.4	11,032.6	22,043.0
1974	(2)	11,159.0	11,204.9	22,363.9
1975	(2)	11,313.8	11,383.3	22,697.1
1976	(2)	11,449.5	11,543.1	22,992.6
1977	(3)	11,527.1	11,685.6	23,257.6
1978	(3)	11,764.1	11,808.5	23,482.6

Source: (1) Catalogue 91-512 Occasional, Population 1921-1971, Revised Annual Estimates of Population, by Sex and age Group, Canada and the Provinces.

(2) Catalogue 91-518 Occasional, Population 1971-1976, Revised Annual Estimates of Population, by Sex and Age for Canada and the Provinces.

(3) Catalogue 91-202 Annual, Estimates of Population by Sex and Age for Canada and the Provinces, June 1, 1978.

Note: More detailed information on individual age groupings and geographical location of the population can be obtained directly from these publications.

Table 2

Historical and Projected Population by Age Group and Sex, 1967 to 2031

Age Groups																			
Years	< 1 year		1-4 years		5-14 years		15-24 years		25-44 years		45-64 years		65-74 years		75 +		Total		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	Male	Female	Total
(in thousands)																			
Historical																			
1967	190	182	896	849	2,275	2,177	1,741	1,718	2,558	2,526	1,823	1,826	459	516	267	332	10,208	10,125	20,333
1968	184	175	856	814	2,306	2,205	1,821	1,791	2,597	2,553	1,864	1,881	465	528	270	346	10,364	10,292	20,656
1969	181	173	814	775	2,327	2,222	1,891	1,856	2,636	2,583	1,907	1,937	475	542	274	360	10,506	10,448	20,953
1970	183	176	774	739	2,332	2,229	1,956	1,922	2,685	2,618	1,948	1,990	486	558	277	373	10,642	10,604	21,246
1971	181	173	744	710	2,327	2,224	2,011	1,983	2,739	2,662	1,983	2,034	501	575	280	387	10,767	10,748	21,514
1972	178	168	731	699	2,296	2,192	2,046	2,008	2,805	2,739	2,017	2,077	514	588	282	399	10,871	10,874	21,745
1973	174	164	730	694	2,250	2,148	2,089	2,049	2,873	2,810	2,050	2,118	530	610	283	410	10,979	11,004	21,983
1974	172	163	727	691	2,207	2,106	2,147	2,105	2,960	2,898	2,083	2,161	545	631	285	422	11,127	11,117	22,304
1975	178	168	717	681	2,168	2,069	2,202	2,160	3,046	2,986	2,118	2,204	561	650	289	436	11,281	11,354	22,635
Projected																			
1976	178	169	711	675	2,131	2,033	2,262	2,217	3,138	3,079	2,154	2,243	580	675	296	452	11,450	11,543	22,993
1977	184	175	709	674	2,080	1,982	2,308	2,254	3,217	3,163	2,179	2,269	597	700	301	465	11,575	11,682	23,257
1978	186	177	718	683	2,023	1,925	2,352	2,287	3,299	3,251	2,204	2,298	612	722	308	479	11,702	11,822	23,524
1979	189	179	733	697	1,965	1,870	2,383	2,308	3,395	3,350	2,221	2,317	629	747	315	495	11,830	11,963	23,793
1980	191	182	744	707	1,923	1,828	2,394	2,312	3,503	3,459	2,236	2,334	645	771	323	512	11,959	12,105	24,064
1981	194	184	757	721	1,895	1,801	2,387	2,301	3,612	3,566	2,255	2,356	658	791	331	529	12,089	12,249	24,338
1982	196	186	767	730	1,884	1,790	2,365	2,276	3,728	3,678	2,274	2,376	667	809	339	548	12,220	12,393	24,613
1983	198	188	777	740	1,887	1,791	2,327	2,238	3,845	3,791	2,295	2,398	674	824	349	568	12,352	12,538	24,890
1984	200	190	786	748	1,894	1,798	2,282	2,195	3,963	3,902	2,319	2,442	681	840	358	589	12,483	12,684	25,167
1985	201	191	795	756	1,897	1,801	2,236	2,151	4,085	4,017	2,335	2,438	696	865	369	610	12,614	12,829	25,443
1986	201	191	802	763	1,902	1,806	2,187	2,103	4,204	4,129	2,358	2,457	709	889	380	635	12,743	12,973	25,716
1991	192	182	798	759	2,017	1,917	1,954	1,873	4,616	4,518	2,546	2,625	779	1,005	435	759	13,337	13,638	26,975
1996	178	170	748	712	2,055	1,953	1,961	1,878	4,659	4,532	2,902	2,997	835	1,067	475	870	13,813	14,179	27,992
2001	171	163	704	670	1,979	1,881	2,075	1,988	4,551	4,386	3,335	3,465	844	1,059	526	996	14,185	14,608	28,793
2006	174	165	696	662	1,866	1,773	2,112	2,025	4,365	4,196	3,861	3,998	863	1,085	560	1,067	14,497	14,971	29,468
2011	178	169	712	678	1,809	1,719	2,037	1,953	4,252	4,079	4,216	4,360	989	1,238	576	1,103	14,769	15,299	30,068
2016	176	167	717	683	1,824	1,733	1,925	1,845	4,297	4,121	4,234	4,364	1,214	1,526	594	1,137	14,981	15,576	30,557
2021	170	161	700	666	1,847	1,755	1,868	1,791	4,332	4,159	4,118	4,218	1,392	1,772	670	1,258	15,097	15,780	30,877
2026	164	156	674	641	1,826	1,735	1,883	1,805	4,258	4,087	3,957	4,040	1,550	1,945	796	1,480	15,108	15,889	30,997
2031	162	154	659	627	1,771	1,682	1,906	1,827	4,130	3,962	3,876	3,939	1,615	2,006	911	1,708	15,030	15,905	30,935

