Medium-Term Capital Investment Survey 1970

by
B. A. Keys
F. G. Thompson
M. Heath

Economic Council of Canada

MEDIUM-TERM

CAPITAL INVESTMENT SURVEY

- 1970 -

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This paper was prepared by members of the staff of the Economic Council of Canada. The views and conclusions contained in it are those of the authors themselves.

Cat. No.: EC21-2/1970

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ACKNOWLEDGMENTS

We are grateful to the many business executives and to the government and university officials who entrusted to us their forward plans and took time to discuss relevant matters with us, thereby making this survey possible.

Our appreciation and thanks are extended also to officials of the Department of Industry, Trade and Commerce and a number of their associates, for their helpful collaboration again this year on the survey of medium-term business capital investment plans.

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In Perspective . . .

In previous capital investment survey reports, as well as in a number of our Annual Reviews, we have emphasized the need both for longer-term horizons for planning new capital investment and for developing investment growth as evenly as possible.

The latest survey, carried out in October 1970, indicates that overall capital investment by business firms, universities and governments is expected to increase moderately in 1971 but that the medium-term outlook for new investment, particularly in the business sector, is the weakest observed since the Economic Council initiated medium-term capital investment surveys six years ago. The weaknesses are particularly pronounced in the medium-term outlook for construction expenditures.

Our experience with the results of previous capital investment surveys indicates that they should be interpreted with appropriate caution; they represent intentions of participating organizations at the time of the survey and changing conditions and attitudes may lead to substantially different actual expenditures.

We recognize, too, that in periods when substantial excess capacity exists, as reported for various industries in this survey, when profits have been declining, and when the cost of funds is at very high levels, there is a tendency to limit capital outlays to those considered essential or to those calculated to yield particularly high returns on the investment.

However, some of the excess capacity is expected to be absorbed within the next year. Moreover, the majority of the companies surveyed anticipate sales increases in 1971 and again in 1972, as well as improvement in profits within the next one to two years.

The underlying potential of the Canadian economy is very large, reflecting especially the rapid growth of the labour force. Once recovery from the current economic slow-down is under way the basis will exist for a relatively high rate of growth in the economy over the next few years. Hence, in order to provide adequate production facilities, and at the same time to avoid a repetition of the 1963-66 surge in new capital investment with the accompanying costly distortions and pressures and strains on resources, organizations should now be reviewing their capital investment intentions in relation to the medium-term prospects of an economy moving towards potential output. In this context, many business firms might consider the advantages of the depreciation incentive announced recently by the federal government. Over the next few years many companies could well look back with considerable satisfaction to decisions taken at this time to proceed with new capital projects.

Arthur J. R. Smith
Chairman

HIGHLIGHTS

The following are the principal findings in an interview survey of medium-term (five-year) capital investment intentions of over 200 large business firms, universities and governments conducted in October 1970. Not included in the survey were housing, agriculture, and fishing.

An *overall* increase of almost 11 per cent in capital investment in new construction, machinery and equipment in Canada is planned in 1971 by the organizations surveyed. In 1972 overall capital expenditures are indicated to decline from 1971 levels.

Business capital investment by the survey firms is projected to increase by about 9 per cent in 1971 and then to decline in 1972 almost to 1970 levels. As has been typical in the results of previous surveys, the index of investment intentions declines through the balance of the survey period but in the current survey this decline is more marked than in recent years.

Most of the business officials interviewed anticipate increased sales in 1971 and again in 1972. Only one-half of them expect their profits to be higher in 1971 but almost three-quarters of them expect improvement in profit levels and general economic conditions in 1972.

Two-thirds of the capital investment planned for 1971 and 1972 by the business firms in the survey is reported to be for expansion of productive capacity. This is down somewhat from the proportion reported in the 1969 survey, while modernization and replacement which represents most of the balance of investment is expected to increase moderately. The rate of increase in expenditure on non-residential construction is fairly high in 1971 but it falls off rather sharply in 1972. Planned investment in machinery and equipment shows a smaller but relatively steady increase during the next two years.

The largest proportion of new facilities to be put in place in 1971 and 1972, particularly in the manufacturing and service industries, is designated for Ontario, followed in order by Quebec, British Columbia, the Prairie Provinces, and the Atlantic Provinces.

Concerns expressed by business officials were essentially the same as voiced in the previous year's survey: the high cost and scarcity of funds, increasing labour costs, rising prices of other inputs, and continuing uncertainty over the effects of taxation changes which will be introduced as a result of the federal government's White Paper on Tax Reform.

Universities anticipate little change on average from 1970 levels though a degree of fluctuation is indicated from year to year throughout the period to 1975.

Governments show an increase of about 14 per cent in expenditures on capital facilities in 1971 and indicate that outlays are expected to remain at around 1971 levels through to 1975.

CAPITAL INVESTMENT OUTLOOK

Overall results of this year's survey, including the breakdown into industry groups and other types of enterprise, are summarized in index form for the 1969-75 period in the table which follows. Though 1969 is the latest year for which actual capital investment data were available at the time of the survey, *preliminary actual* figures provided for 1970 are regarded as a more useful base from which to construct the indexes; 1969 figures are shown in appropriate relationship to 1970 in the indexes and are used in the calculation of the degree of coverage provided by the survey relative to total capital investment in each sector.

Overall survey results show a planned increase in capital investment of between 10.5 and 11 per cent for 1971 followed by a gradual decline each year through to 1975. On the basis of the index of *business* investment intentions, firms surveyed expect that their capital expenditures will increase by about 9 per cent in 1971 over 1970. *Universities* in the survey also anticipate an increase of 9 per cent, while the *governments* that reported project an increase of about 14 per cent in 1971 compared with 1970.

Actual levels of business capital investment for the full year 1970 will not be known for some months. The following index of business investment *intentions* indicates a substantial increase in 1970 over 1969 for the survey firms but National Income and Expenditure Accounts published by the Dominion Bureau of Statistics reports that for the first three quarters of 1970, total business capital investment in Canada is about 3.7 per cent below the comparable period in 1969. It is important to note of course that our survey covers large firms that typically make the largest investment in new capital facilities. The divergence between projections provided by these companies and National Accounts reports suggests that under conditions which prevailed during 1970, data from the survey companies may not be directly comparable with estimates of business capital spending as determined on a National Accounts basis.

INDEXES OF CAPITAL INVESTMENT INTENTIONS

(1970 = 100)

	1969	1970	1971	1972	1973	1974	1975	Survey Coverage[1] (1969 Data): Millions of Dollars	Survey Coverage[1] (1969 Data): Percentage of Total Sector
Manufacturing - Total	78.7	100.0	106.2	97.3	89.3	87.2	78.7	1,128	49
Food & Beverages	78.0	100.0	101.2	87.6	69.5	61.4	45.3	76	31
Pulp & Paper	100.4	100.0	88.1	91.1	99.0	82.1	61.7	339	56
Primary Metals	57.7	100.0	140.8	115.2	83.3	94.6	81.3	200	66
Chemicals	84.5	100.0	111.4	100.3	82.1	68.8	62.3	86	--[2]
Transportation Equipment	70.7	100.0	63.4	47.8	45.3	49.3	41.4	150	83
Other	82.1	100.0	115.7	117.1	121.4	123.1	133.1	277	29
Mining	93.6	100.0	125.4	123.1	60.3	35.4	26.1	465	86
Oil & Gas[3]	77.0	100.0	96.2	92.2	93.0	89.7	87.0	621	--[5]
Oil & Gas Transmission[4]	117.3	100.0	161.2	126.4	125.5	102.9	93.3	300	--[5]
Transportation & Storage	87.9	100.0	98.8	105.7	100.5	96.6	88.8	499	--[5]
Telecommunications	91.3	100.0	108.0	114.6	119.4	123.7	129.3	658	91
Power Utilities	87.5	100.0	108.3	90.8	87.0	84.0	95.2	1,325	92
Trade, Finance & Other Commercial	81.7	100.0	104.6	93.2	74.9	64.7	57.3	215	14
Total Business	85.8	100.0	108.9	101.0	93.8	89.3	88.1	5,213	59
Universities	81.9	100.0	109.0	90.6	110.4	105.1	90.5	225	63
Governments	88.6	100.0	114.1	115.6	115.0	112.8	113.5	2,784	--[5]
Survey Total	86.5	100.0	110.7	105.7	101.8	98.0	96.8	8,222	49

(1) Survey coverage indicates the extent to which the survey data represent the total investment for each sector. To obtain the ratios, dollars reported in this survey for 1969 are compared with dollars of capital expenditures reported for the sector for that year in *Private and Public Investment in Canada: Outlook 1970, Mid-Year Review*, Catalogue No. 61-206, Ottawa, Queen's Printer, 1970. The dollar data provide as well, an indication of the weighting of each sector in the total indexes.

(2) Does not include petrochemicals and hence is not comparable directly with *Private and Public Investment in Canada.*

(3) Includes production and refining.

(4) Includes pipelines and distribution.

(5) Not comparable with *Private and Public Investment in Canada.*

Note: Because the number of organizations providing estimates is not constant throughout the period, the index numbers have been built up from overlapping year-to-year comparisons rather than from simple totals. The figures used for any given year cover the same firms as in the immediately preceding year. Thus, although the coverage of the index is narrower in certain years, there is no distortion arising from lack of figures for some organizations.

As far as possible, allowances for price changes have been removed from the reported data before constructing the foregoing indexes. Fuller commentary relating to price changes appears in the Appendix.

The investment intentions for 1971 reported by the business firms surveyed are greater than the required growth rate of the economy of over 5 per cent per annum outlined in the Economic Council's report, *Performance and Potential: Mid-1950's to Mid-1970's.*[1] They may not be inappropriate, however, due to the relatively small increases in capital investment in recent years. The projected decline in investment in 1972 to levels just marginally above those in 1970 raises questions though as to the adequacy of planned capital expenditures by that time, for the Canadian economy to move towards potential output. The weakness in the outlook for capital investment is particularly pronounced in the construction category which shows a marked decline in 1972 relative to 1971.

For the remaining three years covered in the survey, 1973, 1974 and 1975, projected business capital expenditures continue to decline each year and present the weakest investment outlook obtained in any of the five-year capital investment surveys conducted by the Economic Council of Canada since 1964. The decline indicated in 1972 and beyond is not as pronounced in the overall economy due to the more sustained levels of investment projected by governments and, to a somewhat lesser extent, by universities.

