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Canada

## RATE OF CAPACITY UTILIZATION

First Quarter, 1988

## FOREWORD

The Rates of Capacity Utilization published by Industry, Science and Technology Canada (ISTC) are based on the Wharton School method of estimating capacity utilization, usually referred to as the "trend-through-peaks" method. Notes on the methodology used in computing these rates were included as a supplement to the First Quarter 1980 release.

Many conceptual and measurement problems surround the calculation of capacity utilization. Consequently, the utilization rates presented here should be treated as statistical estimates. These rates are more useful when they are considered in conjunction with other data related to industrial performance.

It should be pointed out that this report uses the latest available data (from Statistics Canada) on industrial production.

## RATE OF CAPACITY UTILIZATION - CANADA

### FIRST QUARTER 1988

The overall rate of capacity utilization in Canadian industry for the first quarter of 1988 remained unchanged, at 87.3 percent, from its level in the fourth quarter 1987 (Table 1). It is 3.1 percentage points above the level attained in the first quarter of 1987 and substantially higher than the average rate of 80.3 percent over the 1981-1987 period (Table 5). It remains the highest rate since a low of 68.8 percent was reached in the fourth quarter of 1982 during the 1981-1982 recession (Chart 1). However, it is still below the pre-recession peak (89.4 percent) attained in the third quarter of 1979.

Three broad industry categories comprise the overall measure of industrial capacity: mining (including quarrying and oil wells), manufacturing, and electric utilities (including gas and water utilities). Of these three categories, on a seasonally adjusted basis, mining and utilities showed marginal increases in operating rates between the fourth quarter of 1987 and the first quarter of 1988 while manufacturing registered a small decline (Table 2).

For the mining sector, the increase was 1.3 percentage points. However, its current level of 86.3 percent is 7.9 percentage points higher than the level recorded in the first quarter of 1987. The data presented in Table 1 show that the current capacity utilization rate in mining is the highest since 1981. It is significantly above the average annual rate of 73.6 percent for the 1981-1987 period, as well as the average rate for the 1971-1980 period (77.4 percent).

At 79.6 percent, the utilities sector showed an increase of 0.5 percentage points in the first quarter of 1988 from the fourth quarter of 1987, but it is 1.4 percentage points down from its level a year ago. It is also less than the average rate experienced over the 1981-1987 period (80.6 percent) and well below the average for the 1971-1980 period (93.3 percent).

In the manufacturing sector the rate of capacity utilization declined from 89.2 percent in the fourth quarter of 1987 to 88.7 percent in the first quarter of 1988, with both the non-durables and durables segments registering decreases of 0.5 percentage points. It is, however, 2.5 percentage points above the level attained a year ago in the first quarter of 1987, and substantially above the average annual rate of 82.2 percent over the 1981-1987 period.

The capacity utilization rate for the non-durables segment of manufacturing registered a decrease of 0.5 percentage points (to reach 89.0 percent) from its fourth quarter level of 89.5 percent. Among the 13 industries which make up this segment of manufacturing; seven recorded a decline in their operating rates during the first quarter of 1988; the largest decrease (-5.3 percentage points) being in primary textiles. Another five industries recorded an increase. The most significant increases occurred in refined petroleum and coal (3.2 percentage points) and the clothing industry (1.9 percentage points). The paper and allied industry continued to operate at a peak level of 100 percent. The plastics industry also reached full capacity utilization in the first quarter, 1988 (Table 2).

The capacity utilization rates in durable manufacturing reached a level of 88.4 percent, up 5.4 percentage points from its level a year ago but 0.5 percentage points down from the fourth quarter of 1987. Five of the nine industries belonging to this segment of manufacturing recorded lower utilization rates during this quarter, with wood and primary metals showing the largest declines of 6.2 and 1.0 percentage points, respectively. Furniture and fixtures and machinery showed the most significant increases, 2.1 and 1.6 percentage points, respectively. Electrical products and non-metallic minerals operated at full capacity utilization.

Comparative tables and charts covering the period 1981-1987 are attached. Data for the years 1971-1980 are available upon request.