Source: "The Class of 2001", Projections Section, Education and Culture Division, Statistics Canada, Table A-1.

Note: Figures may not add due to rounding. Projections based on 1976 Census and the assumptions listed below. Projected dates are as of Jan 1st. Compiled by the Projections Section, Education, Science and Culture Division, Statistics Canada, this table is only one of four projections contained in this publication and only one of several produced by Statistics Canada. Information about the availability of unpublished projections can be obtained from the Population Estimates and Projection Division.

Assumptions: Fertility rate as of 1976 = 1.9 decreasing linearly to 1.7 in 1991 and remaining constant thereafter. Life expectancy at birth in 1976 = 69.61 for men and 76.90 for women, increasing linearly to 70.22 and 78.26 in 1986, and remaining constant thereafter. Net migration, a constant 75,000 a year.

Table 3

Number of Persons in the Labour Force

by Sex, 1961 to 1979

(12 Months Averages in Thousands)

Employed plus Unemployed

Year	Men	Women	Total
1961	4,782	1,739	6,521
1962	4,819	1,797	6,615
1963	4,879	1,870	6,748
1964	4,961	1,972	6,933
1965	5,065	2,076	7,141
1966	5,137	2,346	7,493
1967	5,261	2,485	7,747
1968	5,354	2,597	7,951
1969	5,465	2,728	8,194
1970	5,571	2,824	8,395
1971	5,667	2,972	8,639
1972	5,797	3,101	8,897
1973	5,973	3,303	9,276
1974	6,163	3,477	9,639
1975	6,294	3,680	9,974
1976	6,369	3,837	10,206
1977	6,505	3,994	10,498
1978	6,650	4,232	10,882
1979	6,799	4,408	11,207

Source: Data for the years 1961 to 1965 are unpublished. Revised estimates obtained from the Labour Force Survey Group, Statistics Canada. Data for the years 1966 to 1979 are sourced from Catalogue 71-201, Historical Labour Force Statistics, Statistics Canada.

Note: Data for the years 1966 to 1974 are revised estimates which are linked to the new revised questionnaire in 1975/76.

Table 4

Employed Workers in the Labour Force

by Sex, 1961 to 1979

(12 Months Averages in Thousands)

Number of

Paid plus Unpaid Workers

Year	Men	Women	Total
1961	4,381	1,674	6,055
1962	4,488	1,737	6,225
1963	4,567	1,808	6,375
1964	4,698	1,911	6,609
1965	4,842	2,020	6,862
1966	4,975	2,267	7,242
1967	5,058	2,393	7,451
1968	5,110	2,483	7,593
1969	5,230	2,601	7,832
1970	5,260	2,660	7,919
1971	5,329	2,775	8,104
1972	5,460	2,885	8,344
1973	5,678	3,083	8,761
1974	5,870	3,255	9,125
1975	5,903	3,381	9,284
1976	5,965	3,515	9,479
1977	6,031	3,617	9,648
1978	6,148	3,824	9,972
1979	6,347	4,022	10,369

Source: Data for the years 1961 to 1974 are unpublished revised estimates obtained from the Labour Force Survey Group, Statistics Canada. Data for the years 1975 to 1979 are Sourced from Catalogue 71-529, Labour Force - Annual Averages, Statistics Canada.

Note: Data for the years 1966 to 1974 are revised estimates which are linked to the new revised questionnaire introduced by the Labour Force Division in 1975/1976.

Table 5

Employed Paid Workers in the Labour Force

by Sex, 1961 to 1979

(12 Months Averages in Thousands)

Number of Paid Workers			
Year	Men	Women	Total
1961	3,405	1,506	4,911
1962	3,526	1,563	5,089
1963	3,616	1,625	5,241
1964	3,755	1,712	5,466
1965	3,950	1,811	5,760
1966	4,105	1,973	6,077
1967	4,186	2,080	6,266
1968	4,257	2,176	6,433
1969	4,371	2,281	6,652
1970*	4,424	2,335	7,004
1971*	4,488	2,441	7,181
1972*	4,645	2,547	7,451
1973*	4,869	2,748	7,890
1974*	5,037	2,904	8,224
1975	5,260	3,115	8,375
1976	5,314	3,231	8,545
1977	5,373	3,305	8,678
1978	5,457	3,478	8,935
1979	5,641	3,658	9,298

Source: Data for the years 1961 to 1969 are unpublished revised estimates obtained from the Labour Force Survey Group, Statistics Canada. Data for the years 1970 to 1977 are sourced from Catalogue 71-529, Labour Force - Annual Averages, Statistics Canada.

