

# Another measure of employment

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The employment/population ratio is one of the least well known of the major labour market indicators published each month by Statistics Canada. This indicator, also referred to as the employment rate, measures the proportion of the working-age population in any demographic group (for example, age, sex, geographical area) that is employed. Because changes in this ratio can and do influence major socioeconomic programs such as social assistance, Unemployment (now called Employment) Insurance, and retirement (pension) incomes, its relative obscurity in public debates is surprising.

This paper examines the strengths and limitations of this indicator, tracks its movements over the past half century, and compares provincial ratios and those of Canada and several industrialized nations. It also offers some likely reasons for the ratio's low public profile and suggests directions for future research.

## Ratio more sensitive when falling...

The employment/population ratio shows what percentage of the working-age population is employed.<sup>1</sup> A rise (or drop) in the ratio generally indicates that growth in employment during the period of observation is faster (or slower) than growth in the working-age population. Thus, because the annual employment growth (2.1%) between 1993 and 1994 exceeded growth in the working-age population (1.5%), the ratio rose (from 58.2% to 58.5%). In 1995, the gap

in the two growth rates was narrower, causing the ratio to inch up to 58.6% (Table).

Movements in the employment/population ratio differ from those observed for some other major labour market indicators. For example, fluctuations in this ratio from 1976 to 1995 were greater than those exhibited in the participation rate but smaller than those in the unemployment rate (Chart A).

The ratio is very sensitive downward, though less so upwards. This is because the denominator (working-age population) generally increases over time whereas the numerator (employment) moves in either direction, depending on the health of the economy (Table). Thus, upward pressure on the ratio resulting from employment growth is offset by the rise in the working-age population, while a decline in employment appears to be magnified in the ratio. The other major labour market indicator exhibiting similar movements is the labour force participation rate, which also uses the working-age population as denominator, with employment plus unemployment as numerator.

## tracks the economy well...

The employment/population ratio appears to keep step with the Canadian economy, as employment generally rises in good economic times and falls in recessions. Following a sustained climb in the generally prosperous 1970s, the ratio fell during the 1981-82 recession. It resumed its upward climb during the recovery and expansionary years of 1983 to 1989, and fell again during the 1990-92 recession. Its weak increase since then reflects the slower pace of job growth during the economic upturn.

As a barometer of the economy, the employment/population ratio compares favourably with the unemployment rate. Movements in the ratio are the inverse of the unemployment rate, however, and the slopes and amplitudes of the latter are greater. Compared with the participation rate, the employment/population ratio is more sensitive to changes in the economy and labour market. Because the labour force is made up of the employed and unemployed, the extent to which the labour force participation rate rises and falls over time is lessened.

## and generally reflects economic maturity

A country's state of economic development (as measured by per capita gross national product [GNP]) and its employment/population ratio appear to be correlated. In general, highly developed nations have higher employment/population ratios, and vice versa. For example, in 1993 Switzerland boasted the highest per capita GNP (\$36,410) and a very high employment/population ratio (80.2% of 15 to 64 year-olds) among countries in the Organisation for Economic Co-operation and Development (OECD); Turkey reported a very low GNP (\$2,120) and a very low employment/population ratio (53.3%).<sup>2</sup>

## Ratio's potential and limitations

The ratio's use in analysis of major socioeconomic programs deserves to be explored. Other things being equal, an upward movement in the ratio portends an easing on welfare caseloads and Unemployment Insurance payments. It usually means an increase in tax revenues and in

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Table  
**Labour force estimates, both sexes, annual averages**