## **TABLES / CHARTS**

Table 1

**CAPACITY UTILIZATION - CANADA  
MAJOR SECTORS**

YEAR		INDUSTRIAL	MINING	MANUFACTURING			UTILITIES
				TOTAL	NON-DURABLE	DURABLE	
1981	1	82.8	66.0	87.5	89.5	85.6	83.6
	2	84.1	65.4	89.1	91.2	87.2	85.9
	3	81.4	66.0	85.2	87.9	82.7	85.6
	4	78.4	64.7	81.5	85.5	77.9	83.6
1982	1	75.4	64.1	77.5	81.9	73.6	82.5
	2	71.3	63.4	72.7	77.7	68.2	77.4
	3	69.6	62.1	70.9	77.9	64.6	75.6
	4	68.8	64.1	69.3	77.7	61.7	74.7
1983	1	70.3	64.7	71.2	80.0	63.2	75.3
	2	72.3	64.7	73.4	82.0	65.7	79.8
	3	75.2	69.9	75.9	83.9	68.8	80.3
	4	77.6	71.2	79.1	84.4	74.2	80.1
1984	1	79.9	73.2	80.5	83.7	77.7	79.1
	2	82.2	78.4	83.4	87.2	80.0	81.1
	3	83.3	79.1	84.8	87.3	82.5	80.9
	4	83.3	79.1	84.8	87.9	82.0	81.4
1985	1	83.4	81.0	84.2	87.0	81.8	81.9
	2	83.7	81.0	84.9	86.9	83.1	81.0
	3	84.6	79.7	86.4	87.2	85.7	81.5
	4	85.2	81.0	86.7	88.8	84.8	82.7
1986	1	84.3	80.4	86.0	88.4	83.8	80.4
	2	84.1	79.1	86.1	89.2	83.4	79.5
	3	83.2	77.8	85.3	89.3	81.6	80.0
	4	83.1	78.4	84.9	88.0	82.2	79.8
1987	1	84.2	78.4	86.2	89.9	83.0	81.0
	2	84.9	79.7	86.8	89.8	84.2	81.4
	3	86.2	83.7	87.7	89.4	86.2	80.6
	4	87.3	85.0	89.2	89.5	88.9	79.1
1988	1	87.3	86.3	88.7	89.0	88.4	79.6