Note: The data for the total employed paid workers (last column), for the years 1970 to 1974, are revised estimates linked to the new survey questionnaire introduced by the Labour Force Survey Group in 1975/76. However the breakouts of men and women for 1970 and 1974 are not linked to this new questionnaire. Therefore the total of men and women in the first two columns does not agree with the last column.

Table 6

Employed Workers in the Labour Force by Occupation, 1973 to 1979

(Annual Averages in Thousands)

	1973	1974	1975	1976	1977	1978	1979
Managerial, Professional	492	532	609	639	665	745	792
Natural Sciences	272	282	308	322	320	337	365
Social Sciences	100	105	110	121	136	141	147
Religion	27	27	26	24	27	29	28
Teaching	376	391	417	427	443	429	439
Medicine and Health	378	390	424	428	423	440	458
Artistic and Recreational	96	104	114	113	121	134	144
Clerical	1,436	1,514	1,628	1,666	1,694	1,728	1,772
Sales	922	961	1,031	1,027	1,067	1,045	1,084
Service	1,027	1,072	1,131	1,154	1,221	1,290	1,335
Agriculture	469	473	501	495	494	502	514
Fishing, Hunting, Trapping	25	24	20	20	21	23	28
Forestry and Logging	64	63	48	52	54	58	59
Mining and Quarrying	50	52	52	54	53	56	59
Processing	383	404	358	383	363	384	397
Machining	254	266	249	243	244	256	283
Product Fabricating, Assembling and Repairing	844	884	864	883	874	903	963
Construction Trades	627	647	645	671	666	661	665
Transport Equipment Operation	379	385	385	389	387	418	431
Materials Handling	246	250	239	245	242	250	264
Other Crafts and Equipment Operating	130	124	125	125	133	142	142
Total - All Occupations	8,598	8,951	9,284	9,479	9,648	9,972	10,369

Source: Data for the Years 1973 and 1974 are unpublished revised data obtained from the Labour Force Survey Group, Statistics Canada. Data for the years 1975 to 1979 were sourced from Catalogue 71-529, Labour Force - Annual Averages, Statistics Canada.

Note: Data for the years 1973 and 1974 are not linked to the new survey questionnaire introduced in 1975/1976. Therefore, the total of all occupations do not agree with the total in the other tables included on this appendix, since the totals in the other tables are linked to the new questionnaire. Care should be exercised when using this data.

Table 7

Employed Paid Workers in the Labour Force by Occupation, 1973 to 1979

(Annual Averages in Thousands)

	1973	1974	1975	1976	1977	1978	1979
Managerial, Professional	-	-	598	626	656	736	780
Natural Sciences	-	-	302	315	313	329	354
Social Sciences	-	-	100	112	126	129	133
Religion	-	-	26	24	27	29	28
Teaching	-	-	407	417	434	418	426
Medicine and Health	-	-	392	399	390	409	424
Artistic and Recreational	-	-	97	89	95	103	109
Clerical	-	-	1,607	1,640	1,668	1,698	1,739
Sales	-	-	888	891	915	880	915
Service	-	-	992	1,002	1,053	1,108	1,147
Agriculture	-	-	156	163	170	157	172
Fishing, Hunting, Trapping	-	-	10	8	8	10	11
Forestry and Logging	-	-	43	47	49	51	53
Mining and Quarrying	-	-	51	53	52	55	57
Processing	-	-	352	376	356	377	390
Machining	-	-	242	235	239	248	276
Product Fabricating, Assembling and Repairing	-	-	829	842	835	861	920
Construction Trades	-	-	568	582	572	568	568
Transport Equipment Operation	-	-	354	358	351	381	394
Materials Handling	-	-	238	244	240	248	262
Other Crafts and Equipment Operating	-	-	124	123	130	139	138
Total - All Occupations	7,890	8,224	8,375	8,545	8,678	8,935	9,298

Source: Data for the years 1973 and 1974 were sourced from Catalogue 71-529, Labour Force - Annual Averages, Statistics Canada.

Note: Although the data for the years 1973 and 1974 were gathered embodying the new Classification System of Occupations, as of this publication, the data were not available from the Labour Force Division in this detail. In addition, the data that are available are based on the old survey questionnaire and therefore are not directly comparable. The totals for 1973 and 1974 were obtained from Catalogue 71-201, Historical Labour Force Statistics, Statistics Canada, which are linked to the new questionnaire.

