

International employment trends by industry - a note

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Over the last three decades, employment in a number of major industrialized countries increased, although at different rates. Data compiled on ten of these countries show that Canada recorded the highest growth (111%) over the period 1960-90 and Italy the lowest (5%). ⁽¹⁾ This growth was accompanied by shifts in employment shares by industry - away from agriculture and manufacturing, and into services. However, the nature and pace of these shifts differed among countries. For example, Canada, the United States and the United Kingdom reported the largest employment share declines in manufacturing and the smallest in agriculture. The reverse trend was observed for Germany, France, Sweden and Italy. ⁽²⁾

This note explores changing employment patterns by industry over the last three decades in ten industrialized countries and suggests possible explanations for these changes.

Industry shifts

Agriculture

For the ten countries combined, total employment in agriculture declined by 62% over the period 1960-90 with most of the drop occurring in the 1960s. This decrease resulted in a fall in agriculture's share of total employment, from 17% in 1960 to 4% in 1990.

Agriculture's diminishing employment share can be attributed to many factors, in particular, the introduction of labour-saving technologies. The extent and speed of introducing new technologies may account, in part, for the different rates at which agricultural employment declined across countries.



Chart A **Employment growth over the 1960-90 period was highest in Canada.**

Source: *Bureau of Labor Statistics, U.S. Department of Labor*

Although each of the ten countries under study experienced declines in both employment levels and shares in agriculture between 1960 and 1990, their rates of change varied. In general, the declines were smallest in those countries where agricultural employment shares were lower than average in 1960 and vice versa. Among the former group is Canada, whose agricultural employment fell by 33% and employment share declined from 13% to 4% over the thirty-year period. The latter group includes Italy, where employment in agriculture fell by 71% and its share dropped from 33% to 9% between 1960 and 1990.

Manufacturing

Overall, employment in manufacturing rose by 10% in all ten countries combined between 1960 and 1990. Given the relatively faster growth in the number of workers in services, however, manufacturing's share of total employment fell from 27% to 21% over the same period. [\(3\)](#)

There was considerable variability in the rate and pattern of the decline in this industry's employment share. Notably, significant growth in manufacturing employment levels and shares in Japan, Germany, and Italy in the 1960s preceded the declines which were observed between 1970 and 1990. Both Canada and the United States registered strong employment growth between 1960 and 1980 and declines over the following decade. Manufacturing employment shares, however, fell in Canada after 1960, and in the United States from 1970 onwards. By 1990, this sector's share in the two countries was lower than the 21% observed for the ten countries as a group (16% in Canada and 18% in the United States).

Several reasons may account for the decline in manufacturing's employment share in these industrialized countries. These include increased labour productivity in manufacturing, the "natural" outcome of industrial restructuring, and growing competition in manufactured goods by industrializing countries such as Korea, Taiwan, Singapore and Hong Kong.

Services

Employment in services has increased steadily since 1960; by 1990 it had doubled for all ten countries combined. As a result, the service sector's share of total employment in these countries grew from approximately half in 1960 to two-thirds by 1990.

In general, the largest increases were observed for countries which reported relatively small service sector employment shares in 1960. Principal among this group were Italy and France, whose employment shares rose by about 26 percentage points between 1960 and 1990. Conversely, countries reporting the largest service employment shares in 1960, such as Canada (55%) and the United States (58%), reported lower growth over the same period. However, in 1990, services still accounted for the highest proportion of employment in both of these countries (72% of total employment).

A number of explanations may account for the rapid growth in service employment. These include relatively slow growth in labour productivity in the service industries, as well as increases in both intermediate and final consumption demands for services. For example, the demand for social and household service workers has risen, in part, as a result of the "vacuum" created by the increasing number of women who work outside the home. Also, the upward trend in service employment reflects an increased propensity by firms to "contract-out" services which were formerly produced in-house. ⁽⁴⁾

Conclusion

In 1960, the relative employment shares in each industry group varied widely across the ten countries. However, changes in employment levels by industry over the period 1960-90 have resulted in a more uniform distribution of employment by industry grouping across the ten countries ([Chart B](#)). As well, employment shares by industry are now ranked consistently by size in the following order: services, manufacturing, "other" industries and agriculture.



Chart B All countries reported employment shifts from agriculture and manufacturing into services.

Source: Bureau of Labor Statistics, U.S. Department of Labor

Data source

The data for this note were drawn from the Labstat database, a compendium of labour force statistics compiled by the Bureau of Labor Statistics, United States Department of Labor. Labstat provides annual data on the total and civilian labour forces, participation rates, employment, employment/population ratios, unemployment, and unemployment rates from 1959 onwards for the United States, Canada, and eight other countries. This note draws on employment data for the 1960-90 period.

Labstat is compiled from data produced by the statistical bureaus of the countries covered or by international agencies. Since statistical concepts and methods often differ among countries, not all labour

market data are comparable. With the exception of the United States, Japan and Canada (1970 onwards), the employment data used in this note have not been fully adjusted for comparability.