Chart 1

**CAPACITY UTILIZATION**  
**Industrial Sector**

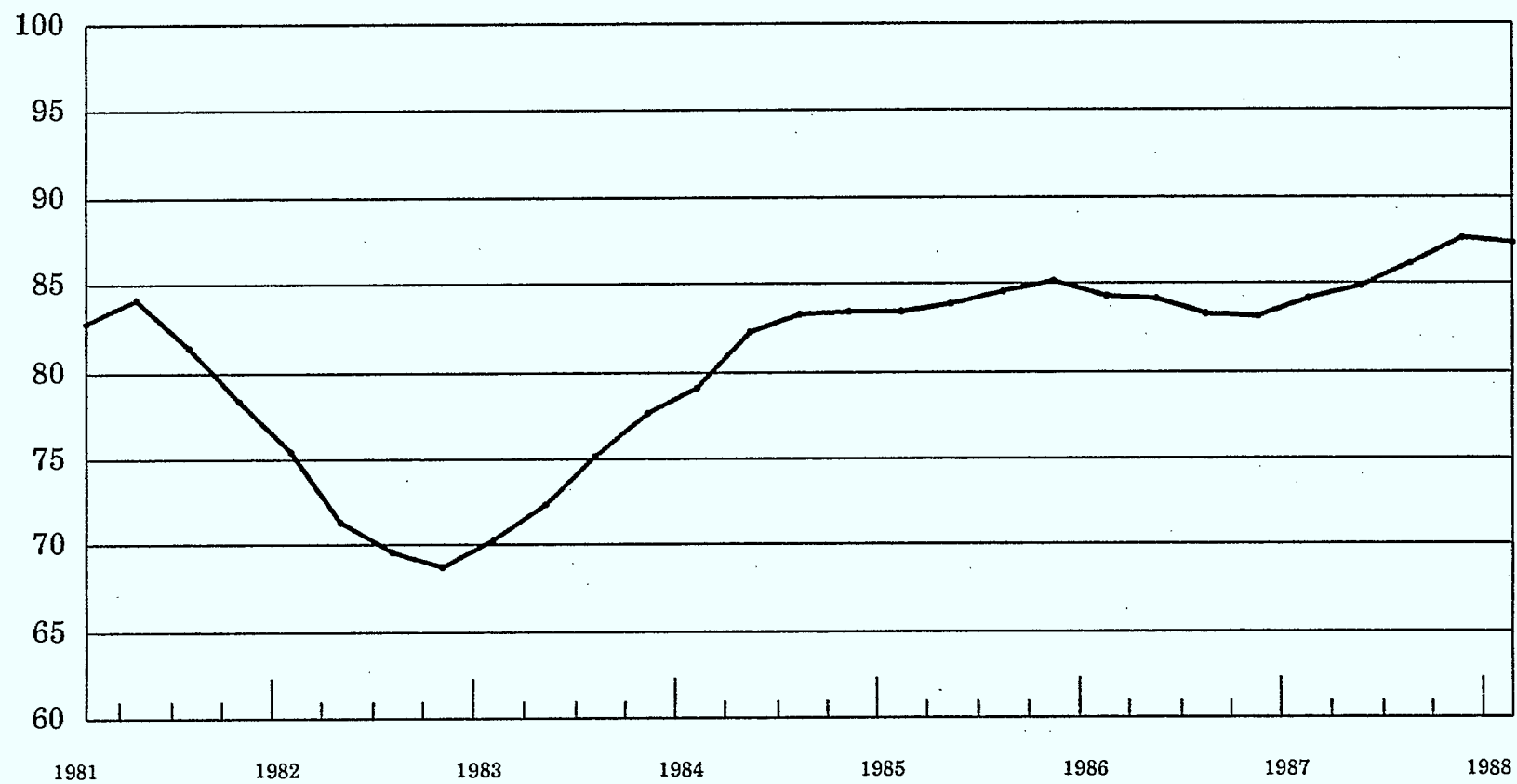


Table 2

**CAPACITY UTILIZATION**

		Percentage Points Changes From			
	I Q. 1988 Level	IV Q. 1987	I Q. 1987	Last Peak	
<b>Industrial</b>	<b>87.3</b>	<b>0.0</b>	<b>3.1</b>	<b>-10.1</b>	<b>(I,1974)</b>
<b>Mining</b>	<b>86.3</b>	<b>1.3</b>	<b>7.9</b>	<b>-13.7</b>	<b>(III,1973)</b>
<b>Manufacturing</b>	<b>88.7</b>	<b>-0.5</b>	<b>2.5</b>	<b>-9.5</b>	<b>(I,1974)</b>
Non-Durables	89.0	-0.5	-0.9	-8.9	(I,1974)
Food	85.7	-0.4	-4.1	-14.3	(IV,1973)
Beverage	71.0	-0.2	-1.0	-29.0	(II,1974)
Tobacco	54.4	-1.8	-5.5	-45.6	(IV,1977)
Rubber	79.3	-2.3	-15.1	-20.7	(IV,1984)
Plastics	100.0	1.7	3.6	0.0	(I,1988)
Leather	83.2	0.8	-6.0	-16.8	(I,1981)
Prim. Textile	94.7	-5.3	0.3	-5.3	(IV,1987)
Textile Prod.	98.9	-1.1	5.9	-1.1	(IV,1987)
Clothing	96.3	1.9	-0.8	-3.7	(III,1987)
Paper & Allied	100.0	0.0	2.6	0.0	(I,1988)
Printing & Publ.	97.2	0.1	2.8	-2.8	(II,1981)
Ref. Pet. & Coal	84.7	3.2	2.4	-15.3	(III,1983)
Chem. & Chem. Prod.	77.2	-2.6	-2.9	-22.8	(II,1973)
Durables	88.4	-0.5	5.4	-10.1	(I,1974)
Wood	93.7	-6.2	0.6	-6.3	(IV,1987)
Furniture & Fixtures	91.8	2.1	5.3	-8.2	(I,1974)
Primary Metals	85.9	-1.0	5.2	-14.1	(III,1974)
Metal Fab.	98.9	-0.2	9.3	-1.2	(I,1980)
Machinery	68.3	1.6	5.1	-31.7	(III,1979)
Trans. Equip.	82.0	-0.6	0.8	-18.0	(I,1979)
Electrical Products	100.0	0.9	12.5	0.0	(I,1988)
Non-Met. Min.	100.0	0.8	3.8	0.0	(IV,1979)
Other Mfg.	70.8	-0.7	2.4	-29.2	(II,1979)
<b>Electric Power, Gas. W. Util.</b>	<b>79.6</b>	<b>0.5</b>	<b>-1.4</b>	<b>-20.4</b>	<b>(III,1973)</b>