Table 8

Employment by Industry 1970 to 1979

(Annual Averages in Thousands)

Industry Group	Paid and Unpaid Workers by Year									
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Agriculture	513	514	483	469	474	483	472	464	473	483
Forestry						60	70	69	77	77
Fishing and Trapping	(216	221	214	224	229)	21	19	20	23	29
Mines, Quarries & Oil Wells						139	145	152	158	167
Manufacturing	1,768	1,766	1,823	1,927	1,978	1,871	1,921	1,888	1,956	2,070
Construction	467	489	494	539	586	603	635	633	632	640
Transportation & Communications						705	714	712	738	782
Electric Power, Gas & Water Utilities	698	707	734	775	791	107	111	108	119	118
Trade	1,328	1,335	1,417	1,503	1,578	1,637	1,644	1,679	1,738	1,806
Finance, Insurance & Real Estate	379	399	398	424	460	474	496	531	546	553
Community, Business & Personal Service	2,040	2,128	2,202	2,290	2,389	2,520	2,574	2,694	2,808	2,946
Public Administration	510	545	579	610	640	665	678	699	704	699
Total - All Industries	7,919	8,104	8,344	8,761	9,125	9,284	9,479	9,648	9,972	10,369

Source: Data from 1970 to 1974 were sourced from Catalogue 71-201 - Historical Labour Force Statistics, Statistics Canada. Data for 1975 to 1979, were sourced from Catalogue 71-529, Labour Force - Annual Averages, Statistics Canada.

Note: In Catalogue 71-201, breakouts of the "other Primary" and "Transportation Communications and Other Utilities", for the years 1970 to 1974 are not available. The data for the years 1970 to 1974 for the other industry groups have been linked to the new revised survey introduced in 1975/76.

Table 9

Employed Paid Worker by Industry 1970 to 1979

(Annual Averages in Thousands)

Industry Groups	Paid Workers by Year*									
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Agriculture	-	-	-	-	-	137	142	143	132	142
Forestry	-	-	-	-	-	55	65	64	70	71
Fishery & Trapping	-	-	-	-	-	10	7	7	10	12
Mines, Quarries & Oil Wells	-	-	-	-	-	138	144	151	157	166
Manufacturing	-	-	-	-	-	1,848	1,896	1,865	1,933	2,046
Construction	-	-	-	-	-	518	534	530	528	534
Transportation & Communications	-	-	-	-	-	673	682	674	699	743
Electric Power, Gas & Water Utilities	-	-	-	-	-	107	110	107	117	117
Trade	-	-	-	-	-	1,478	1,487	1,506	1,547	1,615
Finance, Insurance & Real Estate	-	-	-	-	-	459	481	515	530	534
Community, Business & Personal Services	-	-	-	-	-	2,287	2,318	2,416	2,508	2,620
Public Administration	-	-	-	-	-	665	678	699	704	699
Total - All Industries	7,004	7,181	7,451	7,890	8,224	8,375	8,545	8,678	8,935	9,298

Source: Data for the years 1970 to 1974 were sourced from Catalogue 71-201, Historical Labour Force Statistics, Statistics Canada. Data for the years 1975 to 1979 were sourced from Catalogue 71-529, Labour Force - Annual Averages, Statistics Canada.

*Note: As the new revised questionnaire that was introduced in 1975/1976 altered the responses considerably, the data for the period 1970 to 1974 differ considerably from the period 1975 to 1979, and therefore are not included. The total Labour Force figures for 1970 to 1974 are, however, linked to the new survey questionnaire. These were sourced from Catalogue 71-529, Labour Force - Annual Averages, Statistics Canada.

Table 10
 PERSONS IN THE LABOUR FORCE BY INDUSTRY AND OCCUPATION
 1977 Annual Average (in Thousands)

Labour Force	Managerial (11)	Natural Sc. (21)	Social Sc. (23)	Clerical (41)	Other Crafts (95)	All Other	Total
Manufacturing	142	88	-	254	76	1,494	2,056
Transportation	21	8	-	76	4	397	507
Communications	21	14	-	130	5	63	235
Other Utilities	10	16	-	24	14	48	112
Wholesale Trade	34	6	-	126	-	324	491
Retail Trade	21	-	-	251	-	1,046	1,321
Finance Industries	85	-	-	169	-	22	281
Insurance & Real Estate	18	-	-	45	-	116	182
Health and Welfare	20	-	37	107	4	570	741
Services to Business	57	76	28	108	-	61	330
Public Administration	123	71	29	223	15	279	740
Subtotal (1)	552	289	99	1,514	123	4,419	6,997
Agriculture	-	-	-	5	-	473	482
Forestry	-	-	-	-	-	78	86
Fishing and Trapping	-	-	-	-	-	22	23
Construction	30	9	-	46	-	657	742
Education	44	11	33	90	4	537	718
Private Household	-	-	-	-	-	108	108
Subtotal (2)	76	25	33	145	5	1,875	2,159
All Others	54	19	12	165	13	1,080	1,342
TOTAL	682	332	144	1,824	141	7,375	10,498

Note: Numbers in brackets are Occupational Major Group Numbers. Totals may not "agree" due to rounding of the data.

