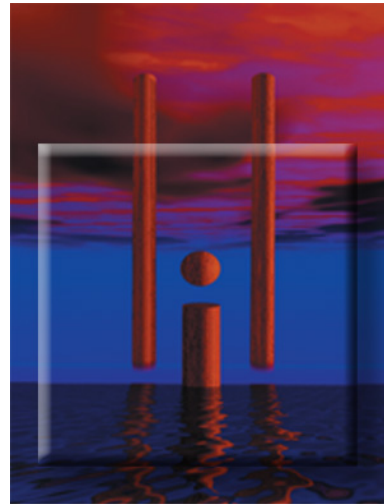




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Productivity Growth in Canada



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Appendix 2 – Industrial Detail for Productivity Measures and Related Variables

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The productivity estimates are produced only for input–output accounts (IOA) business sector industries, as defined in Appendix 1 of this publication. The industrial detail within the business sector is based on Statistics Canada’s industry classification systems. Since 1981, the system in use has been the 1980 Standard Industrial Classification (SIC).¹ Before this date, the 1960 SIC and 1970 SIC were used. In the IOA, the levels of SIC industries are chosen so as to provide the most detail possible in order to maximize continuity with the previous SIC classifications used. However, the greatest level of detail that is available over time occurs at the L level of aggregation. Data are available at the L-level aggregation of SIC industries for the entire time period from 1961 to the present.

Table A2.1 shows how much industrial detail is provided in the IOA at the three basic levels of productivity output: L (link), M (medium) and S (small). The L-level provides the most detail, and the S-level the least. Each category is defined by the type(s) of establishments involved.

- The business industries, are composed of commercial establishments. These establishments operate on a commercial basis—they sell their goods and services at a price that is designed to cover costs and yield a profit. Included in the business industries are government business enterprises: those “government activities that are conducted on an essentially commercial basis—where the operation is designed to be self-sustaining and where a price is set for the goods and services that is calculated to cover costs” (Statistics Canada 1975).
- The dummy industries are used to differentiate between the various types of markups that are applied to commodities as they are passed from the original producer to the final consumer, even though the goods remain in exactly the same physical condition. For example, the value of the wholesale and retail margins is the difference between the sales and cost of the commodities purchased for resale.
- Services provided by private non-commercial institutions and most services provided by governments are not bought and sold in the market but are rendered to the community without charge and are defined as non-business industries. The non-business industries indicated in Table A2.1 are composed of only non-commercial establishments.

¹ In the near future, all the industry classification in the Input-Output Accounts will be related to the North American Industry Classification System (NAICS).

- Some commercial establishments reside in industries along with non-commercial establishments. These industries are referred to in Table A2.1 as business industries composed of commercial and non-commercial establishments. In industries such as health and education, the non-commercial establishments dominate, while in others (e.g., transportation, radio and television), commercial establishments are the major players.

Table A2.1 Industries at the L , M and S levels		
Industrial components	Number of industries	
	Commercial establishments	Non-Commercial establishments
Business industries	L=124 M=29 S=2	–
Dummy industries	L=7 M=3 S=3	
Non-business industries	–	L=4 M=1 S=0
Business industries composed of commercial and non-commercial establishments	L=32 M=25 S=16	
Total economy	L=167 M=58 S=21	

The industrial coverage of the aggregates used in the productivity accounts matches that of the IOA with only one exception, owner occupied dwellings (industry L 136 in Table A2.2 of this appendix). This industry is excluded from productivity analysis because data on labour inputs are not available. This exception aside, labour productivity and unit labour costs are evaluated for business sector L-level industries. Other related variables, such as employment, hours worked and labour compensation, are also evaluated for the business sector industries and for some non-commercial activities.

For the purpose of deriving multifactor productivity growth rates, the inputs of goods and services were taken from the input–output tables at the most detailed level of the L-level industries (167 industries). However, it was not possible to use the inputs or outputs by industry at the L-level because capital stock series can only be produced at a slightly higher level of detail. Thus for the multifactor productivity measures, input–output tables have been aggregated to a special level of aggregation, identified as P, which consists of 123 business sector industries.