Chart 2

# CAPACITY UTILIZATION Major Sectors (Canada)

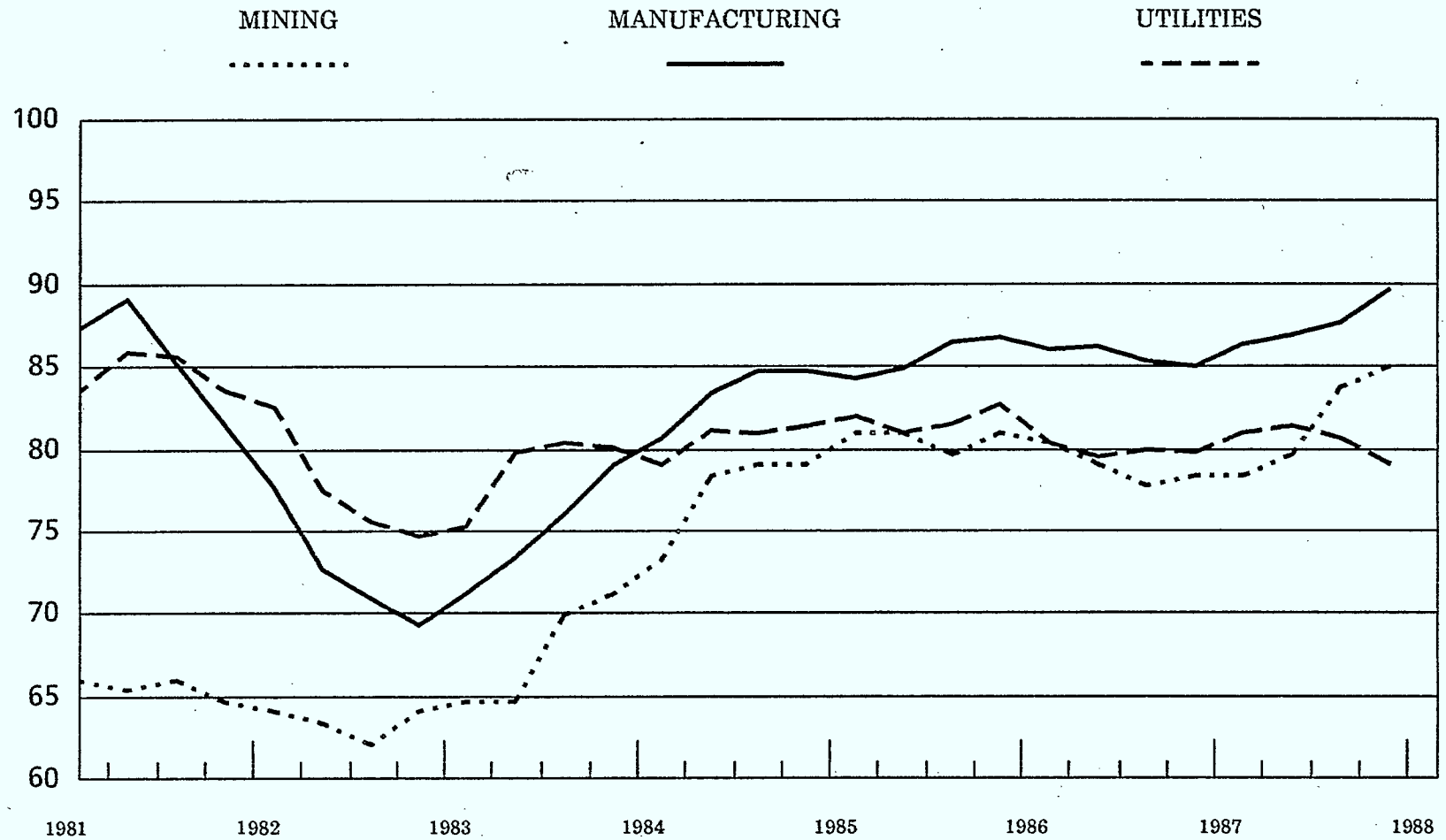


Chart 3

**CAPACITY UTILIZATION**  
**Major Sectors (Canada)**

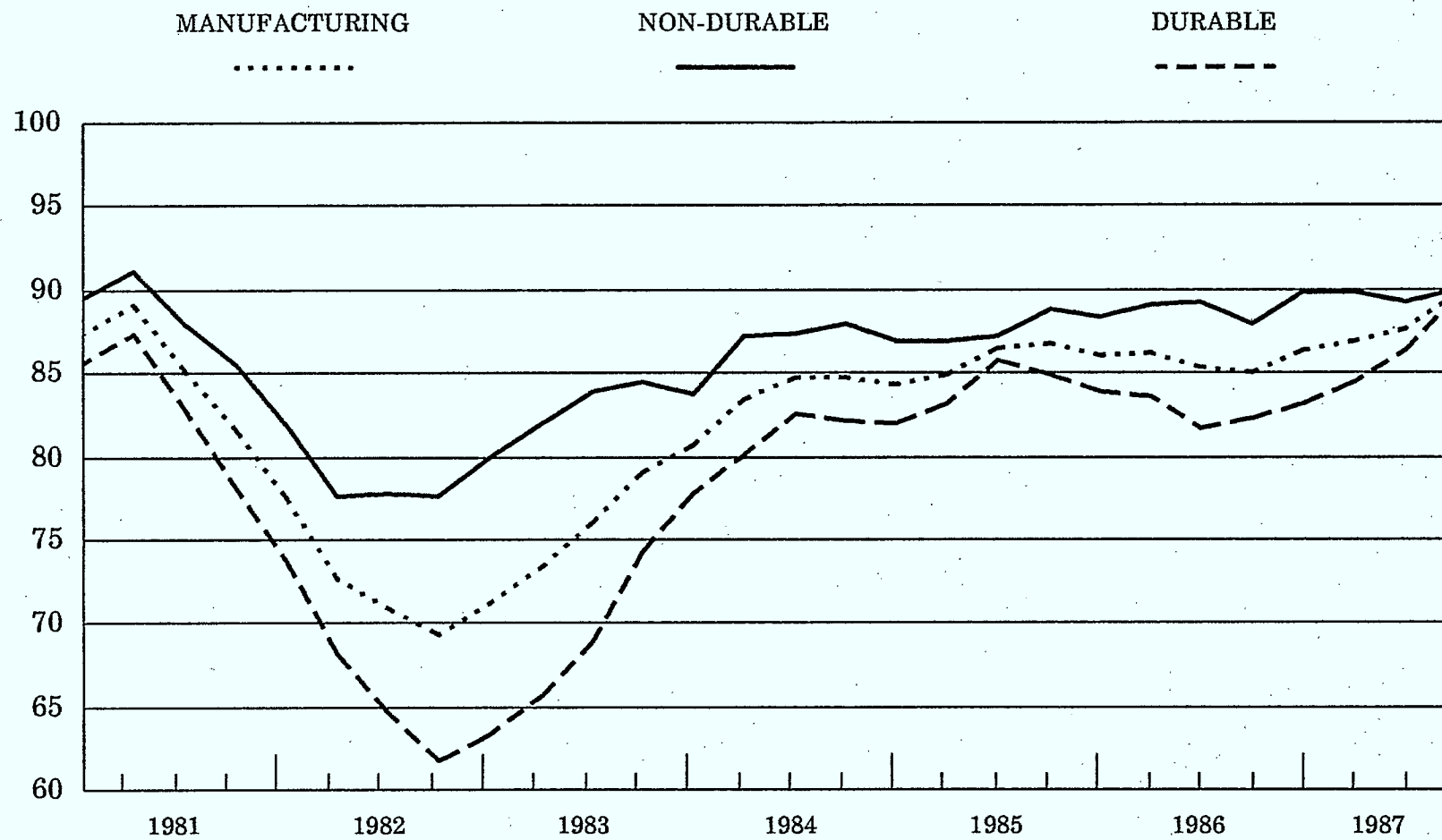


Table 3

**MANUFACTURING INDUSTRIES  
CAPACITY UTILIZATION  
NON-DURABLE**

YEAR	NON-DURABLE	FOOD	BEVERAGES	TOBACCO	RUBBER
1981 1	89.5	92.5	79.7	79.8	78.1
2	91.2	92.0	81.0	83.8	81.7
3	87.9	91.6	80.6	91.9	74.6
4	85.5	92.0	75.6	85.6	70.5
1982 1	81.9	89.7	73.7	83.5	68.0
2	77.7	90.2	72.7	84.0	64.0
3	77.9	91.5	69.3	80.3	67.6
4	77.7	88.4	68.2	80.0	62.9
1983 1	80.0	88.8	68.0	78.8	71.6
2	82.0	86.6	65.4	72.7	72.9
3	83.9	85.3	68.2	69.1	75.6
4	84.4	85.8	67.9	70.5	82.8
1984 1	83.7	87.1	67.7	71.8	87.7
2	87.2	89.3	70.5	66.7	96.2
3	87.3	88.9	71.7	64.8	98.8
4	87.9	91.0	70.7	71.0	100.0
1985 1	87.0	89.7	69.7	69.1	90.2
2	86.9	88.5	70.9	74.4	91.4
3	87.2	90.6	69.1	68.5	94.0
4	88.8	91.9	71.1	65.1	88.7
1986 1	88.4	91.4	70.8	65.6	90.6
2	89.2	90.2	74.3	58.3	88.8
3	89.3	89.8	71.1	62.0	86.4
4	88.0	89.3	70.8	60.2	87.6
1987 1	89.9	89.8	72.0	59.9	94.4
2	89.8	88.5	71.0	58.9	87.1
3	89.4	86.5	70.0	59.5	90.3
4	89.5	86.1	70.2	56.2	81.6
1988 1	89.0	85.7	71.0	54.4	79.3