Source: Unpublished Data, Labour Force Survey Group, Statistics Canada.

Table 11

PERSONS IN THE LABOUR FORCE AND EMPLOYED BY INDUSTRY AND OCCUPATION

1977 Annual Average (in Thousands)

Employed (Paid & Non-Paid)	Managerial (11)	Natural Sc. (21)	Social Sc. (23)	Clerical (41)	Other Crafts (95)	All Other	Total
Manufacturing	139	86	-	238	71	1,353	1,888
Transportation	21	8	-	72	4	368	473
Communications	21	14	-	124	5	61	226
Other Utilities	10	15	-	23	14	45	108
Wholesale Trade	33	5	-	117	-	302	459
Retail Trade	20	-	-	228	-	969	1,219
Finance Industries	84	-	-	159	-	21	268
Insurance & Real Estate	18	-	-	42	-	111	173
Health and Welfare	20	-	35	99	4	544	705
Services to Business	55	71	27	99	-	54	306
Public Administration	120	69	28	209	14	259	699
Subtotal (1)	539	278	95	1,408	117	4,088	6,525
Agriculture	-	-	-	5	-	456	464
Forestry	-	-	-	-	-	61	69
Fishing & Trapping	-	-	-	-	-	19	20
Construction	29	8	-	42	-	553	633
Education	43	11	31	84	4	515	688
Private Household	-	-	-	-	-	99	99
Subtotal (2)	75	24	32	134	5	1,704	1,973
All Others	51	18	10	152	12	907	1,150
TOTAL	665	320	136	1,694	133	6,699	9,648

Note: Numbers in brackets are Occupational Major Group Numbers. Totals may not "agree" due to rounding of the data.

Source: Unpublished Data, Labour Force Survey Group, Statistics Canada.

Table 12

EMPLOYED PAID WORKERS IN THE LABOUR FORCE BY INDUSTRY AND BY OCCUPATION

1977 Annual Average (in Thousands)

Employed Paid	Managerial (11)	Natural Sc. (21)	Social Sc. (23)	Clerical (41)	Other Crafts (95)	All Other	Total
Manufacturing	138	86	-	237	68	1,334	1,865
Transportation	21	8	-	70	4	333	436
Communications	21	14	-	123	5	61	224
Other Utilities	10	15	-	23	14	45	107
Wholesale Trade	33	5	-	114	-	280	435
Retail Trade	20	-	-	220	-	828	1,071
Finance Industries	84	-	-	158	-	20	266
Insurance & Real Estate	18	-	-	41	-	98	159
Health and Welfare	20	-	35	98	4	513	672
Services to Business	46	65	17	95	-	48	272
Public Administration	120	69	28	209	14	259	699
Subtotal (1)	530	272	84	1,388	114	3,820	6,209
Agriculture	-	-	-	4	-	137	143
Forestry	-	-	-	-	-	56	64
Fishing and Trapping	-	-	-	-	-	7	7
Construction	29	8	-	39	-	454	530
Education	43	11	31	84	4	507	680
Private Household	-	-	-	-	-	4	4
Sub Total (2)	75	24	32	130	5	1,164	1,429
All Others	51	18	10	149	12	802	1,041
TOTAL	656	313	126	1,668	130	5,787	8,678

Note: Numbers in Brackets are Occupational Major Group Numbers. Totals may not "agree" due to the rounding of data.

Source: Unpublished Data, Labour Force Survey Group, Statistics Canada.

Table 13

Trends in Expenditures on, and Cost Structure of, the
Gross Domestic Product in Purchasers' Values at
Current Prices, 1960 to 1977

Canada

Source: Reply to the United Nations National Accounts Questionnaire from 1975 by Statistics Canada.
Statistics Canada, Ottawa. Official estimates and detailed information on the concepts, definitions, sources and methods of estimation utilized are published in 'National Income and Expenditure Accounts', a series of three volumes, issued in 1975 by Statistics Canada.
General note: The estimates shown in the following tables have been prepared by Statistics Canada to conform to the present United Nations System of National Accounts so far as the existing data would permit.

1a Expenditure on the Gross Domestic Product in Purchasers' Values, at Current Prices