As has been emphasized in reporting the results of previous surveys, projection as far forward as five years should be interpreted with appropriate caution. In each of the previous surveys, capital expenditures were expected to rise from the base year and then drop off in varying degrees, partly due to the exclusion of projects which could not be planned definitely five years in advance, and partly due to uncertainties in the outlook of respondents about business conditions in general and about problems and prospects relative to their firms in particular. In this connection, it is interesting to note that over 75 per cent of the respondents anticipate increased sales by their companies in 1971 and further growth in 1972 at which time capital investment is seen to be at roughly the same levels as in 1970. A somewhat smaller proportion, but still a substantial majority, expect profit improvement in 1971 and again in 1972.

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[1]Economic Council of Canada, *Performance and Potential: Mid-1950's to Mid-1970's*, Ottawa, Information Canada, 1970.

As illustrated in the Appendix, capital investment by business firms covered in this survey amounted to about 60 per cent of all business capital investment by the sectors surveyed. Excluded from coverage were housing, agriculture and fishing. In total, the organizations in this survey accounted for about half of all private and public investment in Canada in 1969.

Main Purposes of Proposed Investment

Again in this survey, companies were requested to break down their total projected capital expenditures into the different purposes for which the proposed new facility was intended. The following table shows the results for companies that reported this information. Since projected expenditures have fallen off substantially by 1973, the breakdown by main purpose is shown only through 1972. It should be observed that for some capital projects the differentiation between expansion and modernization and replacement would be difficult to make. As a result, this data may be more meaningful for identifying trends or shifts in purpose than for providing an accurate quantitative breakdown by purpose of the proposed investment.

More than two-thirds of the companies in the survey this year reported the purpose for which the new capital facilities were planned, compared with fewer than one-half of the companies in last year's survey.

	Expansion	Modernization and Replacement	Services	Research and Development	Pollution Abatement	Other	Un-allocated	Total	Number of Firms Reporting*
				(Per cent)					
1970	71.1	21.1	1.2	0.9	1.6	2.8	1.3	100.0	119
1971	68.3	22.1	1.4	0.9	2.9	1.7	2.7	100.0	123
1972	66.0	24.0	1.4	0.8	2.6	1.7	3.5	100.0	118

* Out of a total of 176 business firms surveyed.

Over 70 per cent of the 1970 investment in new capital facilities by the business firms in the survey was designated for expansion of productive capacity. This proportion is expected to decline over the next two years to about 66 per cent in 1972. Most of the balance of investment is intended for modernization and replacement, which is seen to increase during the period. This suggests that some shift in emphasis may be planned away from the installation of new facilities to the modernization of existing ones. Investment planned in facilities to control pollution are projected to increase fairly rapidly, but to amount to less than 3 per cent of total outlays. The share of expenditures allocated to services and to capital facilities for research and development is expected to remain small, and essentially unchanged.

A more detailed report of this information by industry group is shown in the Appendix of this report.

Rate of Capacity Utilization

Using their own definition of capacity, which usually appeared to be the level beyond which additional capital facilities would be planned, most of the firms in this year's survey were able to provide information on this subject. Almost one-half of the companies reported they were operating at less than capacity in 1970, some as low as 65 per cent. The industries in which a substantial proportion of the companies appeared to have excess capacity were concentrated particularly in manufacturing -- notably pulp and paper, chemicals, food and beverages and transportation equipment. In 1971, fewer companies in pulp and paper and transportation equipment expect to operate below capacity levels, but little change is anticipated by companies engaged in the production of food and beverages or chemicals.

Business Outlook

At the time the survey was conducted in October the majority of the businessmen interviewed anticipated a general improvement in business conditions in 1971. A considerable number do not, however, expect much improvement until 1972. Over 75 per cent of the companies surveyed expect increases in 1971 and 1972 in their sales in Canada and, where relevant, also in export markets. The profit outlook is considerably more mixed, with a number of companies anticipating no improvement or a decline in profit level in 1971 and 1972. Over one-half of the respondents do, however, expect profits to increase in 1971 and almost three-quarters of them look for improvement in 1972.

Concerns

Concern was expressed most frequently during the survey over high interest rates and the availability of funds at acceptable cost for capital projects. Even at high rates of interest, some firms could not obtain funds for capital projects because of relatively high debt-equity ratios. In turn, because of lower levels of economic activity and high operating costs as well as the high cost of funds borrowed previously, profit margins were frequently depressed to the point where the raising of capital through the issue of additional equity was not attractive.

Concern was also expressed frequently about rising labour costs and, among exporters, about the recent rise in the exchange value of the Canadian dollar.

Other concerns mentioned by businessmen included transportation costs, technological developments, and a wide range of possible changes in government policies affecting taxation, trade, foreign ownership, and pollution.

Regional Distribution

The regional distribution of the facilities represented by the capital expenditures planned by business firms is shown in the following table. As in the case of the purpose of the proposed investment, because projected outlays decline substantially by 1973, the regional allocation is shown only through 1972.

	Atlantic Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Yukon and N.W.T.	Un-allocated	Total	Number of Firms Reporting*
				(Per cent)					
1970	9.3	16.7	37.3	20.3	14.3	0.9	1.2	100.0	152
1971	6.9	18.3	37.4	16.1	17.2	0.7	3.4	100.0	156
1972	8.2	18.5	36.8	16.7	15.7	1.3	2.8	100.0	143

* Out of a total of 176 business firms surveyed.

Among the survey companies reporting a regional breakdown of planned investment, the largest proportion -- around 37 per cent -- is designated for Ontario in 1971 and 1972, followed in order by Quebec, British Columbia, the Prairie Provinces, and the Atlantic Provinces. Some shift is indicated during the next two years to Quebec and British Columbia from the other regions, but the magnitude of the shift is such that it may easily be obscured by fluctuations which may occur in investment intentions. In dollar terms, total capital investment over the next two years by the companies reporting is estimated at $11.3 billion allocated as follows: $4.2 billion to Ontario, $2.1 billion to Quebec, $1.9 billion to British Columbia, $1.8 billion to the Prairie Provinces, and $0.8 billion to the Atlantic Provinces.

The indicated pattern of regional distribution varies markedly for some sectors from the overall average figures. Among the manufacturing and service firms reporting, almost 50 per cent of capital investment in 1971 and 1972 is allocated to Ontario. Projected expenditures by companies in the resource-based industries are more evenly divided among Ontario, Quebec, the Prairie Provinces, and British Columbia which includes the Yukon and Northwest Territories. A lower proportion of this type of investment is designated for the Atlantic Provinces. It is not known, of course, whether the regional distribution of the capital investment planned by the larger firms covered in this survey is representative of all business capital investment.

Construction vs. Machinery and Equipment

A breakdown of the survey results between construction, and machinery and equipment, for business firms and universities covered in the survey, is shown in the following table. As in previous surveys, this breakdown was provided by only two governments and is not included in these indexes.

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	86.4	100.0	113.6	98.4	93.9	89.0	88.2
Machinery & Equipment	80.9	100.0	106.8	104.7	96.3	89.7	91.9

Expenditures on construction are expected to be up about 13 per cent in 1971 and then to decline to below 1970 levels for the balance of the period. Increased investment in machinery and equipment is less pronounced in 1971 but levels reached then are expected to carry through 1972. As pointed out in previous reports, however, the breakdown between construction and equipment proves difficult for some organizations and it has at times in the past not been completely representative of activity in the construction and machinery/equipment sectors. The increased expenditures planned in construction in 1971 are of a somewhat specialized type in that they are concentrated in oil and gas transmission, mining, chemicals, and power utilities. As noted earlier, housing was not covered in this survey.

At the time of the current survey expenditures on construction by all the organizations included in the indexes were estimated at $2.7 billion in 1970 out of a total construction expenditure forecast of $11.4 billion as reported in *Private and Public Investment in Canada* (PPI).[1] Expenditures on new machinery and equipment by these organizations are estimated at $3.3 billion for 1970 out of a total investment in machinery and equipment of $6.6 billion (PPI). As noted in the summary indexes in the Appendix of this report, construction and machinery and equipment figures are included for 186 of the total of 211 organizations that participated in the survey.

[1]Based on data from Dominion Bureau of Statistics, and Department of Industry, Trade and Commerce, *Private and Public Investment in Canada: Outlook 1970, Mid-Year Review*, Catalogue No. 61-206, Ottawa, Queen's Printer, 1970.

Review of Principal Sectors

The following review of individual industries and business sectors indicates that the only significant increases in capital expenditures over the next five years are expected in Oil and Gas Transmission, Telecommunications and Other Manufacturing. As will be described more fully in the section pertaining specifically to it, the Other Manufacturing sector is inflated by the inclusion of the capital goods output of some companies. The investment outlook is relatively weak in most of the remaining sectors surveyed.

Among the universities surveyed the outlook is for considerable fluctuation over the period to 1975 but for average annual capital expenditures to remain close to 1970 levels.

The reporting governments indicate a substantial increase in spending on capital facilities in 1971 and approximately steady projected outlays throughout the period from 1971 to 1975.

Following the procedure adopted last year, this report shows the degree of coverage when possible, of the capital investment anticipated by the various groups covered in the survey in relation to total capital investment in Canada for each group as reported in *Private and Public Investment in Canada*. For three industries, chemicals, oil and gas transmission, and transportation and storage, a different grouping of the companies or part of their operations is used in this survey than in PPI and a comparison of the results is not meaningful.

In addition to the preparation of regular indexes of capital investment intentions, because of the weaker outlook reflected in the results of this year's survey, the data have been analysed to compare total investment intentions for the period 1970-74 at the time of the current survey with intentions one year earlier, in October 1969. From these results which are reported in the following sections, it will be noted that a number of substantial modifications were made during the past year in the investment outlook for certain industries and commercial groups. Reasons for changes in investment intentions over the past year were sought during the interviews and are reported with the magnitude of the change.