	Population 15 years and over*	Labour force			Not in labour force	Partic- ipation rate	Unem- ployment rate	Emp./ pop. ratio
		Total	Employ- ment	Unem- ployment				
		'000					%	
1946	8,779	4,829	4,666	163	3,950	55.0	3.4	53.1
1947	9,007	4,942	4,832	110	4,065	54.9	2.2	53.6
1948	9,141	4,988	4,875	114	4,153	54.6	2.3	53.3
1949	9,268	5,055	4,913	141	4,213	54.5	2.8	53.0
1950	9,615	5,163	4,976	186	4,453	53.7	3.6	51.8
1951	9,732	5,223	5,097	126	4,509	53.7	2.4	52.4
1952	9,956	5,324	5,169	155	4,632	53.5	2.9	51.9
1953	10,164	5,397	5,235	162	4,767	53.1	3.0	51.5
1954	10,391	5,493	5,243	250	4,898	52.9	4.6	50.5
1955	10,597	5,610	5,364	245	4,987	52.9	4.4	50.6
1956	10,807	5,782	5,585	197	5,025	53.5	3.4	51.7
1957	11,123	6,008	5,731	278	5,115	54.0	4.6	51.5
1958	11,388	6,137	5,706	432	5,250	53.9	7.0	50.1
1959	11,605	6,242	5,870	372	5,363	53.8	6.0	50.6
1960	11,831	6,411	5,965	446	5,420	54.2	7.0	50.4
1961	12,053	6,521	6,055	466	5,531	54.1	7.1	50.2
1962	12,280	6,615	6,225	390	5,665	53.9	5.9	50.7
1963	12,536	6,748	6,375	374	5,787	53.8	5.5	50.9
1964	12,817	6,933	6,609	324	5,884	54.1	4.7	51.6
1965	13,128	7,141	6,862	280	5,986	54.4	3.9	52.3
1966	13,083	7,493	7,242	251	5,590	57.3	3.4	55.4
1967	13,444	7,747	7,451	296	5,697	57.6	3.8	55.4
1968	13,805	7,951	7,593	358	5,854	57.6	4.5	55.0
1969	14,162	8,194	7,832	362	5,968	57.9	4.4	55.3
1970	14,528	8,395	7,919	476	6,133	57.8	5.7	54.5
1971	14,872	8,639	8,104	535	6,233	58.1	6.2	54.5
1972	15,186	8,897	8,344	553	6,289	58.6	6.2	54.9
1973	15,526	9,276	8,761	515	6,250	59.7	5.5	56.4
1974	15,924	9,639	9,125	514	6,285	60.5	5.3	57.3
1975	16,323	9,974	9,284	690	6,349	61.1	6.9	56.9
1976	17,124	10,530	9,776	754	6,594	61.5	7.2	57.1
1977	17,493	10,860	9,978	882	6,633	62.1	8.1	57.0
1978	17,839	11,265	10,320	945	6,574	63.1	8.4	57.9
1979	18,183	11,630	10,761	870	6,552	64.0	7.5	59.2
1980	18,550	11,983	11,082	900	6,567	64.6	7.5	59.7
1981	18,883	12,332	11,398	934	6,551	65.3	7.6	60.4
1982	19,177	12,398	11,035	1,363	6,779	64.7	11.0	57.5
1983	19,433	12,610	11,106	1,504	6,823	64.9	11.9	57.1
1984	19,681	12,853	11,402	1,450	6,828	65.3	11.3	57.9
1985	19,929	13,123	11,742	1,381	6,807	65.8	10.5	58.9
1986	20,182	13,378	12,095	1,283	6,804	66.3	9.6	59.9
1987	20,432	13,631	12,422	1,208	6,802	66.7	8.9	60.8
1988	20,690	13,900	12,819	1,082	6,789	67.2	7.8	62.0
1989	20,968	14,151	13,086	1,065	6,816	67.5	7.5	62.4
1990	21,277	14,329	13,165	1,164	6,948	67.3	8.1	61.9
1991	21,613	14,408	12,916	1,492	7,205	66.7	10.4	59.8
1992	21,986	14,482	12,842	1,640	7,504	65.9	11.3	58.4
1993	22,371	14,663	13,015	1,649	7,708	65.5	11.2	58.2
1994	22,717	14,832	13,292	1,541	7,884	65.3	10.4	58.5
1995	23,027	14,928	13,506	1,422	8,100	64.8	9.5	58.6

Source: Labour Force Survey

\* Population 14 years and over from 1946 to 1965.