Table 3 (cont'd)

**MANUFACTURING INDUSTRIES  
CAPACITY UTILIZATION  
NON-DURABLE**

YEAR	NON-DURABLE	PLASTICS	LEATHER	PRIM. TEXTILE	TEXTILE PRODUCTS	CLOTHING
1981 1	89.5	87.9	100.0	92.5	93.9	95.5
2	91.2	92.2	97.0	97.7	100.0	96.5
3	87.9	91.9	91.2	94.5	92.4	93.7
4	85.5	87.2	93.0	82.3	81.2	88.1
1982 1	81.9	83.5	89.1	75.6	74.6	87.2
2	77.7	75.5	81.5	63.5	67.1	82.5
3	77.9	76.3	82.3	63.2	70.6	83.5
4	77.7	77.1	77.5	72.9	74.9	80.7
1983 1	80.0	80.3	82.2	82.4	83.7	83.5
2	82.0	82.6	85.8	91.9	88.8	83.6
3	83.9	86.4	86.7	93.3	88.6	83.6
4	84.4	89.4	91.3	92.1	89.2	83.6
1984 1	83.7	92.4	96.9	90.0	89.0	85.5
2	87.2	95.2	97.7	91.4	90.5	92.1
3	87.3	93.4	92.0	88.4	89.4	92.1
4	87.9	96.1	90.9	88.1	89.1	92.2
1985 1	87.0	93.6	88.0	88.6	87.1	89.4
2	86.9	94.0	91.7	84.8	87.8	89.4
3	87.2	96.0	95.3	87.9	91.0	91.3
4	88.8	95.7	95.2	91.9	91.7	95.1
1986 1	88.4	94.7	94.2	91.5	92.3	93.2
2	89.2	94.4	93.2	90.3	93.8	95.1
3	89.3	95.6	92.1	91.7	90.1	97.1
4	88.0	96.7	93.9	87.1	89.8	93.3
1987 1	89.9	96.4	89.2	94.4	93.0	97.1
2	89.8	97.5	87.2	95.7	93.7	99.0
3	89.4	98.6	87.1	95.4	96.8	100.0
4	89.5	98.3	82.4	100.0	100.0	94.4
1988 1	89.0	100.0	83.2	94.7	98.9	96.3

Table 3 (cont'd)

**MANUFACTURING INDUSTRIES  
CAPACITY UTILIZATION  
NON-DURABLE**

YEAR	NON-DURABLE	PAPER & ALLIED	PRINT & PUB.	REFINED PETROL & COAL	CHEM. & CHEM. PRODUCTS
1981 1	89.5	87.1	96.9	84.7	85.5
2	91.2	90.5	100.0	88.7	84.5
3	87.9	82.8	98.1	79.8	81.9
4	85.5	85.3	94.4	69.4	77.7
1982 1	81.9	78.4	91.7	73.4	73.6
2	77.7	73.3	87.1	61.3	68.0
3	77.9	71.6	84.5	70.2	69.6
4	77.7	71.6	82.8	94.4	69.6
1983 1	80.0	77.6	85.8	50.0	75.0
2	82.0	81.9	86.0	71.0	78.7
3	83.9	85.3	87.1	100.0	79.4
4	84.4	86.2	88.2	80.6	81.5
1984 1	83.7	78.4	88.4	87.9	81.4
2	87.2	86.2	90.3	85.5	83.4
3	87.3	88.8	92.3	76.6	82.6
4	87.9	88.8	91.5	73.4	83.9
1985 1	87.0	88.8	90.8	75.8	84.4
2	86.9	87.9	91.8	79.8	84.3
3	87.2	87.9	91.1	76.6	82.1
4	88.8	90.5	92.9	79.8	83.3
1986 1	88.4	91.4	93.9	75.8	81.2
2	89.2	94.8	95.7	77.4	80.4
3	89.3	94.8	95.8	82.3	81.6
4	88.0	94.8	94.3	75.8	78.2
1987 1	89.9	97.4	94.4	82.3	80.1
2	89.8	97.4	94.5	82.3	81.9
3	89.4	98.3	96.2	81.5	78.0
4	89.5	100.0	97.1	81.5	79.8
1988 1	89.0	100.0	97.2	84.7	77.2