Labstat provides data on employment for four industry groupings: agriculture, manufacturing, services and industry. The agriculture grouping consists of agriculture, forestry, hunting, and fishing. The service industries are transportation, communication, and other utilities; trade; finance, insurance and real estate; community, business and personal services; and public administration. Industry includes manufacturing, mining and construction. In this article, an "other" industry category is used in lieu of industry; it comprises construction and mining only ([Table 1](#)).



Table 1 **Employment by industry grouping for selected countries, 1960-90**

This note discusses employment shifts by industry group in agriculture, manufacturing, and services. The two "other" industries are not analyzed since they accounted for only 9 percent of total employment in 1960 in the ten countries combined, and this share changed little over the 1960-90 period.

For more information on the Labstat database, contact Constance Sorrentino, Supervisory Economist at the Bureau of Labor Statistics, Division of Foreign Labor Statistics, Washington, D.C., at (202) 606-5654; fax (202) 606-5664.

Notes

Note 1

The ten countries consist of Canada, the United States, Australia, Japan, the Netherlands, Sweden, France, the United Kingdom, Germany and Italy.

Note 2

In this article, Germany refers to the Federal Republic of Germany before unification.

Note 3

Japan's share of total employment in manufacturing rose from 22% in 1960 to 24% in 1990.

Note 4

In Canada, substantial growth in both health and social services, as well as services to business, lend credence to this argument. For example, health and social service employment almost doubled between 1976 and 1992, rising from 693,000 to 1,223,000. Similarly, employment in services to business more than doubled over the same period to 676,000 in 1992.

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Source

Perspectives on Labour and Income, Summer 1993, Vol. 5, No. 2 (Statistics Canada, Catalogue 75-001E). This is the third of seven articles in the issue.

 **HIGHLIGHTS**

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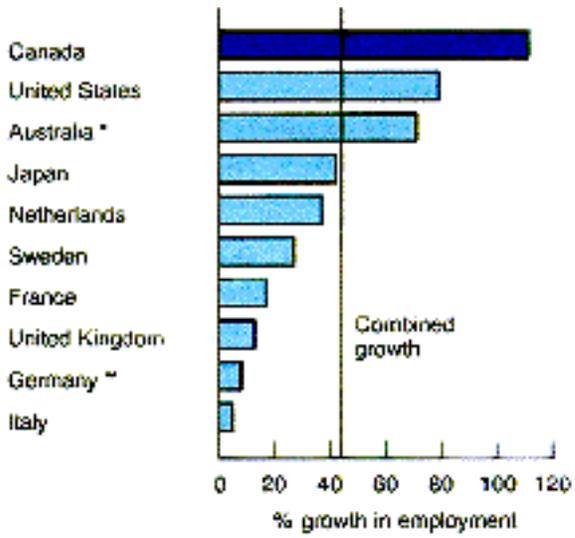
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Chart A

Employment growth over the 1960-90 period was highest in Canada.



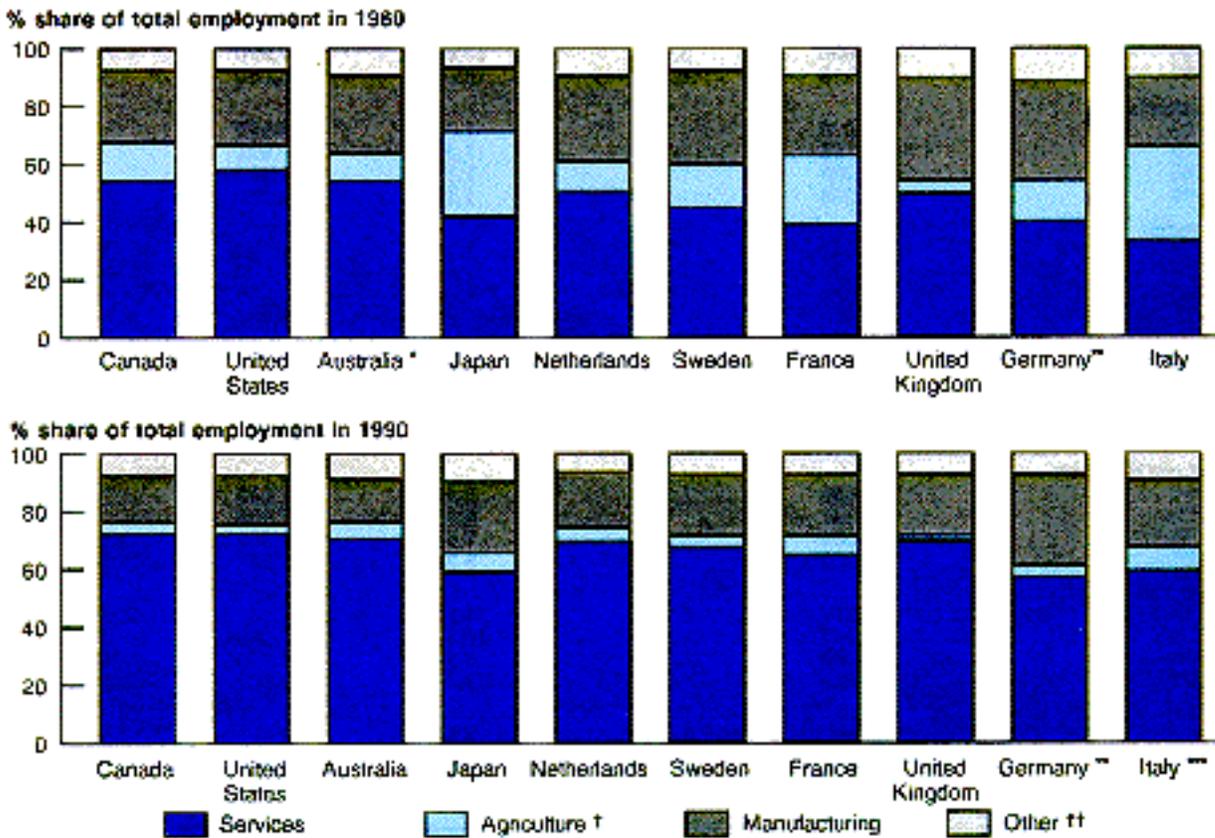
Source: Bureau of Labor Statistics, U.S. Department of Labor