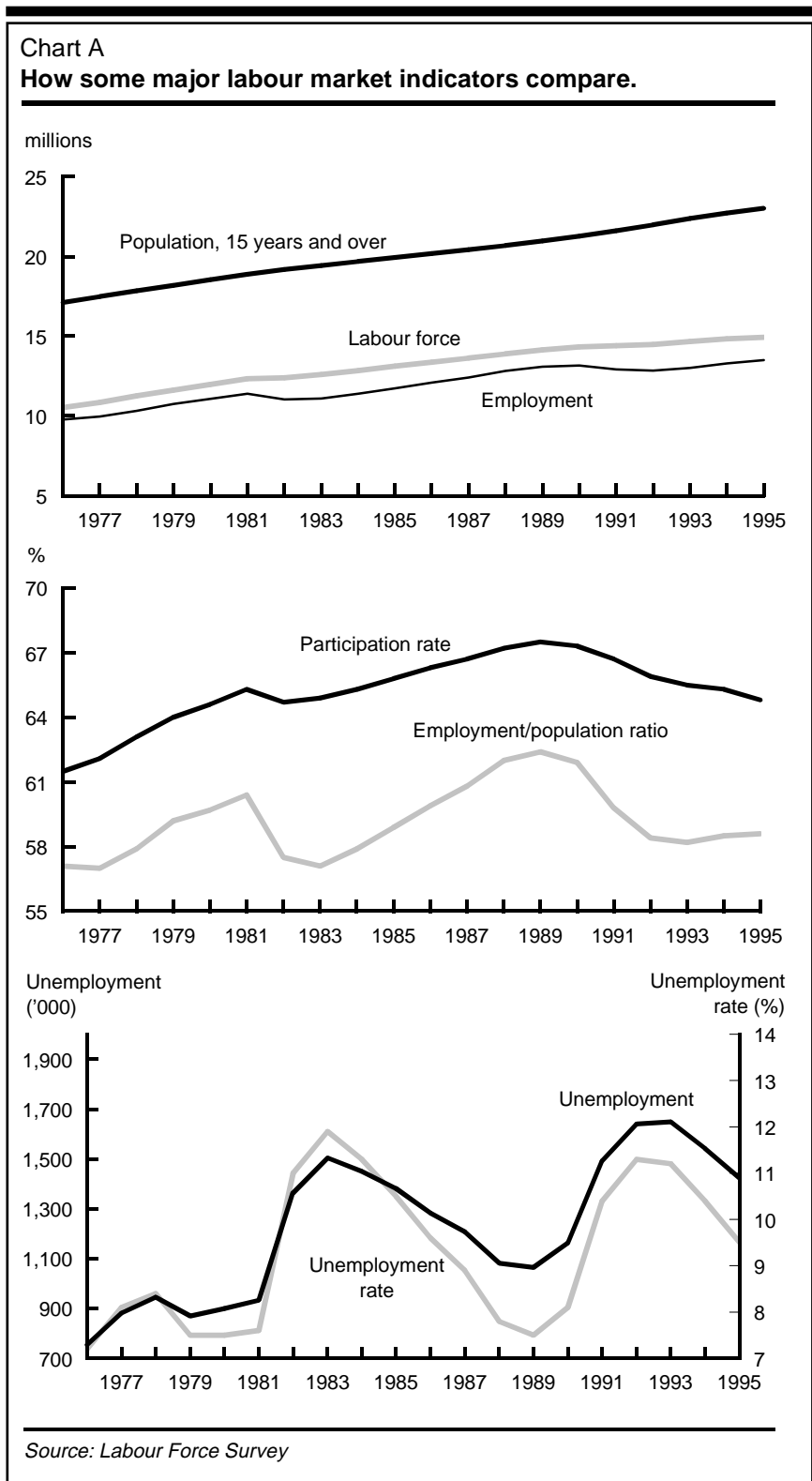
the insurance fund.<sup>3</sup> Similarly, an upward trend suggests increased participation in both public and private pension plans.<sup>4</sup> Increased coverage helps to sustain these plans and therefore to provide retirement incomes for many Canadians. So far, however, any statistical association between the ratio and social programs remains to be carefully studied and articulated.

By itself, the employment/population ratio offers no clues about quality of jobs (for example, wage levels or distributions), or the mix (for example, full-time/part-time or employee/self-employed). But the same can be said of many other major labour market indicators considered in isolation. And while it is theoretically possible to reformulate the ratio to incorporate certain job attributes, the added value of such reformulation has yet to be explored.

### Overall stability masks offsetting trends

Like many major market indicators, the overall employment/population ratio has fluctuated in response to changes in economic conditions;<sup>5</sup> three main trends are discernible over the past 50 years (Chart B).

From 1946 to the early 1960s, the overall ratio trended downward, from 53.1% to just a little over 50%. Upward movements in the rate for adult women failed to offset the downward spiral in youths' (both sexes combined) and adult men's ratios. Thereafter, the overall ratio began an upward trend (driven mainly by increases in women's rate), to reach 60.4% at the onset of the 1981-82 recession. Following a brief slide in 1982 and 1983, the ratio resumed its climb in 1984, rising to its peak of 62.4% in 1989, just before the last recession. The ratio then dropped once more, and over the past four years it has remained fairly steady, around 58.5%.