As mentioned in previous capital investment reports, the index appearing as "total" is an index of the total reported capital investment intentions. It does not represent an index of the simple total of construction and machinery and equipment expenditures used in preparing the indexes for these two categories of investment. In certain instances, when some companies were unable to provide a breakdown of their planned expenditures between construction and machinery/equipment and reported overall intentions only, the index of total expenditures may fall outside the range of the other two indexes. In these cases, the index of total expenditures covers the investment of more reporting companies and hence is not fully comparable with the two sub-indexes. We recognize that this feature of the survey results gives rise to some difficulty in interpretation and we encourage participants in the survey to report separately the construction and machinery/equipment components of their planned expenditures. We are aware, in turn, that this breakdown may be difficult to provide in some cases.

As explained earlier in this report, the indexes are constructed from overlapping year-to-year comparisons and make provision for fewer organizations reporting towards the end of the period. A complete summary of the indexes is presented in the Appendix.

Manufacturing - Total

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	68.0	100.0	83.7	73.2	63.8	60.3	59.5
Machinery & Equipment	78.2	100.0	109.7	101.3	91.9	93.3	86.0
Total	78.7	100.0	106.2	97.3	89.3	87.2	78.7

Number of firms reporting: 84.

This sector comprises all the manufacturing companies covered in the survey. Separate indexes and discussions follow for the individual manufacturing industries into which total manufacturing is subdivided.

Capital expenditures by the 84 manufacturing companies surveyed are expected to amount to $1.4 billion in 1970. This represents a substantial increase over 1969 expenditures but except for a moderate further increase planned for 1971, capital investment by this group of manufacturing companies is projected to decline each year through to 1975. The drop-off is consistently more pronounced in construction than in machinery and equipment. On the basis of data provided in *Private and Public Investment in Canada*, in 1969 the firms in the survey represented around 49 per cent of the capital expenditures of all manufacturing firms in Canada.

Aggregate capital investment intentions over the medium-term period, 1970-74, by the manufacturing firms surveyed remained essentially unchanged between October 1970 when the current survey was conducted and October 1969 when the previous survey was carried out. It will be noted, however, in the reviews of individual manufacturing industries which follow that substantial revisions were made in a number of sectors.

In the breakdown of capital expenditures by purpose, the proportion allocated for expansion of output is expected to decline from 60 per cent in 1970 to below 50 per cent in 1971 and 1972. An increased share of total investment by these companies is planned for modernization and replacement and for pollution control.

Fewer than one-half of the manufacturing firms reported that they were operating at *capacity* in 1970, and while a few expect to increase operating rates in 1971, a large proportion of these companies expect to have unused capacity during the next year.

The majority of the firms expect *sales* increases in 1971 and more expect increases in 1972. This view pertains to export sales, where applicable, as well as to domestic sales. The outlook for *profits* is somewhat less buoyant for 1971, but approximately three out of four manufacturing firms anticipate improved profits in 1972. A similar view is taken of general business conditions; a substantial number see relatively little change in 1971, but most of the manufacturers surveyed anticipate improvement in 1972.

Manufacturing - Food and Beverages

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	86.0	100.0	70.4	70.1	55.8	44.5	43.8
Machinery & Equipment	73.1	100.0	120.4	98.5	78.0	71.8	48.8
Total	78.0	100.0	101.2	87.6	69.5	61.4	45.3

Number of firms reporting: 7.

The survey covered seven large companies in the food and beverage industry, representing meat packers, food processors, brewers and distillers. This industry includes a large number of companies and the capital expenditures of the survey firms represented only about 30 per cent of capital investment for the whole industry in 1969. In 1970 capital expenditures as reported by the seven survey companies are expected to total $97 million, up substantially from 1969 levels.

An anticipated substantial increase in expenditures on machinery and equipment in 1971 is largely offset by a corresponding decline in projected outlays on construction. Total capital expenditures are expected to decline markedly through to 1975.

Total capital spending planned by the survey companies for the medium-term period 1970-74 is, however, 5 per cent higher this year than was planned for the same period at the time of last year's survey. Four of seven companies had revised their plans upward for this 1970-74 period since last year's survey, and two companies had made downward revisions.

Reasons given for upward revisions were anticipated growth in market demand, and consequent need for expansion of capacity. Companies which had lowered their plans for capital spending in the interval between the 1969 and 1970 surveys reported that they had done so because of cutbacks in growth plans, technical problems in plant construction, and preparation of lower, more realistic estimates of project requirements and costs.

The proportion of capital investment designated for expansion in 1971 and 1972 is around 76 per cent, down from 80 per cent in 1970. Expenditures on modernization and replacement are expected to increase from around 12 per cent in 1970 to approximately 16 per cent during the next two years.

Four of the survey companies reported that they were operating at *capacity* during 1970 and three at less than capacity. In 1971, five companies expect to be operating at, or near, capacity. The balance did not report for 1971.

In their outlook for 1971 and 1972, most companies see increased *sales* in their industry for both years. The outlook for *profits* is less optimistic, particularly in 1971, but improvement is anticipated for 1972.

Concerns mentioned which are particular to this industry included marketing board pricing policies and the downward pressure on prices being exerted by various outside groups.

Manufacturing - Pulp and Paper

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	88.8	100.0	77.6	75.3	67.5	62.0	55.0
Machinery & Equipment	93.7	100.0	93.9	89.6	85.2	74.4	62.0
Total	100.4	100.0	88.1	91.1	99.0	82.1	61.7

Number of firms reporting: 25.

The 25 companies covered in the survey are for the most part producers of pulp and paper, but a few produce lumber and other wood products. Capital investment reported by these companies in 1969 represents an estimated 56 per cent of the total investment by the pulp and paper and forestry industries. In 1970, the companies surveyed plan capital expenditures of about $340 million, essentially unchanged from 1969 outlays.

Throughout the period to 1975 with the exception of 1973, capital investment by the survey companies is projected at levels considerably below planned outlays in 1970. Total expenditures anticipated over the medium term by these companies remains essentially unchanged over the past year. Twelve of the 25 companies have revised plans upward during the year, 8 have made downward revisions and 3 have plans that remain unchanged.

Increased expenditures over the medium-term future arise from plans for plant improvement and further expansion plus higher costs associated with project changes, wage rates, and pollution abatement. Several companies reported that plans for large expansion projects are being considered but will be withheld until market and financial conditions are more favourable.

The share of overall capital investment designated for expansion shows a marked decline from over 50 per cent in 1970 to around 30 per cent in 1971 and 1972. A comparable shift upward is indicated for expenditures on modernization and replacement from 34 per cent during the past year to 50 per cent during the next two years. The only other anticipated change of significance is almost a doubling from 7 per cent to around 12 per cent of capital investment in facilities for the control of pollution.

Approximately one-half of the companies in the group reported that they were operating at *capacity* in 1970. More than three-quarters anticipate full operation in 1971.

The outlook for *sales* favoured some increase in 1971 followed by a larger increase in 1972. *Profits* in 1971 were expected to be at or below 1970 levels in most companies, while 1972 was expected to show considerable improvement.

Since many of the survey firms export a large proportion of their output, the unpegging of the Canadian dollar was of particular concern to this industry. Other concerns mentioned by the participants in this survey included economic conditions abroad, uncertainty over government pollution abatement policies, and rapidly rising costs of labour and transportation. Construction costs and work stoppages were reported by a number of companies as matters of particular concern.

Manufacturing - Primary Metals

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	51.9	100.0	88.2	68.1	49.9	44.5	61.0
Machinery & Equipment	51.4	100.0	140.5	120.4	93.2	111.4	90.3
Total	57.7	100.0	140.8	115.2	83.3	94.6	81.3

Number of firms reporting: 12.

The companies in the survey are engaged in the manufacture of primary aluminum, steel and base metal products. Their capital outlays in 1969 represented about two-thirds of the total investment by the primary metals industry.

Capital expenditures in 1970 by the survey firms are estimated at $347 million, of which $254 million represents investment in machinery and equipment. A further substantial increase is planned in 1971, in machinery and equipment, followed by lower levels of investment for the balance of the period under review.

Overall capital expenditures projected for the period 1970-74 have been increased during the past year by approximately 17 per cent, one of the largest upward revisions by any sector covered in the survey.

Seven companies increased their spending plans since last year's survey, two held the same, and only one was reduced.

Reasons for expanded estimates include need for additional capacity to satisfy market demand, desire for improvements in operating efficiency, and escalating costs of capital projects. Several companies reported increased costs also, for the installation of pollution abatement facilities.

The proportion of total capital investment allocated to expansion of facilities is expected to decline from 73 per cent in 1970 to around 60 per cent in 1971 and 1972. Expenditures on modernization and replacement are expected to increase, on the other hand, from around 16 per cent to close to 30 per cent. A higher proportion of the total is assigned also to pollution control, while the other categories are expected to remain fairly constant. Seven of the survey companies reported they were operating at *capacity* in 1970, three at less than capacity. They foresee little change in 1971.

Most companies expect *sales* in 1971 to be steady or down compared to 1970, with some improvement in this picture in 1972. *Profits* are expected to be unchanged in 1971 compared to 1970 but considerable improvement is expected in 1972.

Concerns mentioned which relate particularly to the primary metals industry include the cost of pollution control, new technology in products and processing, and transportation costs.

Manufacturing - Chemicals

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	59.9	100.0	125.0	93.5	82.9	82.9	73.2
Machinery & Equipment	92.6	100.0	116.3	105.0	83.1	65.2	58.5
Total	84.5	100.0	111.4	100.3	82.1	68.8	62.3

Number of firms reporting: 8.

The eight companies that participated in the survey are major chemical manufacturers. Their capital investment figures cannot be related directly to data in *Private and Public Investment in Canada*, but it is estimated that coverage by the survey is around 90 per cent of the total capital investment in the chemical industry, exclusive of the petrochemical operations of the oil refining companies which are included in this report under "Oil and Gas".

The survey firms plan to spend $102 million in 1970 and to increase by around 11 per cent in 1971. Considerably reduced capital expenditures are projected beyond 1972.

Total estimated outlays for the period 1970-74 by the firms surveyed have been reduced by 15 per cent since the time of the previous survey in the fall of 1969. Five of the companies revised their intentions downward, two increased their proposed expenditures and one remained unchanged.

Lower market demand and financial factors accounted for most of the downward revisions. Concern was expressed also for high construction costs and the cost of electric power. The upward revisions resulted for the most part from higher capital expenditures for pollution abatement and the addition of new product lines.