Million Canadian dollars	1960	1963	1965	1969	1970	1971	1972	1973	1974	1975	1976	1977
A. Expenditure on the Gross Domestic Product in Purchasers' Values												
1 Government final consumption expenditure	5280	6954	8327	14205	10597	10329	20249	22000	27728	33240	39777	43203
2 Private final consumption expenditure	25245	28970	33834	46964	49753	54986	61470	70457	82484	95931	100413	120760
3 Increase in stocks ^a	409	659	1244	1467	105	392	544	1588	3451	-235	1634	111
4 Gross fixed capital formation ^b	8473	9556	13178	17232	18015	20800	23051	27848	34280	40044	44895	49434
5 Exports of goods and services ^c	6778	8776	10745	17829	20184	21265	23637	20562	37049	50332	44128	51110
6 Less: Imports of goods and services ^c	7248	8422	10384	17747	17845	18516	22758	27974	37311	41382	45127	51170
Statistical discrepancy	-195	39	-205	443	-345	-891	-100	45	638	240	-217	304
Gross domestic product in purchasers' values	38720	45542	56040	80493	84454	95365	106005	124506	148801	168334	183403	212950
B. Cost-Structure of the Gross Domestic Product												
1 Compensation of employees	20141	23832	28878	43949	47620	52436	58549	67840	81289	94998	103701	121647
2 Operating surplus	9057	11332	13017	17248	17384	18282	21918	27740	33028	35332	41432	44843
3 Consumption of fixed capital ^d	4739	5603	6655	9018	9306	10500	11474	13355	18046	18366	20783	23104
4 Indirect taxes	4901	6115	7741	11423	12055	13048	14760	16686	20876	21438	24686	28060
5 Less: Subsidies	314	401	457	701	758	772	934	1088	2619	3557	3367	3280
Statistical discrepancy	196	-39	206	-443	345	891	180	-44	-629	-345	210	-304
Gross domestic product in purchasers' values	38720	45542	56040	80493	84454	95365	106005	124506	148801	168334	183403	212950

a) Including increases in stocks of breeding stocks; draught animals, dairy cattle, etc. Stocks of commodities internally processed are valued at cost.
b) Outlays on embassies, consulates and military establishments abroad are included under government current expenditure and imports.
c) Exports and imports of merchandise are recorded on the basis of the crossing of frontiers. No data are available on the basis of changes in the ownership of the goods.
d) Depreciation is estimated on a historical cost basis except for housing, agriculture and government which are estimated on a replacement cost basis.

General Note: The estimates shown in this table have been prepared by Statistics Canada to conform to the Present United Nations system of National Account so far as the existing data would permit.

Source: Yearbook of National Accounts Statistics 1978, Volume 1, Individual Country Data, United Nations.

Table 14

Trends in the Gross Domestic Produce by Kind of Economic Activity, in Producers' Values, at Current Prices, 1960 to 1977

4a Gross Domestic Product by Kind of Economic Activity, in Producers' Values, at Current Prices

Million Canadian dollars	1960	1963	1965	1969	1970	1971	1972	1973	1974	1975	1976	1977
a) Industries												
1 Agriculture, hunting, forestry and fishing	2181	2762	2835	3234	3175	3451	3075	5970	7087	7356	7500	7652
a Agricultural and livestock production	1680	2297	2256	2607	2472	2791	2687	4602	5700	6103	6166	6010
b Agricultural services, hunting, etc.	---	---	---	---	---	---	---	---	---	---	---	---
c Forestry and logging	418	381	472	568	571	525	550	843	1105	635	1150	1297
d Fishing	72	84	105	119	132	135	158	225	202	103	274	336
2 Mining and quarrying	1382	1647	2067	2677	3040	2640	3160	4713	5064	6105	6925	7971
3 Manufacturing	9010	10775	12748	17280	17600	16000	21376	25119	30133	32120	30049	39105
4 Electricity, gas and water	601	1092	1276	1059	2035	2241	2497	2031	3347	3839	4040	5805
5 Construction	1907	2279	3072	4456	4697	5599	6123	7642	8540	11502	12830	13571
6 Wholesale and retail trade, restaurants and hotels	4367	5116	5923	6572	6348	6860	11310	12080	15614	18202	20807	21567
a Wholesale and retail trade	4367	5116	5923	6572	6348	6860	11310	12080	15614	18202	20807	21567
b Restaurants and hotels	---	---	---	---	---	---	---	---	---	---	---	---
7 Transport, storage and communication	3131	3610	4240	5092	6350	6997	7094	6745	10124	11345	13071	14800
8 Finance, insurance, real estate and business services	3971	4872	5801	6059	6402	6657	10712	12273	14445	17247	20846	23739
a Owner-occupied dwellings	1429	1725	1853	2693	3045	3355	3502	3831	4218	4760	5509	6364
b Other	2542	2947	3738	5366	5447	6202	7210	8442	10227	12457	15337	17375
9 Community, social and personal services	2549	3133	3851	6114	6705	7441	8348	9077	11081	13950	16270	18300
10 Less: Imputed bank service charges (Present SNA)	255	283	344	534	617	669	780	878	892	1261	1402	1620
Domestic product of industries	20242	24911	41289	57050	60945	66422	74313	80992	107040	120592	137042	151079
b) Producers of Government Services												
1 Agriculture, hunting, forestry and fishing	19	22	27	44	51	83	90	94	107	126	159	104
2 Transport, storage and communication	160	163	219	339	376	405	455	526	657	812	923	1051
3 Public administration and defence	2340	2028	3233	5077	5530	6152	6979	7030	9762	11705	13581	15264
4 Other community, social and personal services	1112	2213	2031	5389	6006	6880	7580	8616	10397	12519	15013	16036
5 Other activities	113	120	141	190	205	258	207	307	367	432	492	567
Domestic product of government services	3752	6366	6451	11039	12248	13776	15391	17481	21280	25594	30160	33912
At constant prices of 1971												
2 Domestic services of households	---	264	270	283	204	285	285	288	208	314	322	330
Domestic product of other producers	---	681	704	829	858	600	926	970	1028	1086	1127	1150
d) Summation												
1 Domestic product excluding import duties	---	53864	61736	76403	70226	82867	97522	93930	97024	98563	103686	108067
2 Import duties	---	8504	8007	11212	10408	11607	13244	14874	15065	15472	16561	17103
Statistical discrepancy	---	-205	37	-741	635	691	159	-70	-516	-277	102	-249
Gross domestic product in purchasers' values	53555	62192	70340	86874	89140	95305	100925	100520	112373	113758	120351	123801

a) Components do not add up to total.