* Covers the period 1965 to 1990.

** Refers to the Federal Republic of Germany before unification.

Chart B

All countries reported employment shifts from agriculture and manufacturing into services.



Source: Bureau of Labor Statistics, U.S. Department of Labor

- * Percentage share of total employment in 1965.
- ** Refers to the Federal Republic of Germany before unification.
- *** Manufacturing and other industry data are for 1989.
- † Consists of agriculture, forestry, hunting and fishing.
- †† Consists of mining and construction.

Table 1

Employment by industry grouping for selected countries, 1960-90

Year	Total	Agriculture*	Manufacturing	Services**	Other***
	'000				
Canada					
1960	5,965	795	1,471	3,264	435
1970	7,919	604	1,768	4,955	592
1980	10,708	583	2,111	7,194	820
1990	12,572	531	2,001	9,083	958
United States					
1960	65,778	5,572	17,149	38,212	4,846
1970	78,678	3,567	20,746	49,031	5,334
1980	99,303	3,529	21,942	66,638	7,194
1990	117,914	3,355	21,184	84,949	8,426
Australia					
1965†	4,614	448	1,207	2,514	446
1970	5,388	432	1,340	3,070	546
1980	6,284	408	1,248	4,058	570
1990	7,872	438	1,204	5,539	691
Japan					
1960	43,370	12,800	9,430	18,190	2,950
1970	50,140	8,490	13,750	23,770	4,130
1980	54,600	5,510	13,630	29,910	5,550
1990	61,710	4,270	15,010	36,550	5,880
Netherlands					
1960	4,576	469	1,326	2,322	460
1970	5,156	329	1,381	2,895	552
1980	5,520	285	1,176	3,593	466
1990	6,268	292	1,196	4,356	424
Sweden					
1960	3,581	564	1,133	1,598	286

1970	3,836	314	1,064	2,066	392
1980	4,214	237	1,025	2,650	302
1990	4,560	174	961	3,097	328
France					
1960	18,595	4,305	5,250	7,314	1,726
1970	20,328	2,751	5,593	9,765	2,219
1980	21,334	1,854	5,495	12,005	1,980
1990	21,684	1,310	4,612	14,090	1,672
United Kingdom					
1960	23,660	1,118	8,517	11,642	2,383
1970	24,381	784	8,465	13,066	2,066
1980	25,004	654	7,081	15,291	1,978
1990	26,620	568	5,384	18,544	2,124
Germany††					
1960	25,877	3,567	8,901	10,405	3,004
1970	26,107	2,218	10,305	11,183	2,401
1980	26,486	1,373	8,998	13,740	2,375
1990	27,961	966	8,843	16,102	2,050
Italy					
1960	20,064	6,514	4,813	6,696	2,041
1970	19,083	3,839	5,293	7,656	2,293
1980	20,195	2,870	5,433	9,631	2,261
1990†††	21,074	1,876	4,726	12,357	2,023

* Consists of agriculture, forestry, hunting and fishing.

** Consists of transportation, communication, public utilities, trade, finance, public administration, private household services and miscellaneous services.

*** Consists of mining and construction.

† The earliest available employment figures are for 1965.

†† Refers to the Federal Republic of Germany before unification.

††† Manufacturing and other industry data are for 1989; therefore, the sum of the industry groups does not equal total employment.