Less than one-half of the capital investment in 1970 was allocated to expansion with around 25 per cent designated for modernization and replacement, a substantial 8 per cent for research and development, 6 per cent for services, and 5 per cent for pollution abatement. During the next two years, expenditures for expansion are expected to increase to around 55 per cent, for services to around 13 per cent, and for pollution control to 7 per cent. Capital investment associated with research and development is indicated to drop back in 1971 and 1972 to the approximate levels shown for previous years.

Three companies reported operating at *capacity* in 1970 and four below capacity with no change foreseen in 1971.

The outlook was for *sales* in 1971 to be generally the same as in 1970 but almost all companies felt that 1972 would show a distinct improvement. *Profits* were expected to be up in 1971 over 1970 for half the companies reporting. Profit, too, was expected by almost all companies to be up in 1972.

The concern reported most frequently by the survey companies in the chemical industry was in connection with tariffs, both on raw material imports and on imported chemicals competing with products of domestic manufacture. The cost of pollution control and the higher exchange value of the Canadian dollar were other items mentioned as of particular concern to the chemical industry.

Manufacturing - Transportation Equipment

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	107.1	100.0	96.6	81.9	90.3	74.7	51.8
Machinery & Equipment	66.0	100.0	59.2	43.5	39.7	46.0	39.9
Total	70.7	100.0	63.4	47.8	45.3	49.3	41.4

Number of firms reporting: 6.

The six firms surveyed in the transportation equipment field are largely manufacturers of automobiles and aircraft or aircraft components. In 1969, their capital expenditures represented over 80 per cent of the transportation equipment industry as reported in *Private and Public Investment in Canada.*

In 1970, the companies in the survey plan to spend about $210 million. This is up substantially from 1969 figures but a large drop is anticipated in 1971, a further substantial decline in 1972 and relatively low levels of investment are indicated through to 1975. The surge in 1970 is due largely, however, to capitalized tooling costs which presumably will occur again on the normal two-three-year cycle but estimates of which were not included in the survey data.

During the course of the past year, total estimated capital investments by the survey companies for the period 1970-74 have been reduced by around 14 per cent. Four of the six companies revised their projected outlays downward while the remaining two firms made upward revisions.

In all cases, the principal reason given for reductions in capital expenditure was reduced market demand. In addition, some companies reported financial factors, work stoppages, and more realistic project estimates as contributing to reduced spending intentions.

The breakdown by purpose of proposed capital investment by this group of companies is distorted somewhat by projected tooling costs which are included in the "other" category. It appears nevertheless that these companies expect to devote a substantially smaller share of investment to expansion projects in 1971 and 1972 than in 1970. Aside from the tooling factor, the emphasis appears to shift during the next two years to modernization and replacement, services, and pollution control.

In all companies reporting, operations were below *capacity* during 1970, with only few of the companies expecting to be at capacity in 1971. One-half of the firms expect *sales* to be higher in 1971 compared to 1970, but the remaining companies expect sales to be lower. The majority of the companies anticipate improvements in both sales and *profits* in 1972.

Concern was expressed by these transportation equipment companies over the high cost of funds affecting their suppliers and customers.

Manufacturing - Other

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	41.6	100.0	81.6	69.3	66.6	72.7	68.1
Machinery & Equipment	96.3	100.0	126.6	133.7	140.3	140.9	155.3
Total	82.1	100.0	115.7	117.1	121.4	123.1	133.1

Number of firms reporting: 26.

The companies surveyed in this sector manufacture a wide range of products such as electrical and electronic products, cement, glass, textiles, tobacco, rubber, and machinery and metal products. In 1969, the 26 companies covered in the survey accounted for around 30 per cent of total capital investment by this "Other Manufacturing" category.

Expenditures in 1970 are estimated at $340 million, up considerably from 1969 outlays. Because of steady increases in investment in machinery and equipment, expenditures by this group of companies are expected to increase throughout the entire period. This is due almost entirely to the inclusion in this category of the output of some of the companies such as computer manufacturers whose products are frequently leased rather than sold to the user. It will be noted that construction expenditures by the survey companies are expected to decline markedly through to 1975.

The total capital investment intentions of these companies over the five-year medium-term period remained essentially unchanged over the past year. Ten companies revised their plans upward, ten revised downward, and the balance remained unchanged.

Reasons given for upward revisions were generally the planned provision of additional capacity for increased growth in market demand. Some companies expect to spend more because of cost increases and because of expanded outlays on pollution abatement.

Downward revisions were attributed largely to reduced market demand and more intensive competition from abroad.

Because of the wide diversity of this group of companies, an assessment of survey results in terms of the purpose for which expenditures are planned, is not very meaningful for this group.

Approximately two-thirds of the companies reported they were operating below *capacity* during 1970 but some of them expected to reach full capacity in 1971.

Most of the companies that reported on the *sales* outlook over the period ahead expect sales to increase in 1971, over 1970, and to improve further in 1972.

Approximately one-half of the companies reported that they expect *profits* to improve in 1971 and 1972.

Mining

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	78.7	100.0	124.3	112.4	60.9	35.1	24.2
Machinery & Equipment	81.1	100.0	134.0	147.9	71.9	42.3	32.5
Total	93.6	100.0	125.4	123.1	60.3	35.4	26.1

Number of firms reporting: 16.

The mining companies in the survey are engaged in the mining of asbestos, coal and potash as well as metals. On the basis of 1969 figures, they are estimated to account for about 85 per cent of the capital expenditures of the Canadian mining industry as a whole. Capital expenditures of close to $500 million are anticipated by the survey companies in 1970, representing a moderate increase over 1969 investment.

A substantial increase in capital outlay is planned for 1971 with the levels being maintained in 1972. A marked reduction in investment is indicated for the balance of the period but in recent surveys this pattern of projected expenditures has been rather typical of the mining industry.

Since the time this group of companies was interviewed in late 1969, overall capital expenditure projections from 1970 to 1974 have been increased by 58 per cent, the highest upward revision by a wide margin of all business sectors surveyed. Eleven of the 16 companies increased their spending intentions during the year, 3 remained unchanged and only 2 were revised downward.

The most common reason given for an increase in spending plans was increased market demand, both domestic and foreign, and a consequent need for greater capacity. A few companies reported that higher costs of carrying out capital projects gave rise to the increased expenditure estimates.

Over 75 per cent of capital outlays are planned for expansion in 1971 and 1972, representing little change from 1970. Around 17 per cent is allocated to modernization and replacement and 3 per cent to pollution abatement

Seven of the mining companies in the survey reported that they operated at *capacity* in 1970, while six firms indicated they were at less than full capacity. Ten of the companies expect to be operating at capacity in 1971, and only two below.

Most but not all of the companies expect both domestic and export *sales* to increase in 1971 over 1970 and look for further growth in 1972. *Profits* were expected by most companies to be higher in 1971 and 1972 compared to 1970.

The concern mentioned most frequently by the mining companies was that of labour -- not only costs, but also the problems of recruiting and retaining skilled labour in remote locations. Concern was expressed also over legislation requiring processing in certain locations, the costs of transportation and pollution abatement, and the uncertainty surrounding proposed changes in taxation.

Oil and Gas

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	98.9	100.0	100.8	106.7	112.5	117.0	116.9
Machinery & Equipment	66.5	100.0	93.2	84.3	81.2	71.0	66.0
Total	77.0	100.0	96.2	92.2	93.0	89.7	87.0

Number of firms reporting: 19.

The companies included in the survey range from those concerned only with the discovery and production of oil and gas to the fully integrated companies which engage also in refining and marketing. Direct comparison with figures in *Private and Public Investment in Canada* is not possible but the survey is estimated to cover a major proportion of capital investment in the oil and gas industry.

The survey companies plan to spend over $800 million in 1970, an amount which represents a substantial increase over 1969, and a level which the companies do not expect to reach again during the period to 1975. It will be noted, however, that outlays for construction (which includes well drilling), are expected to increase gradually during the period, while machinery and equipment expenditures show a steady decline.

Ten of the 19 survey companies reported that their capital expenditure plans for 1970-74 had been revised upward since last year, while 9 companies revised their estimates downward. But total capital spending intentions of these survey companies for 1970-74 is essentially unchanged from a year ago.

Companies reporting upward revisions gave as reasons, additional exploration and increases in production facilities in response to greater market demand. Increased labour and project costs were also factors. Revisions downward were accounted for by a variety of reasons: no new discoveries, organizational changes and consequent reallocation of capital appropriations, lower prices for some products, notably sulphur, and reduction of exploration plans.

A shift in purpose is indicated for the expenditures planned over the next two years. The proportion allocated to expansion declines from around 80 per cent to below 70 per cent, while modernization and replacement increases moderately to close to 20 per cent. A marked increase to almost 8 per cent of total investment is planned on projects for control of pollution.

Because of a range in type of activities in which these companies are engaged, the capacity of operations has mixed significance. However, of 14 companies reporting on this, 11 indicated they were operating at *capacity* in 1970 and 3 below. Twelve anticipated they would be operating at capacity in 1971. Expectation of *sales*, both domestic and export, and of *profits* was for increases in 1971 and 1972 by a large majority of the companies.

Oil and Gas Transmission

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	126.0	100.0	223.4	175.8	196.9	156.3	135.2
Machinery & Equipment	58.3	100.0	132.8	103.2	67.3	62.7	67.2
Total	117.3	100.0	161.2	126.4	125.5	102.9	93.3

Number of firms reporting: 9.

This group of companies includes the major oil and gas pipeline firms and the larger gas distribution utilities. Capital expenditures by these companies are estimated at around $270 million for 1970, which is down moderately from 1969 outlays. Expenditures are expected to rise sharply in 1971 and to remain at relatively high levels through 1973.

During the course of the past year, total medium-term capital investment intentions by the survey companies have been revised upward by almost $200 million or around 12 per cent. Six of the nine companies accounted for this increase which was largely in anticipation of increased shipments to export markets. Two companies revised their projections downward, because of high interest rates and the shortage of funds which prevailed during the past year.

Since only two of the nine companies surveyed reported allocation of their capital expenditures by purpose, the breakdown is not shown here nor is this category of company included in the "Allocation by Purpose" table in the Appendix.