b) Indexes based on 1961 were used to deflate the period 1961 to 1970, while indexes based on 1971 were used to deflate the period from 1971. The series were then linked at the component and total levels, producing a residual difference.

c) Hunting only.

d) Electricity and gas only.

e) Excluding highway and bridge maintenance, radio and television broadcasting.

f) Including radio and television broadcasting.

g) Including highway and bridge maintenance.

h) Consisting of hospitals, education and related services.

i) Consisting of water systems and other utilities.

j) Including welfare and religious organizations.

k) Gross domestic product in factor values.

l) Referring to indirect taxes net of subsidies.

m) It should be noted that the current and constant price estimates are not necessarily comparable. The latter are on an establishment basis while the former are a mixture of enterprise and establishment data. Furthermore, for the current price data, the classification of producers could only be attempted in broad terms.

General Note: The estimates shown on this table have been prepared by Statistics Canada, to conform to the present United Nations System of National Accounts so far as the existing data would permit.

Source: Yearbook of National Accounts Statistics 1978, Volume 1, Individual Country Data, United Nations.

Appendix B: Labour Canada Occupational Definitions

Labour Canada Occupational Definitions

Introduction

The following occupational definitions are extracted from the 1978 Labour Canada survey questionnaire, (Part 2 dealing with Office Occupations), which is contained in the 1978 Red Book entitled "Survey of Wages and Working Conditions, Survey Questionnaires," Labour Data Branch, Labour Canada. Further information about the questionnaire and the survey itself may be obtained directly by contacting the Surveys Division in that Branch.

These definitions are an abbreviation of the more comprehensive definitions contained in the 1971 Canadian Classification and Dictionary of Occupations (CCDO), published by Statistics Canada. As neither the detail, nor the numbers of occupations in the Labour Canada questionnaire are as complete as that published in the CCDO, there could be room for some differences in interpretation by respondents answering any similar type of survey using the more detailed definitions in the CCDO itself.

Definitions

1. SECRETARY (Secretarial Stenographer)

Schedules appointments, gives information to callers, takes dictation and relieves employer of clerical work and minor administrative and business details by performing any duties so associated.

2. STENOGRAPHER

Records various kinds of dictated or other matter in short hand and makes a transcription in typewritten form. May perform a variety of clerical duties.

3. TRANSCRIBING-MACHINE OPERATOR (Dictating-Machine Transcriber)

Transcribes letters, reports or other recorded data, using transcribing (voice reproducing) machine and typewriter. May be designated according to type of machine operated.

4. TYPIST

Types letters, reports, statements, stencils, forms, addresses or other straight copy material from handwritten manuscript, rough draft or correct copy.

5. TELETYPEPIST (Telegraphic-Typewriter Operator, Teletype Operator; Telex Operator)

Sends and receives messages, using telegraphic typewriter. Types identifying code for station called, or acknowledges calls from other

stations. Types outgoing messages when stations are connected and reads incoming messages. Codes and decodes incoming messages. May be designated according to trade name of equipment used.

6. VARI--TYPE OPERATOR

Types master copies, such as stencils, tracing, direct plates and photo-offsets on machine similar to typewriter with removable font (type) of various sizes and styles. May draw decorative or illustrative design on copy. May cut out misspelled words, using razor, fasten corrected words to tape and insert them in cut-out area.

7. FILE CLERK

Files papers, documents and other data according to subject matter or other filing system.

8. OFFICE BOY/GIRL

Performs any combination of general duties in government offices or business office of commercial or industrial establishment such as: furnishing workers with clerical supplies such as paper, pencils and pens; distributing and dispatching mail. May be concerned with specific task and be designated accordingly, for example: Mail Boy/Girl.

9. CLERK, GENERAL OFFICE

Performs a wide range of clerical duties such as copying, recording, compiling and otherwise processing information.

Junior General Office Clerk

Under close supervision, duties of routine and repetitive nature; requires no knowledge of systems or procedures.

Intermediate General Office Clerk

Under limited supervision, duties of semi-routine nature; requires limited knowledge of office systems and procedures; follows a standardized pattern in carrying out assignments.

Senior General Office Clerk

Under little or no direct supervision, duties of advanced or complicated nature; requires considerable knowledge of departmental or company systems and procedures; must exercise considerable judgement in performing duties; prepares complex reports requiring independent analysis.