Table 4

**MANUFACTURING INDUSTRIES  
CAPACITY UTILIZATION  
DURABLE**

YEAR	DURABLE	WOOD	FURNITURE & FIXTURES	PRIMARY METALS	FAB. METAL	MACHINERY
1981 1	85.6	99.5	83.1	80.5	90.9	88.8
2	87.2	94.3	87.8	83.3	97.3	93.2
3	82.7	72.2	86.0	79.8	95.3	87.9
4	77.9	75.8	74.2	68.0	90.5	81.1
1982 1	73.6	68.4	66.6	68.5	89.4	74.3
2	68.2	66.1	61.5	58.2	79.1	63.5
3	64.6	65.5	59.7	50.4	75.2	58.7
4	61.7	65.8	62.0	52.5	72.3	54.8
1983 1	63.2	74.8	65.9	53.8	71.3	51.9
2	65.7	75.0	67.3	62.6	73.0	51.4
3	68.8	85.4	72.0	66.2	74.8	54.2
4	74.2	82.3	75.0	72.7	77.4	56.9
1984 1	77.7	82.4	76.4	77.6	78.2	61.2
2	80.0	89.4	73.8	81.0	79.9	65.4
3	82.5	93.2	73.6	83.0	81.7	64.8
4	82.0	93.2	74.2	81.2	81.5	66.6
1985 1	81.8	90.2	76.4	78.7	83.2	66.0
2	83.1	89.5	81.0	79.9	85.8	64.7
3	85.7	96.9	82.3	81.8	88.4	65.6
4	84.8	96.8	83.7	79.3	88.3	65.9
1986 1	83.8	91.0	84.3	79.7	87.3	63.8
2	83.4	92.4	84.8	76.5	88.0	67.0
3	81.6	85.2	86.2	76.3	87.9	65.7
4	82.2	84.6	85.9	81.0	87.8	62.3
1987 1	83.0	93.1	86.5	80.7	89.5	63.2
2	84.2	93.1	87.0	81.9	93.8	62.7
3	86.2	100.0	89.1	83.7	97.3	63.7
4	88.9	99.9	89.7	86.9	99.0	66.7
1988 1	88.4	93.7	91.8	85.9	98.8	68.3

Table 4 (cont'd)

**MANUFACTURING INDUSTRIES  
CAPACITY UTILIZATION  
DURABLE**

YEAR	DURABLE	TRANS. EQUIP.	ELECT. PROD.	NON-METALLIC MINERALS	OTHER MFG.
1981 1	85.6	70.5	96.8	82.5	83.4
2	87.2	70.5	95.7	86.6	83.2
3	82.7	68.4	93.7	80.0	84.6
4	77.9	66.4	88.2	78.3	82.8
1982 1	73.6	61.1	83.1	69.3	78.5
2	68.2	63.8	79.1	60.3	76.8
3	64.6	63.9	73.7	59.5	71.9
4	61.7	53.5	71.0	60.3	68.8
1983 1	63.2	58.8	69.1	63.5	66.4
2	65.7	63.4	65.9	69.2	67.2
3	68.8	66.0	67.2	71.6	67.9
4	74.2	79.3	74.3	71.5	73.1
1984 1	77.7	83.0	80.3	73.9	79.0
2	80.0	82.2	84.6	76.3	75.9
3	82.5	87.0	89.5	77.9	75.1
4	82.0	84.5	88.9	80.3	75.7
1985 1	81.8	84.3	91.5	77.9	74.9
2	83.1	86.0	90.8	84.3	76.9
3	85.7	90.6	91.4	86.7	76.1
4	84.5	89.9	89.0	87.5	74.0
1986 1	83.8	89.1	88.4	89.0	73.2
2	83.4	87.2	87.9	89.0	73.2
3	81.6	82.5	87.4	89.0	71.8
4	82.2	82.4	89.7	91.3	69.1
1987 1	83.0	81.2	87.5	96.2	68.4
2	84.2	78.9	93.5	94.5	69.0
3	86.2	78.3	95.0	97.7	69.6
4	88.9	82.6	99.1	99.2	71.5
1988 1	88.4	82.0	100.0	100.0	70.8