Most of these firms reported that they were operating at *capacity* in 1970 and expect to continue to do so through 1971. As indicated, those engaged in export anticipate increased *sales* to those markets in 1971 and 1972 and for most of the companies, domestic sales are expected to increase as well during the period.

The majority of the companies look for improved *profits* during the next couple of years but some of them expressed concern over the high cost of funds on one hand, and regulated rates on the other hand. Companies engaged extensively in export commented on the difficulty of planning longer-term capital investment programs in the face of uncertainties in government policies about shipments of oil and gas to the United States.

Transportation and Storage

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	78.9	100.0	105.1	113.8	100.3	91.2	87.2
Machinery & Equipment	96.3	100.0	94.3	96.5	94.3	91.9	78.5
Total	87.9	100.0	98.8	105.7	100.5	96.6	88.8

Number of firms reporting: 9.

This industry group includes airlines, railways, motor transport companies, steamship lines, city transit systems and grain elevators. The companies surveyed estimate 1970 capital expenditures at around $560 million and do not foresee much increase above this level during the next few years.

During the past year, projected medium-term investment by this group of companies has been reduced by around 11 per cent. Five of the nine companies, which included the largest in the group in terms of capital expenditures, decreased their spending intentions largely because of declining revenues and the high cost of new facilities and funds.

The breakdown by purpose of planned capital expenditures remains essentially unchanged from 1970 to 1971 and 1972. Approximately two-thirds of total investment is for expansion, one-third for modernization and replacement.

Approximately one-half of the survey firms reported that they were operating close to *capacity*. Among such firms, the outlook for general business conditions and *profitability* of their own operations over the next two years was mixed, but most of these companies expect their *sales* to increase somewhat in 1971 and 1972.

The main concern expressed was about low profits as a result of slack sales volumes this year, coupled with the high cost of funds and high operating costs. A few of the companies are also concerned over the effects of changing technology on their operations.

Telecommunications

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	89.3	100.0	99.4	104.3	107.6	112.0	114.7
Machinery & Equipment	92.4	100.0	112.7	120.3	125.8	130.1	137.3
Total	91.3	100.0	108.0	114.6	119.4	123.7	129.3

Number of firms reporting: 10.

This category is composed of telephone, telegraph and broadcasting companies. Coverage by the survey is estimated at about 90 per cent of total capital investment in the industry. Investment of over $700 million is anticipated in 1970 by the survey companies, and capital expenditures are expected to increase steadily throughout the period to 1975.

Since the time of the survey one year ago, total medium-term investment plans by this group of companies have been revised upward around 11 per cent. Seven of the ten companies increased their projected outlays while two revised their estimates downward, and one company made no changes in investment intentions, for the period from 1970 to 1974.

A number of reasons were cited for the upward revisions which have taken place during the past year. They include increased demand for telecommunication services, introduction of more modernization projects to improve operating efficiency, introduction of new technology, greater availability of funds than foreseen one year ago, and higher than anticipated costs for installing the planned facilities.

In the two companies which reduced their medium-term investment estimates, the rate of growth in demand for their services had modified and a review of their forward planning resulted in lower estimates of requirements.

Little change is anticipated over the next two years in the allocation of investment by purpose. As reported for 1970, approximately two-thirds of 1971-72 outlays are allocated to expansion, one third to modernization and replacement.

Most of these firms reported that they were operating at virtual *capacity*, although a few of them indicated that existing facilities could handle some increase in traffic.

All of the companies look for a general improvement in business conditions in 1971 and 1972 and their *sales* volume is expected to increase during that period. However, only four of the ten survey firms anticipate increased *profits*. Two companies expect earnings to decline while the remaining three foresee no change from 1970 levels.

Particular concerns reported by these companies were in connection with evolving government policies pertaining to the telecommunications industry. The high cost and lack of availability of funds were reported to pose special problems for a capital-intensive industry such as this, where rates for their services are, for the most part, closely regulated.

Power Utilities

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	84.9	100.0	120.7	92.2	86.3	85.3	93.8
Machinery & Equipment	81.6	100.0	93.3	95.4	92.0	88.7	106.4
Total	87.5	100.0	108.3	90.8	87.0	84.0	95.2

Number of firms reporting: 12.

Companies in this group are engaged in the production of electric power, and the survey provides virtually full coverage of the industry. In 1970, the preliminary actual capital expenditure reported was $1.5 billion which represents a substantial increase over 1969 investment and an increase, too, of over $125 million from expenditures planned for 1970 at the time of the 1969 survey. The only further increase from current levels is indicated for 1971, after which projected capital investment is shown to decline. As pointed out in our report of the 1969 capital investment survey, the question arises as to whether these projected levels of investment in new facilities will be adequate in relation to the trend of growth in demand for electric power.

For the period 1970-74, capital expenditure intentions by this group of companies have been revised upward during the past year, by 11 per cent. Six of the companies increased their medium-term capital expenditure plans upward, and five reduced them.

Nearly all the companies that revised plans upward during the last 12 months gave as reasons, increased demand for electric power and consequent requirements for increased capacity. Some mentioned increased project costs as a cause of higher projected outlays. Reasons given for revisions downward were in nearly all cases a lower rate of growth in demand than was foreseen one year ago.

Around 90 per cent of investment by the power utilities is typically for expansion, with most of the balance allocated to modernization and replacement and to research and development.

Eight of the firms indicated that they had been operating at normal *capacity* during 1970 and expected similar conditions in 1971.

Nine of the 11 firms reporting on business conditions believe *sales* would be up in 1971 compared to 1970 and all 11 expect demand will be up in 1972. Most of the firms expect normal *profit* growth in 1971 and again in 1972.

The concern mentioned most frequently by these companies was the cost and availability of funds in an industry as capital intensive as power utilities. Concern was expressed also, however, over some of the technical problems associated with nuclear power and over some of the proposals in the White Paper on Taxation.

Trade, Finance and Other Commercial

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	85.1	100.0	95.7	70.0	44.8	40.5	32.2
Machinery & Equipment	77.1	100.0	112.3	131.8	126.0	106.3	99.3
Total	81.7	100.0	104.6	93.2	74.9	64.7	57.3

Number of firms reporting: 17.

Included in this sector are banks, department stores, chain stores, and other firms engaged in a variety of commercial services. Because of the wide range of companies and diversity of type of operation, the companies surveyed represent only 14 per cent of the capital investment of the entire category.

The planned capital outlays of the survey firms for 1970 is about $260 million, a substantial increase over 1969.

A further moderate increase is anticipated in 1971 followed by a steady, rather pronounced, decline through the balance of the period. It will be noted that proposed investment in machinery and equipment is relatively strong and that the weakness in total intentions is largely due to the anticipated decline in construction outlays.

Total capital outlays planned for 1970-74 by the organizations surveyed were revised upward by 10 per cent since last year's survey. Ten of the organizations increased their planned expenditures, six revised their projections downward, and one made no change in its planned investment.

The most common reason given for revising plans upward was increased market demand and the need for additional facilities. Other reasons given included modernization of operations and change in policy towards owning rather than leasing buildings occupied.

Downward revisions of plans were attributed largely to the high cost and limited availability of funds. In contrast to the above, a number of these companies reported a change in policy towards leasing rather than owning of premises.

Around three-quarters of the capital investment planned by these firms in 1970, and again in 1971, is reported for expansion of facilities with most of the balance for modernization and replacement. For 1972, the proportion expected to be spent on expansion drops to under 60 per cent and modernization and replacement outlays increase proportionately to around 40 per cent. This shift likely accounts, in part at least, for the substantial increase in the machinery and equipment index figure between 1971 and 1972.

All but one of this group expected that *sales* would be improved in 1971, and all believe 1972 will show further improvement. *Profit* expectations on the other hand were quite mixed with approximately one-half of the respondents anticipating either unchanged or lower profit levels in 1971 and 1972.

The cost and availability of funds was the concern mentioned most frequently by these enterprises.

Universities

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Construction	86.9	100.0	108.9	88.9	111.9	102.9	88.3
Machinery & Equipment	101.0	100.0	110.7	88.4	101.4	105.3	92.1
Total	81.9	100.0	109.0	90.6	110.4	105.1	90.5

Number of institutions reporting: 25.

Universities from all provinces were included in the survey which covers approximately 63 per cent of planned capital investment in all universities in Canada. Expenditures in 1970 are estimated at about $300 million, an increase of around 20 per cent over 1969, and are expected to increase by a further 9.0 per cent next year. Over the balance of the period to 1975, considerable fluctuation is anticipated in levels of expenditure, but indications are that average annual outlays will approximate those of 1970.

The pattern of expenditure on construction is generally similar to that for machinery and equipment, representing a shift from the 1969 survey when substantially greater increases were expected in expenditures on construction than on machinery and equipment. During the past year, 18 of the 25 universities in the survey reduced their planned capital expenditures for the period 1970 to 1975 while 6 revised their spending intentions upward, and one remained unchanged. In total, the reduction in projected outlays amounted to approximately 6 per cent of 1969 estimates.

Governments

	1969	1970	1971	1972	1973	1974	1975
1970 = 100							
Total	88.6	100.0	114.1	115.6	115.0	112.8	113.5

Number of governments reporting: 10.

Capital expenditure intentions were provided for this survey by the federal government and most of the provincial governments. Some of the latter also provided information on spending plans of municipalities. Sufficient information on the construction and machinery/equipment components is not available to permit a breakdown of total planned spending into these two categories. As in the case of other participants in the survey, a full reporting of anticipated outlays on construction and machinery/ equipment by the governments will be sought in future in an endeavour to make the results of the survey more useful to readers of the report.

Anticipated government capital expenditures included in this year's survey amount to around $3.3 billion in 1970. Indications are that they will increase to approximately $3.7 billion in 1971 and that they will remain at around that figure through to 1975.

It may be noted that this represents a substantial increase in planned government investment expenditures over those reported in the 1969 survey. However, this is accounted for largely by the fact that some of the governments reported a broader coverage of expenditure categories in the current survey than in 1969. Our objective is, of course, to have reported expenditures in this category comprise the entire range of government capital spending down to, and including, the municipal level. At present, for the most part, reported expenditures represent investment in schools, hospitals, highways and public buildings.

APPENDIX

The coverage in this survey in terms both of participants and information requested remained essentially the same as in the one conducted last year.