10. BOOKKEEPER

Keeps complete records of financial transactions of establishment or undertaking. May prepare financial statements and accounts for the year.

or other specified period, calculate and arrange payment of wages, prepare and mail statements of accounts to customers.

11. COST CLERK

Calculates wage, material, overhead and other operating costs of an establishment. Maintains ledgers and records to account for various costs. May be concerned with a specific type of costing and be designated accordingly.

12. ACCOUNTING CLERK

Performs a variety of calculating, posting and typing duties to accomplish accounting. May compute, using calculating machine, and record interest charges, cost of lost or damaged goods, refunds and similar items.

Junior Accounting Clerk

Under supervision, requires very little knowledge of accounting or bookkeeping principles; work of routine nature.

Senior Accounting Clerk

Under general direction, possesses knowledge of general accounting principles; work of more complex nature.

13. STOCK-RECORDS CLERK (Material Record Clerk: Stock-Control Clerk)

Compiles stock records concerned with quantity, cost and type of material received, stored and issued in department, estimates needs and requisitions new stocks. May be responsible for safe custody of stock.

14. ORDER CLERK (Excludes Salespeople and Commission Order Clerks)

Processes merchandise orders received from customers by mail, telephone, or in person. May contact customer to verify delivery of order.

15. BOOKKEEPING-BILLING-CALCULATING MACHINE OPERATOR

Records financial transactions of establishments, using bookkeeping machine; and/or prepares statements, bills and invoices to be sent to customers, itemizing amount owed, using billing machines with or without computing devices; and/or computes and records statistical, accounting and other numerical data, using a calculating machine.

16. DUPLICATING-MACHINE OPERATOR

Operates machine that reproduces data from embossed plates on revolving cylinder or from original copy. May type or draw diagram to prepare original copy. May keep record of number of copies made. May be designated according to type of machine operated.

17. BLUEPRINTING-MACHINE OPERATOR

Operates machine to make copies (blueprints) of material; such as documents or drawings. May make autopositive (negative) of original material. May clean machine. May be designated according to trade name of machine operated, for example: Copyflex-Machine Operator, Ozalid operator.

18. ADDRESSING-MACHINE OPERATOR

Operates machine that prints addresses, code numbers and similar information on items such as envelopes, accounting forms and advertising literature. May be designated according to trade name of machine operated.

19. EMBOSSING-MACHINE OPERATOR (Plate Embosser)

Operates electrically powered or manual machine to emboss names and addresses on metallic and non-metallic plates for use in duplicating or addressing-machines or for identification tags. May operate pantograph type engraving machine to engrave plates. May operate a particular type of embossing machine and be designated accordingly.

20. MICROFILM MOUNTER

Mounts microfilm into Electronic Data Processing cards by one of the following methods: 1. Tends machine that automatically mounts developed microfilm into cards. 2. Mounts roll of microfilm manually into Electronic Data Processing cards.

21. AUTOMATIC-DATA-TRANSCIVER OPERATOR

Operates automatic equipment used to transmit and receive data; such as weather maps, printed material, photographs and drawings. Secures printed material to machine cylinder. Actuates controls to ensure acceptable copy at remote locations. Positions negative on cylinder to receive incoming data. May be designated according to information transmitted or media and equipment used; for example: Facsimile Operator, Photoradio Operator, Wire-Photo Operator -News.

22. OFFSET-DUPLICATING-MACHINE OPERATOR

Operates offset-duplicating machine to reproduce single or multi-colour copies of charts, schedules, bulletins and related matter. May clean and oil machine. May be designated according to trade name of machine operated.

23. COMPUTER OPERATOR (Console Operator; Digital Computer Operator)

Operates and controls electronic digital computer to process business, scientific, engineering or other data; may wire control panels of peripheral equipment or insert program cards.

24. COMPUTER-PERIPHERAL EQUIPMENT OPERATOR (Unit Record Equipment Operator)

Operates a variety of computer-peripheral (ancillary) equipment that converts data from one form to another, and sorts, tabulates, reads and prints data. May confine duties to one type of machine and be designated accordingly, for example: Tabulating-machine operator, Sorting-machine tender.

25. KEYPUNCH OPERATOR (Card-Punch Operator)

Operates alphabetic and numeric keypunch machine to transcribe data from source material onto punch cards. May perform verifying duties and be designated accordingly, for example: Typist-Data Processing Verifier Operator.

26. SYSTEMS ANALYST

Formulates logical statements of business or scientific and/or engineering problems and devises procedures for solutions of these problems through the use of electronic data processing systems.

27. PROGRAMMER

Writes programs in computer process language to solve engineering or scientific problems and/or to provide required data for management and resolve business problems.

Junior Programmer

Under direct supervision, assists in review, analysis and preparation of computer systems specifications; codes program instructions

Senior Programmer

Under general direction, develops and prepares machine logic flowcharts; may give direction or guidance to juniors.

APPENDIX C: SELECTED BIBLIOGRAPHY

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