Table A2.2 below shows the concordance between the L-level, the 1980 SIC, the M-level and the S-level industries of the IOA, including the special aggregation (P) used for multifactor productivity estimates. The industry names are given for the L-level industries.

Table A2.3 presents the concordance between the L-, M- and S-level industries for all the relevant non-business industries for which we publish employment, hours worked and labour compensation estimates.

Table A2.4 presents all the special aggregations used either for the multifactor productivity or labour productivity estimates. There are 12 special aggregations, including the total business sector, the business sector excluding agriculture, and business sector—goods.

Table A2.2 Concordance between L industries and 1980 SIC, P, M and S industries for the business sector

L	Industry title for the L level	1980 SIC	P	M	S
1	Agricultural and related service	011-023	1	1	1
2	Fishing and trapping	031-033	2	2	2
3	Logging and forestry	041, 051	3	3	3
4	Gold mines	0611	4	4	4
5	Other metal mines	0612-0616, 0619	5	4	4
6	Iron mines	0617	6	4	4
7	Asbestos mines	0621	7	4	4
8	Other non-metal mines (except coal)	0622-0624, 0629	8	4	4
9	Salt mines	0625	9	4	4
10	Coal mines	063	10	4	4
11	Crude petroleum and natural gas	071	11	5	4
12	Quarry and sand pit	081,082	12	6	4
13	Service incidental to mineral extraction	091,092	13	7	4
14	Meat and meat products (except poultry)	1011	14	8	5
15	Poultry products	1012	14	8	5
16	Fish products	102	15	8	5
17	Fruit and vegetable	103	16	8	5
18	Dairy products	104	17	8	5
19	Miscellaneous food product	1051,1052, 1082,1083, 109	18	8	5
20	Feed	1053	18	8	5
21	Vegetable oil mills (except corn oil)	106	19	8	5
22	Biscuit	1071	20	8	5
23	Bread and other bakery products	1072	20	8	5
24	Cane and beet sugar	1081	18	8	5
25	Soft drink	111	21	9	5
26	Distillery products	112	22	9	5
27	Brewery products	113	23	9	5
28	Wine	114	24	9	5
29	Tobacco products	121,122	25	10	5
30	Rubber products	151-159	26	11	5
31	Plastic products	161-169	27	12	5
32	Leather tanneries	1711	28	13	5
33	Footwear	1712	28	13	5
34	Miscellaneous leather and allied products	1713,1719	28	13	5
35	Man-made fibre yarn and woven cloth	181,1829	29	14	5
36	Wool yarn and woven cloth	1821	29	14	5
37	Broad knitted fabric	183	30	14	5
38	Miscellaneous textile products	193, 199	31	15	5
39	Carpet, mat and rug	192	32	15	5
40	Clothing excluding hosiery	243-245, 2491-2493,2495-2499	33	16	5
41	Hosiery	2494	33	16	5
42	Sawmill, planing mill and shingle mill products	251	34	17	5
43	Veneer and plywood	252	35	17	5
44	Sash, door and other millwork	254	36	17	5
45	Wooden box and coffin	256,258	37	17	5
46	Other wood	259	38	17	5
47	Household furniture	261	39	18	5
48	Office furniture	264	40	18	5
49	Other furniture and fixture	269	41	18	5
50	Pulp and paper	271	42	19	5
51	Asphalt roofing	271	43	19	5
52	Paper box and bag	273	44	19	5
53	Other converted paper products	279	45	19	5
54	Printing and publishing	281,283-284	46	20	5
55	Platemaking, typesetting and bindery	282	47	20	5
56	Primary steel	291	48	21	5
57	Steel pipe and tube	292	49	21	5
58	Iron foundries	294	50	21	5
59	Non-ferrous metal smelting and refining	295	51	21	5
60	Aluminum rolling, casting and extruding	296	52	21	5
61	Copper and alloy rolling, casting and extruding	297	53	21	5
62	Other rolled, cast and extruded non-ferrous metal products	299	54	21	5

Table A2.2 Concordance between L industries and 1980 SIC, P, M and S industries for the business sector – Continued