Again this year, participants were requested to provide us with either their projections of capital expenditures on the basis of 1970 dollars or alternatively to advise us of the allowance provided in their projections for price changes from 1970 levels. Approximately one-half of the respondents' figures included allowances for price changes which were removed before tabular and analytical use was made of the data in this report. A number of the officials interviewed still expressed reservations as to the accuracy with which price assumptions were incorporated into their estimates as they were being compiled. As was mentioned in a number of the individual industry and sector reviews, higher costs was one of the reasons given for an upward revision of medium-term spending intentions but there is some uncertainty as to whether such increases were identified as price changes which could be removed from the data before analysis. Accordingly, as expressed in the report of last year's survey, we believe that the data presented in this report represent a somewhat closer approximation to constant dollars than did reports of previous medium-term capital investment surveys, but the data should not be regarded as representing accurate constant dollar estimates.

The following table presents in some detail a description by industry and sector where sufficient data were available, of the survey results by the main purpose of the proposed investment. An increased number of participants provided this information this year. However, since projected investment (certainly by 1973) falls below actual levels which can realistically be anticipated, the information on the purpose of the outlays is presented only through 1972. As mentioned earlier, a number of capital projects are likely to represent a combination of expansion, modernization and replacement and may include, as well, facilities for purposes such as research and development and pollution control. When overlap occurred and when the expenditure could not be realistically broken down by the various purposes it was designed to serve, companies were asked to list the expenditure under the heading which represented the main purpose of the facility. Hence this classification of investment by purpose should not be regarded as a precise allocation of all capital expenditure intentions provided by the survey.

ALLOCATION BY PURPOSE OF CAPITAL INVESTMENT INTENTIONS OF BUSINESS FIRMS

	Expansion	Modernization and Replacement	Services	Research and Development	Pollution Abatement	Other	Unallocated	Total
				(Per cent)				
Manufacturing - Total								
1970 --	60.1	20.2	2.1	1.6	3.7	8.0	4.3	100.0
1971 --	49.1	26.8	3.1	1.2	6.0	4.9	8.9	100.0
1972 --	46.7	27.9	2.9	1.1	5.2	4.0	12.2	100.0
Food & Beverage								
1970 --	81.3	11.7	.8	.9	2.4	2.9	--	100.0
1971 --	75.8	16.8	2.4	1.0	2.3	1.7		100.0
1972 --	76.7	15.2	2.7	1.2	1.7	2.5		100.0
Pulp & Paper								
1970 --	52.9	34.2	2.1	.8	7.0	3.0		100.0
1971 --	31.7	50.1	2.0	.8	11.4	4.0		100.0
1972 --	30.0	50.0	1.8	.9	13.1	4.2		100.0
Primary Metals								
1970 --	73.1	16.2	2.7	0.5	4.6	2.9	--	100.0
1971 --	58.3	29.5	2.3	0.4	7.3	2.2		100.0
1972 --	60.8	29.0	2.1	0.3	5.3	2.5		100.0
Chemicals								
1970 --	48.3	26.2	5.9	8.3	5.2	6.1		100.0
1971 --	50.0	19.4	17.0	1.0	8.0	4.6		100.0
1972 --	59.8	19.0	9.4	0.9	5.9	5.0		100.0
Transportation Equipment								
1970 --	73.2	7.7	2.2	0.3	2.1	14.5		100.0
1971 --	51.0	11.6	3.2	0.6	7.4	26.2		100.0
1972 --	14.7	28.1	13.1	3.3	4.2	36.6		100.0
Other Manufacturing								
1970 --	38.4	20.5	1.0	3.2	0.5	16.4	20.0	100.0
1971 --	42.9	15.9	1.3	2.7	0.4	1.6	35.2	100.0
1972 --	36.3	16.1	1.9	1.8	0.2	2.1	41.6	100.0

Mining								
1970 --	75.8	18.5	0.8	0.6	2.7	1.6	--	100.0
1971 --	76.8	18.6	0.3	1.2	3.0	0.1		100.0
1972 --	78.1	16.4	0.9	0.7	3.6	0.3		100.0
Oil & Gas								
1970 --	79.3	15.9	0.7	0.4	1.9	1.8		100.0
1971 --	68.4	19.9	0.8	0.4	7.7	2.8		100.0
1972 --	68.8	18.1	0.4	0.5	8.0	4.2		100.0
Transportation & Storage								
1970 --	68.1	31.8	--	0.05	0.05			100.0
1971 --	65.6	34.3	--	--	0.1			100.0
1972 --	67.7	32.1		0.1	0.1			100.0
Communications								
1970 --	66.3	31.7	2.0					100.0
1971 --	67.1	30.8	2.1					100.0
1972 --	66.2	32.0	1.8					100.0
Power Utilities								
1970 --	89.7	7.8	2.5					100.0
1971 --	90.6	6.9	0.5	2.0				100.0
1972 --	90.8	6.5	0.4	2.3				100.0
Trade, Finance & Other Commercial								
1970 --	72.6	27.2	0.1		0.1			100.0
1971 --	76.1	23.5	0.3		0.1			100.0
1972 --	58.6	40.9	0.3		0.2			100.0
TOTAL BUSINESS								
1970 --	71.1	21.1	1.2	0.9	1.6	2.8	1.3	100.0
1971 --	68.3	22.1	1.4	0.9	2.9	1.7	2.7	100.0
1972 --	66.0	24.0	1.4	0.8	2.6	1.7	3.5	100.0

Since not all companies in the group surveyed allocated capital investment intentions by purpose, these columns show only the sectors in which half or more of the companies in that sector reported this information.

SURVEY COVERAGE

Compared with

NATIONAL ACCOUNTS

	Construction	Machinery and Equipment	Total
	(Millions of dollars)		
A. TOTAL CAPITAL EXPENDITURES			
National Accounts**			
Total private and public capital expenditures in 1969	10,672	5,940	16,612
Survey			
Capital expenditures in 1969 of all organizations included in survey	2,404	2,499	8,222*
Percentage coverage of *total* capital expenditure	*23%*	*42%*	*49%*
B. BUSINESS			
National Accounts**			
Total private and public capital expenditure in 1969	10,672	5,940	16,612
less government outlays	2,443	293	2,736
less housing	3,354	--	3,354
less institutions	513	127	640
less agriculture and fishing	243	747	990
Total business capital expenditures in 1969	4,119	4,773	8,892
Survey			
Capital expenditures in 1969 of all business organizations included in survey	2,114	2,445	5,213*
Percentage coverage of *business* capital expenditures	*51%*	*51%*	*59%*

* These figures cover all organizations participating in the survey. However, since a number of organizations were unable to allocate spending between construction, and machinery and equipment, the survey figures for those two columns do not agree with the total.

** National Accounts data from Dominion Bureau of Statistics, and Department of Industry, Trade and Commerce, *Private and Public Investment in Canada: Outlook 1970, Mid-Year Review*, Catalogue No. 61-206, Ottawa, Queen's Printer, 1970, Tables 1 and 9.

The preceding table indicates that the coverage provided by this survey represented 59 per cent of total business capital formation in 1969 for the categories surveyed and that it accounted for 49 per cent of all private and public investment in Canada.

The final table presents summaries of all indexes included in this report. Although 1969 is the latest year for which final capital investment data were available, we believe, as noted earlier, that indexes on the basis of 1970 = 100 would be most useful. Since preliminary actual figures for 1970 could be estimated reasonably closely at the time of the survey, the indexes presented here are on the basis of 1970 = 100, with 1969 results appearing in appropriate relationship.

It will be noted that the number of organizations which were able to provide capital investment projections drops off towards the end of the period. As explained in footnote (3) to the final table which follows, allowance is made for this narrower coverage in certain years, and distortions from lack of figures for some organizations are avoided by using overlapping year-to-year comparisons in constructing the indexes.

Also, as pointed out earlier in this report, the total indexes represent indexes of total capital investment intentions rather than an index of the sum of the construction and machinery and equipment expenditures used in compiling the construction and machinery and equipment indexes. It will be noted from the information appearing under "Organizations Included" that a few participants were not able to provide a breakdown of their proposed expenditures between construction, and machinery and equipment. In some cases, the projected levels of expenditures for these organizations were sufficiently different from the rest of the group to cause the "total" index to fall outside the limits of the construction, and machinery and equipment sub-indexes.

SUMMARY INDEXES OF CAPITAL INVESTMENT INTENTIONS

(1970 = 100.0)

	1969	1970	1971	1972	1973	1974	1975	1969	1970
				Construction					
Manufacturing - Total	68.0	*100.0*	83.7	73.2	63.8	60.3	59.5	78.2	*100.0*
Food & Beverages	86.0	*100.0*	70.4	70.1	55.8	44.5	43.8	73.1	*100.0*
Pulp & Paper	88.8	*100.0*	77.6	75.3	67.5	62.0	55.0	93.7	*100.0*
Primary Metals	51.9	*100.0*	88.2	68.1	49.9	44.5	61.0	51.4	*100.0*
Chemicals	59.9	*100.0*	125.0	93.5	82.9	82.9	73.2	92.6	*100.0*
Transportation Equipment	107.1	*100.0*	96.6	81.9	90.3	74.7	51.8	66.0	*100.0*
Other	41.6	*100.0*	81.6	69.3	66.6	72.7	68.1	96.3	*100.0*
Mining	78.7	*100.0*	124.3	112.4	60.9	35.1	24.2	81.1	*100.0*
Oil & Gas(1)	98.9	*100.0*	100.8	106.7	112.5	117.0	116.9	66.5	*100.0*
Oil & Gas Transmission(2)	126.0	*100.0*	223.4	175.8	196.9	156.3	135.2	58.3	*100.0*
Transportation & Storage	78.9	*100.0*	105.1	113.8	100.3	91.2	87.2	96.3	*100.0*
Telecommunications	89.3	*100.0*	99.4	104.3	107.6	112.0	114.7	92.4	*100.0*
Power Utilities	84.9	*100.0*	120.7	92.2	86.3	85.3	93.8	81.6	*100.0*
Trade, Finance & Other Commercial	85.1	*100.0*	95.7	70.0	44.8	40.5	32.2	77.1	*100.0*
Total Business	86.4	*100.0*	113.9	99.1	92.5	88.0	88.1	80.6	*100.0*
Universities	86.9	*100.0*	108.9	88.9	111.9	102.9	88.3	101.0	*100.0*
Governments	--	--	--	--	--	--	--	--	--
Survey Total	86.4	*100.0*	113.6	98.4	93.9	89.0	88.2	80.9	*100.0*
Organizations Included(3)	*173*	*186*	*182*	*173*	*170*	*166*	*146*	*173*	*186*

(1) Includes production and refining.