Table 5

**CAPACITY UTILIZATION - CANADA**  
(Percent)

								1981-1987		1971-1980	
								Quarter			
	1981	1982	1983	1984	1985	1986	1987	Avg.	Low	High	Average
Industrial	81.7	71.3	73.8	81.9	84.2	83.7	85.6	80.3	68.8	87.3	87.7
Mining	65.5	63.4	67.6	77.4	80.7	78.9	81.7	73.6	62.1	85.0	77.4
Manufacturing	85.8	72.6	74.9	83.4	85.5	85.5	87.5	82.2	69.3	89.2	89.9
Non-Durables	88.5	78.8	82.6	86.5	87.5	88.7	89.6	86.0	77.7	91.2	90.8
Food	92.0	89.9	86.6	89.1	90.2	90.2	87.7	89.4	85.3	92.5	95.3
Beverage	79.2	71.0	67.4	70.1	70.2	71.7	71.0	71.5	65.4	81.0	90.2
Tobacco	85.3	81.9	72.8	68.6	69.3	61.5	58.6	71.1	56.2	91.9	91.5
Rubber	76.2	65.6	75.7	95.7	91.1	88.3	88.3	83.0	62.9	100.0	86.5
Plastics	89.8	78.1	84.7	94.3	95.8	95.3	97.7	90.7	75.5	98.6	87.5
Leather	95.3	82.6	86.5	94.4	92.5	93.3	86.5	90.2	77.5	100.0	93.3
Prim. Textile	91.7	68.8	89.9	89.5	88.3	90.1	96.4	87.8	63.2	100.0	89.1
Textile Prod.	91.9	71.8	87.6	89.5	89.4	91.5	95.9	88.2	67.1	100.0	93.4
Clothing	93.4	83.5	83.6	90.5	91.3	94.7	97.6	90.7	80.7	100.0	94.2
Paper & Allied	86.4	73.7	82.7	85.5	88.8	93.9	98.3	87.0	71.6	100.0	85.8
Printing & Publ.	97.3	86.5	86.8	90.6	91.6	94.9	95.5	91.9	82.8	100.0	95.7
Refined Petrol & Coal	80.6	74.8	75.4	80.8	78.0	77.8	81.9	78.5	50.0	100.0	82.1
Chemicals & Chemical Products	82.4	70.2	78.6	82.8	83.5	80.3	79.9	79.7	68.0	85.5	88.5



Table 5 (cont'd)

**CAPACITY UTILIZATION - CANADA**  
(Percent)

								1981-1987		1971-1980	
								Quarter			
	1981	1982	1983	1984	1985	1986	1987	Avg.	Low	High	Average
Durables	83.3	67.0	68.0	80.5	83.8	82.7	85.6	78.7	61.7	88.9	89.0
Wood	85.4	66.4	79.4	89.5	93.3	88.3	96.5	85.5	65.5	100.0	90.3
Furniture & Fixtures	82.8	62.4	70.0	74.5	80.8	85.3	88.1	77.7	59.7	89.7	82.5
Primary Metals	77.9	57.4	63.8	80.7	79.9	78.4	83.3	74.5	50.4	86.9	86.3
Metal Fabrication	93.5	79.0	74.1	80.3	86.4	87.7	94.9	85.1	71.3	99.0	91.1
Machinery	87.7	62.8	53.6	64.5	65.5	64.7	64.1	66.1	51.4	93.2	91.2
Transportation Equipment	68.9	60.6	66.9	84.2	87.7	85.3	80.2	76.3	53.5	90.6	88.1
Electrical Products	93.6	76.7	69.1	85.8	90.7	88.3	93.8	85.4	65.9	99.1	88.2
Non-Metallic Minerals	81.8	62.3	68.9	77.1	84.1	89.6	96.9	80.1	59.5	99.2	91.6
Other Manufacturing	83.5	74.0	68.6	76.4	75.5	71.8	69.6	74.2	66.4	84.6	91.5
Elec. Pow. Gas. W. Util.	84.7	77.6	78.9	80.7	81.8	80.0	80.5	80.6	74.7	85.9	93.3

[illegible]

INDUSTRY CANADA/INDUSTRIE CANADA



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