L	Industry title for the L level	1980 SIC	P	M	S
63	Power boiler and structural metal	301-302	55	22	5
64	Ornamental and architectural metal products	303	56	22	5
65	Stamped, pressed and coated metal products	304	57	22	5
66	Wire and wire products	305	58	22	5
67	Hardware, tool and cutlery	306	59	22	5
68	Heating equipment	307	60	22	5
69	Machine shop	308	61	22	5
70	Other metal fabricating	309	62	22	5
71	Agricultural implement	311	63	23	5
72	Commercial refrigeration and air conditioning equipment	312	64	23	5
73	Other machinery and equipment	319	65	23	5
74	Aircraft and aircraft parts	321	66	24	5
75	Motor vehicle	323	67	24	5
76	Truck and bus body and trailer	324	68	24	5
77	Motor vehicle parts and accessories	325	69	24	5
78	Railroad rolling stock	326	70	24	5
79	Shipbuilding and repair	327	71	24	5
80	Miscellaneous transportation equipment	328-329	72	24	5
81	Small electrical appliance	331	73	25	5
82	Major appliances (electric and non-electric)	332	74	25	5
83	Other electrical and electronic product	333, 337, 3392, 3399	75	25	5
84	Record player, radio and television receiver	334	76	25	5
85	Communication and other electronic equipment	335	77	25	5
86	Office, store and business machine	336	78	25	5
87	Communication and energy wire and cable	338	79	25	5
88	Battery	3391		25	5
89	Clay products	351	80	26	5
90	Hydraulic cement	352	81	26	5
91	Concrete products	354	82	26	5
92	Ready-mix concrete	355	83	26	5
93	Glass and glass products	356	84	26	5
94	Miscellaneous non-metallic mineral products	357-359	85	26	5
95	Refined petroleum and coal products	361, 369	86	27	5
96	Industrial chemicals n.e.c.	371	87	28	5
97	Chemical products n.e.c.	372, 379	88	28	5
98	Plastic and synthetic resin	373	89	28	5
99	Pharmaceutical and medicine	374	90	28	5
100	Paint and varnish	375	91	28	5
101	Soap and cleaning compounds	376	92	28	5
102	Toilet preparations	377	93	28	5
103	Other manufacturing	391, 3991, 3992, 3994, 3999	94	29	5
104	Jewellery and precious metal	392	95	29	5
105	Sporting goods and toy	393	96	29	5
106	Sign and display	397	97	29	5
107	Floor tile, linoleum and coated fabric	3993	94	29	5
108	Repair construction	401-449	98	30	6
109	Residential construction	401-449	98	30	6
110	Non-residential building construction	401-449	98	30	6
111	Road, highway and airport runway construction	401-449	98	30	6
112	Gas and oil facility construction	401-449	98	30	6
113	Electric power, dams and irrigation construction	401-449	98	30	6
114	Railway, and telecommunication construction	401-449	98	30	6
115	Other engineering construction	401-449	98	30	6
116	Construction, other activities	401-449	98	30	6
117	Air transport and related service	451, 452	99	31	7
118	Railway transport and related service	453	100	31	7
119	Water transport and related services	454, 455	101	31	7
120	Truck transport	456	102	31	7
121	Urban transit systems	4571	103	31	7
122	Interurban and rural transit systems	4572	103	31	7
123	Miscellaneous transport services	4573, 4575, 458, 459	103	31	7

Table A2.2 Concordance between L industries and 1980 SIC, P, M and S industries for the business sector – Concluded

L	Industry title for the L level	1980 SIC	P	M	S
124	Pipeline transport	461	104	32	7
125	Storage and warehousing	471, 479	105	33	7
126	Telecommunication broadcasting	481	106	34	8
127	Telecommunication carriers	482-483	107	34	8
128	Postal and courier service	484	108	34	8
129	Electric power systems	491	109	35	8
130	Gas distribution systems	492	110	35	8
131	Water systems and other utility n.e.c.	493, 499	111	35	8
132	Wholesale trade	501-599	112	36	9
133	Retail trade	601-692	113	37	10
134	Finance and real estate	701-709, 711-729, 7511, 7512, 759	114	38	11
135	Insurance	731-733	115	39	11
136	Owner occupied dwellings	7513 ²	116	40	11
137	Other business services	771, 772, 777, 779	117	41	12
138	Professional business services	773, 775, 776	117	41	12
139	Advertising services	774	117	41	12
140	Educational service , private	851, 852, 854-859	118	42	13
141	Other health and social service	862, 863, 865-869	119	43	14
142	Accommodation, food and beverage service	911-914, 921, 922	120	44	15
143	Motion picture and video	961-962	121	45	16
144	Other amusement and recreational services	963-969	121	45	16
145	Other personal service	971, 973, 974-979	122	46	16
146	Laundries and cleaners	972	122	46	16
147	Membership organizations (excluding religion) and other services	982-986, 991-999	123	47	16

² This is a code specific to the Input-Output Accounts. It is used to express the opportunity cost of owners that occupied their own residence.