(2) Includes pipelines and distribution.

(3) Because the number of organizations providing estimates is not constant throughout the period, the index numbers have been built up from overlapping year-to-year comparisons rather than from simple totals. The figures used for any given year cover the same firms as in the immediately preceding year. Thus, although the coverage of the index is narrower in certain years, there is no distortion arising from lack of figures for some organizations.

SUMMARY INDEXES OF CAPITAL INVESTMENT INTENTIONS(cont'd.)

(1970 = 100.0)

1971	1972	1973	1974	1975	1969	1970	1971	1972	1973	1974	1975
Machinery and Equipment								Total			
109.7	101.3	91.9	93.3	86.0	78.7	*100.0*	106.2	97.3	89.3	87.2	78.7
120.4	98.5	78.0	71.8	48.8	78.0	*100.0*	101.2	87.6	69.5	61.4	45.3
93.9	89.6	85.2	74.4	62.0	100.4	*100.0*	88.1	91.1	99.0	82.1	61.7
140.5	120.4	93.2	111.4	90.3	57.7	*100.0*	140.8	115.2	83.3	94.6	81.3
116.3	105.0	83.1	65.2	58.5	84.5	*100.0*	111.4	100.3	82.1	68.8	62.3
59.2	43.5	39.7	46.0	39.9	70.7	*100.0*	63.4	47.8	45.3	49.3	41.4
126.6	133.7	140.3	140.9	155.3	82.1	*100.0*	115.7	117.1	121.4	123.1	133.1
134.0	147.9	71.9	42.3	32.5	93.6	*100.0*	125.4	123.1	60.3	35.4	26.1
93.2	84.3	81.2	71.0	66.0	77.0	*100.0*	96.2	92.2	93.0	89.7	87.0
132.8	103.2	67.3	62.7	67.2	117.3	*100.0*	161.2	126.4	125.5	102.9	93.3
94.3	96.5	94.3	91.9	78.5	87.9	*100.0*	98.8	105.7	100.5	96.6	88.8
112.7	120.3	125.8	130.1	137.3	91.3	*100.0*	108.0	114.6	119.4	123.7	129.3
93.3	95.4	92.0	88.7	106.4	87.5	*100.0*	108.3	90.8	87.0	84.0	95.2
112.3	131.8	126.0	106.3	99.3	81.7	*100.0*	104.6	93.2	74.9	64.7	57.3
106.5	104.6	96.0	92.6	91.4	85.8	*100.0*	108.9	101.0	93.8	89.3	88.1
110.7	88.4	101.4	105.3	92.1	81.9	*100.0*	109.0	90.6	110.4	105.1	90.5
--	--	--	--	--	88.6	*100.0*	114.1	115.6	115.0	112.8	113.5
106.8	104.7	96.3	89.7	91.9	86.5	*100.0*	110.7	105.7	101.8	98.0	96.8
182	*173*	*170*	*166*	*146*	*205*	*210*	*211*	*202*	*198*	*191*	*162*

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PUBLICATIONS DU CONSEIL
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Annual Reviews	Author—Auteur	Exposés annuels
First Annual Review: Economic Goals for Canada to 1970 (EC21-1/1964, $3.50)	Council – Conseil	Premier exposé annuel: Objectifs économiques du Canada pour 1970 (EC21-1/1964F, $3.50)
Second Annual Review: Towards Sustained and Balanced Economic Growth (EC21-1/1965, $2.75)	Council – Conseil	Deuxième exposé annuel: Vers une croissance économique équilibrée et soutenue (EC21-1/1965F, $2.75)
Third Annual Review: Prices, Productivity and Employment (EC21-1/1966, $2.75)	Council – Conseil	Troisième exposé annuel: Les prix, la productivité et l'emploi (EC21-1/1966F, $2.75)
Fourth Annual Review: The Canadian Economy from the 1960's to the 1970's (EC21-1/1967, $2.75)	Council – Conseil	Quatrième exposé annuel: L'économie canadienne des années 1960 aux années 1970 (EC21-1/1967F, $2.75)
Fifth Annual Review: The Challenge of Growth and Change (EC21-1/1968, $2.75)	Council – Conseil	Cinquième exposé annuel: Défi posé par la croissance et le changement (EC21-1/1968F, $2.75)
Sixth Annual Review: Perspective 1975 (EC21-1/1969, $2.75)	Council – Conseil	Sixième exposé annuel: Perspectives 1975 (EC21-1/1969F, $2.75)
Seventh Annual Review: Patterns of Growth (EC21-1/1970, $2.50)	Council – Conseil	Septième exposé annuel: Les diverses formes de la croissance (EC21-1/1970F, $2.50)
Performance and Potential: Mid-1950's to Mid-1970's (EC21-1/1970-1, $1.50)	Council – Conseil	La tenue et le potentiel de l'économie: du milieu des années 1950 au milieu des années 1970 (EC21-1/1970-1F, $1.50)

Staff Studies	Author—Auteur	Études préparées par le personnel
1. Population and Labour Force Projections to 1970 (EC22-1/1, $.75)	Frank T. Denton, Yoshiko Kasahara, Sylvia Ostry	1. Projections de la population et de la main-d'œuvre jusqu'à 1970 (EC22-1/1F, $.75)
2. Potential Output, 1946 to 1970 (EC22-1/2, $1.00)	B. J. Drabble	2. Potentiel de production, 1946 à 1970 (EC22-1/2F, $1.00)
3. An Analysis of Post-War Unemployment (EC22-1/3, $.75)	Frank T. Denton, Sylvia Ostry	3. Une analyse du chômage depuis la fin de la guerre (EC22-1/3F, $.75)
4. Housing Demand to 1970 (EC22-1/4, $.75)	Wolfgang M. Illing	4. Demande d'habitations pour 1970 (EC22-1/4F, $.75)
5. Business Investment to 1970 (EC22-1/5, $1.00)	Derek A. White	5. Investissements privés pour 1970 (EC22-1/5F, $1.00)
6. Special Survey of Longer Range Investment Outlook and Planning in Business (EC22-1/6, $.25)	B. A. Keys	6. Enquête spéciale sur les intentions et la programmation à moyen terme des entreprises privées (EC22-1/6F, $.25)
7. Canada and World Trade (EC22-1/7, $.50)	M. G. Clark	7. Le Canada et le commerce mondial (EC22-1/7F, $.50)
8. Export Projections to 1970 (EC22-1/8, $.75)	J. R. Downs	8. Projections des exportations jusqu'à 1970 (EC22-1/8F, $.75)
9. Federal Tax Revenues at Potential Output, 1960 and 1970 (EC22-1/9, $.50)	D. J. Daly	9. Rendement des impôts fédéraux dans l'hypothèse de la réalisation du potentiel de production, 1960 et 1970 (EC22-1/9F, $.50)
10. National Saving at Potential Output to 1970 (EC22-1/10, $.50)	Frank W. Wildgen	10. L'épargne nationale dans l'hypothèse de la réalisation du potentiel de production pour 1970 (EC22-1/10F, $.50)
11. Changes in Agriculture to 1970 (EC22-1/11, $.50)	John Dawson	11. Changements dans le secteur agricole jusqu'à 1970 (EC22-1/11F, $.50)
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13. Internal Migration in Canada, 1921-1961 (EC22-1/13, $1.60)	Isabel B. Anderson	13. Migration à l'intérieur du Canada, 1921-1961 (EC22-1/13F, $1.60)
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15. An Analysis of Interregional Differences in Manpower Utilization and Earnings (EC22-1/15, $1.00)	Frank T. Denton	15. Analyse des différences interrégionales dans l'utilisation de la main-d'œuvre et le revenu gagné (EC22-1/15F, $1.00)

Staff Studies (*continued*)	Author—Auteur	Études préparées par le personnel (*suite*)
17. Business Cycles in Canada (EC22-1/17, $2.25)	Derek A. White	17. Les cycles économiques au Canada (EC22-1/17F, $2.25)
18. Manpower Planning in Industry: A Case Study (EC22-1/18, $1.00)	B. A. Keys H. H. Wright	18. La planification de la main-d'œuvre dans l'industrie (Étude de cas) (EC22-1/18F, $1.00)
19. Population, Family, Household and Labour Force Growth to 1980 (EC22-1/19, $1.00)	Wolfgang M. Illing Yoshiko Kasahara Frank T. Denton M. V. George	19. La croissance de la population, du nombre de familles et de la main-d'œuvre, jusqu'en 1980 (EC22-1/19F, $1.00)
20. Enrolment in Schools and Universities, 1951-52 to 1975-76 (EC22-1/20, $1.25)	Wolfgang M. Illing Zoltan E. Zsigmond	20. Inscriptions aux écoles et aux universités, 1951-1952 à 1975-1976 (EC22-1/20F, $1.25)
21. Scale and Specialization in Canadian Manufacturing (EC22-1/21, $1.75)	D. J. Daly B. A. Keys E. J. Spence	21. Échelle et spécialisation dans l'industrie manufacturière canadienne (EC22-1/21F, $1.75)
22. Medium-Term Business Investment Outlook: 1967 Survey (EC22-1/22, $.35)	B. A. Keys	22. Perspectives à moyen terme des investissements des entreprises: Relevé de 1967 (EC22-1/22F, $.35)
23. Canadian Income Levels and Growth: An International Perspective (EC22-1/23, $2.25)	Dorothy Walters	
24. Canadian Agricultural Productivity (EC22-1/24, $1.50)	L. Auer	
25. Enrolment in Educational Institutions, by Province, 1951-52 to 1980-81 (EC22-1/25. $3.00)	Z. E. Zsigmond C. J. Wenaas	25. Inscriptions dans les institutions d'enseignement, par province, de 1951-1952 à 1980-1981 (EC-22-1/25F, $3.00)
26. Personal Consumer Expenditures in Canada, 1926-75: Part 1 (EC22-1/26-1, $1.50)	Thomas T. Schweitzer	26. Dépenses personnelles de consommation au Canada, 1926-1975: Partie 1 (EC22-1/26-1F, $1.50)
Personal Consumer Expenditures in Canada, 1926-75: Part 2 (EC22-1/26-2, $1.50)	Thomas T. Schweitzer	Dépenses personnelles de consommation au Canada, 1926-1975: Partie 2 (EC22-1/26-2F, $1.50)
*Personal Consumer Expenditures in Canada, 1926-75: Part 3 (EC22-1/26-3, $0.00)	Thomas T. Schweitzer	†Dépenses personnelles de consommation au Canada, 1926-1975: Partie 3 (EC22-1/26-3F, $0.00)
*27. Some Economic Aspects of Provincial Educational Systems (EC22-1/27, $0.00)	J. Cousin J.-P. Fortin C. J. Wenaas	†27. Certains aspects économiques des systèmes provinciaux d'enseignement (EC22-1/27F, $0.00)
28. Canadian Growth Revisited, 1950-1967 (EC22-1/28, $1.50)	Dorothy Walters	

Staff Studies (*concluded*)	Author—Auteur	Études préparées par le personnel (*fin*)
*29. Sources of Growth in Canadian Industries, 1946-68 (EC22-1/29, $0.00)	Wolfgang M. Illing	†29. Sources de croissance dans les industries canadiennes, 1946-1968 (EC22-1/29F, $0.00)
*30. Productivity Change in Canadian Mining Industries (EC22-1/30, $0.00)	John Dawson	†30. L'évolution de la productivité dans les industries extractives canadiennes (EC22-1/30F, $0.00)
*31. An Analysis of Canadian Manufacturing Productivity: Some Preliminary Results (EC22-1/31, $0.00)	Harry H. Postner	†31. Analyse de la productivité dans les industries manufacturières canadiennes—Premiers résultats (EC22-1/31F, $0.00)
*32. Canada-United States Price and Productivity Differences in Manufacturing Industries, 1963 (EC22-1/32, $0.00)	E. C. West	†32. Différences de prix et de productivité dans les industries manufacturières, Canada et États-Unis, 1963 (EC22-1/32F, $0.00)
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1. Immigration and Emigration of Professional and Skilled Manpower During the Post-War Period (EC22-2/1, $1.50)	L. Parai	1. Immigration et émigration de spécialistes et de travailleurs qualifiés depuis la fin de la guerre (EC22-2/1F, $1.50)
2. A Survey of Labour Market Conditions, Windsor, Ontario, 1964: A Case Study (EC22-2/2, $.50)	G. R. Horne W. J. Gillen R. A. Helling	2. Relevé des conditions du marché du travail à Windsor (Ontario), 1964 (Étude de cas) (EC22-2/2F, $.50)
3. Perspective on Canada's International Payments (EC22-2/3, $1.60)	David W. Slater	3. Perspectives quant aux paiements internationaux du Canada (EC22-2/3F, $1.60)
4. Incomes Policies—Some Foreign Experiences and Their Relevance for Canada (EC22-2/4, $1.75)	David C. Smith	4. Politiques des revenus—certaines expériences à l'étranger et les conclusions à en tirer pour le Canada (EC22-2/4F, $1.75)
5. Price Stability and High Employment—The Options for Canadian Economic Policy: An Econometric Study (EC22-2/5, $3.25)	R. G. Bodkin E. P. Bond G. L. Reuber T. R. Robinson	
6. Canadian Labour Relations in an Era of Technological Change (EC22-2/6, $1.25)	J. R. Cardin	6. Les relations du travail au Canada face aux changements technologiques (EC22-2/6F, $1.25)
7. Canadian Policies for Rural Adjustment: A Study of the Economic Impact of ARDA, PFRA, and MMRA (EC22-2/7, $2.25)	Helen Buckley Eva Tihanyi	7. Politiques canadiennes de rajustement rural: Étude des répercussions économiques des programmes ARDA, PFRA et MMRA (EC22-2/7F, $2.25)
8. Science, Technology and Innovation (EC22-2/8, $1.50)	Andrew H. Wilson	8. Science, technologie et innovation (EC22-2/8F, $1.50)
9. Effective Protection in the Canadian Economy (EC22-2/9, $1.00)	James R. Melvin Bruce W. Wilkinson	9. Protection effective dans l'économie canadienne (EC22-2/9F, $1.00)
10. The Take-Over of Canadian Firms, 1945-61 (EC22-2/10, $2.25)	Grant L. Reuber Frank Roseman	
11. Future Market Outlets for Canadian Wheat and Other Grains (EC22-2/11, $3.00)	S. C. Hudson	†11. Débouchés futurs pour le blé et les autres céréales du Canada (EC22-2/11F, $3.00)
12. Interregional Competition in Canadian Cereal Production (EC22-2/12, $3.00)	W. J. Craddock	
*13. Canadian Hospital Costs and Efficiency (EC22-2/13, $0.00)	R. D. Fraser	†13. Les coûts et l'efficacité dans les hôpitaux canadiens (EC22-2/13F, $0.00)
*14. Expenditures, Output and Productivity in Canadian University Education (EC22-2/14, $0.00)	Walter Hettich	†14. Coût, production et productivité des universités canadiennes (EC22-2/14F, $0.00)

Conference Papers and Reports	Author—Auteur	Documents et rapports de colloques
National Conference on Labour-Management Relations (1964) (EC22-364, $2.00)		Colloque national sur les relations patronales-ouvrières (1964) (EC22-364F, $2.00)
National Conference on Labour-Management Relations (1967) (EC22-367, $2.00)		Colloque national sur les relations patronales-ouvrières (1967) (EC22-367F, $2.00)
Conference on Stabilization Policies, Report of the Conference at University of Western Ontario, August 1965 (EC22-665, $3.00)		Colloque sur les politiques de stabilisation, Rapport du colloque tenu à l'Université Western Ontario, août 1965 (EC22-665F, $3.00)
Conference on International Trade and Canadian Agriculture, Banff, Alberta, January 1966 (EC22-766, $3.00)		Colloque sur le commerce international et l'agriculture canadienne, Rapport du colloque tenu à Banff (Alberta), janvier 1966 (EC22-766F, $3.00)
Conference on Government Information Systems, Ottawa, October 5 and 6, 1967 (EC22-1168, $1.50)		
Papers presented at Conferences on Productivity through New Technology		**Documents présentés aux Colloques sur la productivité par la nouvelle technologie**
Modern Management (EC22-4/1, $.50)	G. G. Fisch	La gestion moderne (EC22-4/1F, $.50)
Practical Application of Data Processing in Small and Medium Manufacturing Companies (EC22-4/2, $.75)	H. S. Gellman R. C. Carroll	Application pratique du traitement de l'information dans les petites et les moyennes entreprises industrielles (EC22-4/2F, $.75)
A Practical Approach to Automatic Production (EC22-4/3, $.50)	D. J. Clough J. W. Abrams R. W. P. Anderson	Manière pratique d'envisager la production automatique (EC22-4/3F, $ 50)
Advances in Metal Working (EC22-4/4, $.75)	J. Vande Vegte	Les progrès dans le travail des métaux (EC22-4/4F, $.75)
Improving Material Movement Through the Manufacturing Cycle (EC22-4/5, $.50)	J. A. Brown B. D. Beamish	L'amélioration du mouvement du matériel à travers le cycle manufacturier (EC22-4/5F, $.50)
The Economic Justification of New Equipment (EC22-4/6, $.75)	C. G. Edge	Justification économique du renouvellement de l'équipement (EC22-4/6F, $.75)
New Technology in Materials and Processes (EC22-4/7, $.70)	J. Vande Vegte	Nouvelle technologie visant les matières premières et les procédés (EC22-4/7F, $.70)

Other Studies and Reports	Author—Auteur	Autres études et rapports
Annual Report (1964) (EC1-1964, $.50)	John J. Deutsch	Rapport annuel (1964) (EC1-1964F, $.50)
Annual Report (1965) (Fo 1/1965, $.50)	John J. Deutsch	Rapport annuel (1965) (Fo 1/1965F, $.50)
Annual Report (1966) (EC1-1966, $.50)	John J. Deutsch	Rapport annuel (1966) (EC1-1966F, $.50)
Annual Report (1967) (EC1-1967)	John J. Deutsch	Rapport annuel (1967) (EC1-1967F)
Annual Report (1968) (EC1-1968)	Arthur J. R. Smith	Rapport annuel (1968) (EC1-1968F)
Annual Report (1969) (EC1-1969)	Arthur J. R. Smith	Rapport annuel (1969) (EC1-1969F)
Annual Report (1970) (EC1-1970)	Arthur J. R. Smith	Rapport annuel (1970) (EC1-1970F)
Medium-Term Capital Investment Survey —1968 (EC21-2/1968)	B. A. Keys D. S. Rothwell F. G. Thompson	Relevé des projets d'investissement à moyen terme —1968 (EC21-2/1968F)
Medium-Term Capital Investment Survey —1969 (EC21-2/1969)	B. A. Keys F. G. Thompson M. Heath	Relevé des projets d'investissement à moyen terme —1969 (EC21-2/1969F)
Medium-Term Capital Investment Survey —1970 (EC22-2/1970)	B. A. Keys F. G. Thompson M. Heath	Relevé des projets d'investissement à moyen terme —1970 (EC22-2/1970F)
A General Incentive Programme to Encourage Research and Development in Canadian Industry, A Report to the Economic Council of Canada (EC22-565, $.60)	Advisory Committee on Industrial Research and Technology – Comité consultatif sur la recherche industrielle et la technologie	Programme général de stimulation des travaux de recherche et de développement dans l'industrie canadienne, Rapport présenté au Conseil économique du Canada (EC22-565F, $.60)
A Declaration on Manpower Adjustments to Technological and Other Change (EC22-866, $.75)	Council – Conseil	Une déclaration au sujet de l'adaptation de la main-d'œuvre aux changements technologiques et autres (EC22-866F, $.75)
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Other Studies and Reports (*concluded*)	Author—Auteur	Autres études et rapports (*fin*)
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Report on Intellectual and Industrial Property (EC22-1370, $3.25)	Council—Conseil	Rapport sur la propriété intellectuelle et industrielle (EC22-1370F, $3.25)

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by

B. A. Keys, F. G. Thompson, M. Heath

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