Table A2.3 Concordance between the L level industries and the 1980 SIC for the non-business sector industries for which employment and hours worked are provided

L	Industry title	1980 SIC	M	S
1	Service incidental to agriculture	021-023	1	1
2	Fishing and trapping	031-033	2	2
3	Forestry services	051	3	3
103	Miscellaneous manufactured products n.e.c.	3999	29	5
117	Air transport and related service	451-452	31	7
119	Water transport and related services	454-455	31	7
121	Urban transit systems	4571	31	7
123	Other service incidental to transportation	459	31	7
126	Radio and television broadcasting	4811-4813	34	8
131	Water systems and other utility n.e.c.	493, 499	35	8
132	Wholesale trade	501-599	36	9
133	Retail trade	601-692	37	10
134	Finance and real estate	711-729, 741-749, 751, 759	38	11
135	Insurance	731-733	39	11
137	Other business services	771, 777, 779	41	12
138	Professional business services	773, 775, 776,	41	12
140	Educational service , public	851, 852, 854-859	42	13
141	Other health and social service	862-869	43	14
142	Accommodation, food and beverage services	911-914, 921, 922	44	15
143	Motion picture and video	961, 962	45	16
144	Other amusement and recreational services	963-969	45	16
145	Other personal service	971, 973, 974, 979	46	16
147	Membership organizations (excluding religion) and other services	982-986, 991-999	47	16
155	N.B. – P. Religious organizations	981	47	16
160	N.B. – G. Hospitals	861	43	14
162	N.B. – G. University education	853	42	13
164	N.B. – G. Defence services	811	59	22
168	N.B. – G. Federal government service (excluding defence)	812-817	59	22
169	N.B. – G. Provincial and territorial government service	822-827	60	22
170	N.B. – G. Municipal government service	832-837	61	22

Notes: NB - P: non-commercial - private sector, NB - G: non-commercial - government sector, nec: not elsewhere classified

Table A2.4 Special aggregations for multifactor productivity, labour productivity and related variables

Codes	Industry Groupings	P Codes	L Codes
1	Total economy	NA	B & NB (1-135, 137-170)
2	Business sector	1-115, 117-123	1-135, 137-147
3	Business sector - Goods	1-98, 109-111	1-116, 129-131
4	Business sector - Services	99-108, 112-115, 117-123	117-128, 132-135, 137-147
5	Non business sector industries	NA	NB (1-3, 103, 117, 119, 121, 123, 126, 131-135, 137, 138, 140-145, 147, 155, 160, 162, 164, 168-170)
6	Non-business sector – Goods	NA	NB (1-3, 103, 131)
7	Non-business sector – Services	NA	NB (117, 119, 121, 123, 126, 132-135, 137, 138, 140-145, 147, 155, 160, 162, 164, 168-170)
8	Total economy – goods	NA	B & NB (1-116, 129-131)
9	Total economy – services	NA	B & NB (117-128, 132-135, 137-147, 155, 160, 162, 164, 168-170)
10	Business sector excluding Agriculture	2 to 123 excluding 116	2-135, 137-147
11	Non-durables manufacturing industries	14-33, 42-47, 86-93	14-41, 50-55, 95-102
12	Durables – manufacturing industries	34-41, 48-85, 94-97	42-49, 56-94, 103-107

Notes: B: business sector, NB: non-commercial sector, NA: not applicable

Reference:

Statistics Canada. 1975. *A guide to the National Income and Expenditure Accounts: Definitions, Concepts, Sources and Methods*. Catalogue no. 13-549E. 3. System of National Accounts. Ottawa: Minister responsible for Statistics Canada. Occasional.