Despite such movement, the employment/population ratio has exhibited more stability than many other major labour market indicators. From 53.1% in 1946, it had risen to only 58.6% by 1995. In contrast, the unemployment rate during the same period climbed from 3.4% to 9.5%. The overall employment/population ratio has been relatively stable because various demographic groups have cancelled out each other's movements.

**Men's ratio falls, women's rises**

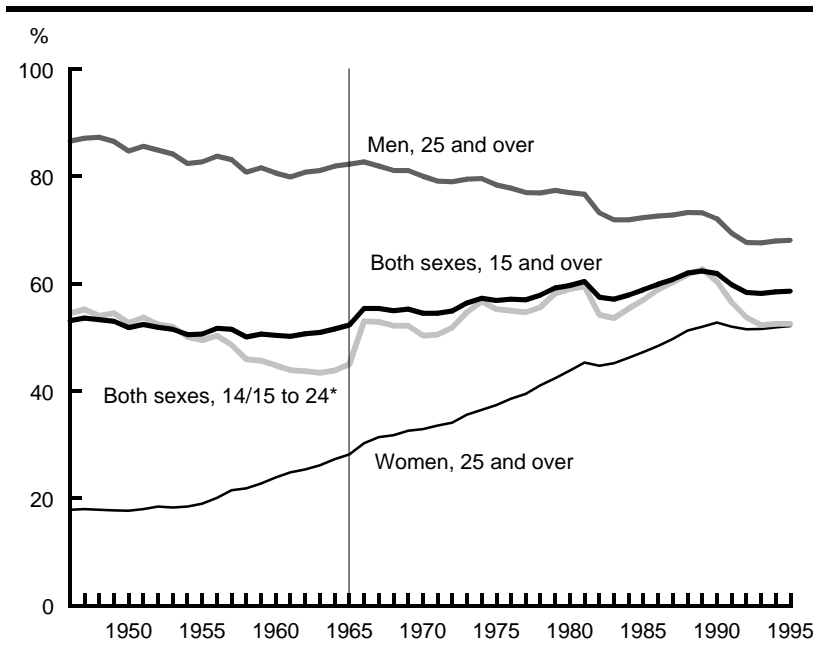
The employment/population ratios of adult men and women (aged 25 and over) have displayed starkly different trends over the past 50 years. With few exceptions, men's decreased steadily while women's rose. In 1946, about 87% of adult men were employed; by 1976, the level had fallen to 77.8%, and by 1995, to 68.1%. A gradual departure from the ranks of the employed, voluntary or otherwise, notably among older, poorly educated men, was responsible for most of the decline.<sup>6</sup>

The rate for women tripled over the same period. Their growing presence in the workforce was explained partly by their changing career aspirations and higher educational attainment, as well as families' need for two incomes. In 1946, fewer than one in five (17.9%) adult women were working; by 1970 the ratio had risen to almost one in three (32.9%), and since 1987 has registered one in two (52.1% in 1995).

**Youth rate most sensitive**

Of the three major age/sex groups studied in this paper, the employment/population ratio of youths (15 to 24 year-olds, both sexes combined) has displayed the most sensitivity to business cycles. Starting at 54.5% in 1946, it declined to

**Chart B**  
**Women's employment/population ratio has risen dramatically since the mid-1950s.**



Source: Labour Force Survey

\* In 1966, 14 year-olds were removed from the LFS target population. As a result, both the youth and overall employment/population ratios shifted that year.

roughly 44% in the first half of the 1960s. It shifted upward to 53.0% following the Labour Force Survey's exclusion of 14 year-olds from the working-age population in 1966,<sup>7</sup> but then continued its decline until 1970 (50.3%), probably because many young people were furthering their studies.

Movements in the youth ratio between 1971 and 1989 tracked the business cycles closely, though the overall trend was upward. However, after hitting its peak in 1989 (62.7%), the ratio declined by over 10 percentage points to 52.3% by 1993 – evidence of young people's few opportunities for employment. The rate has improved little during the current economic upturn. Faced with poor job prospects, many young Canadians in recent years

have opted to remain in school (Sunter, 1994).

### Economy withstands demographic change

Major demographic events can affect the employment/population ratio. Three such events are worthy of note in the Canadian context: the post-World War II baby boom, high immigration during the postwar era, and the aging of the population. All three had the potential to lower the ratio.

The oldest baby boomers reached working age in the early 1960s. In order to accommodate this sudden bulge in the working-age population, employment growth needed to expand accordingly. This downward pressure on the ratio was in effect until the start

of the 1980s, when the youngest reached working age.

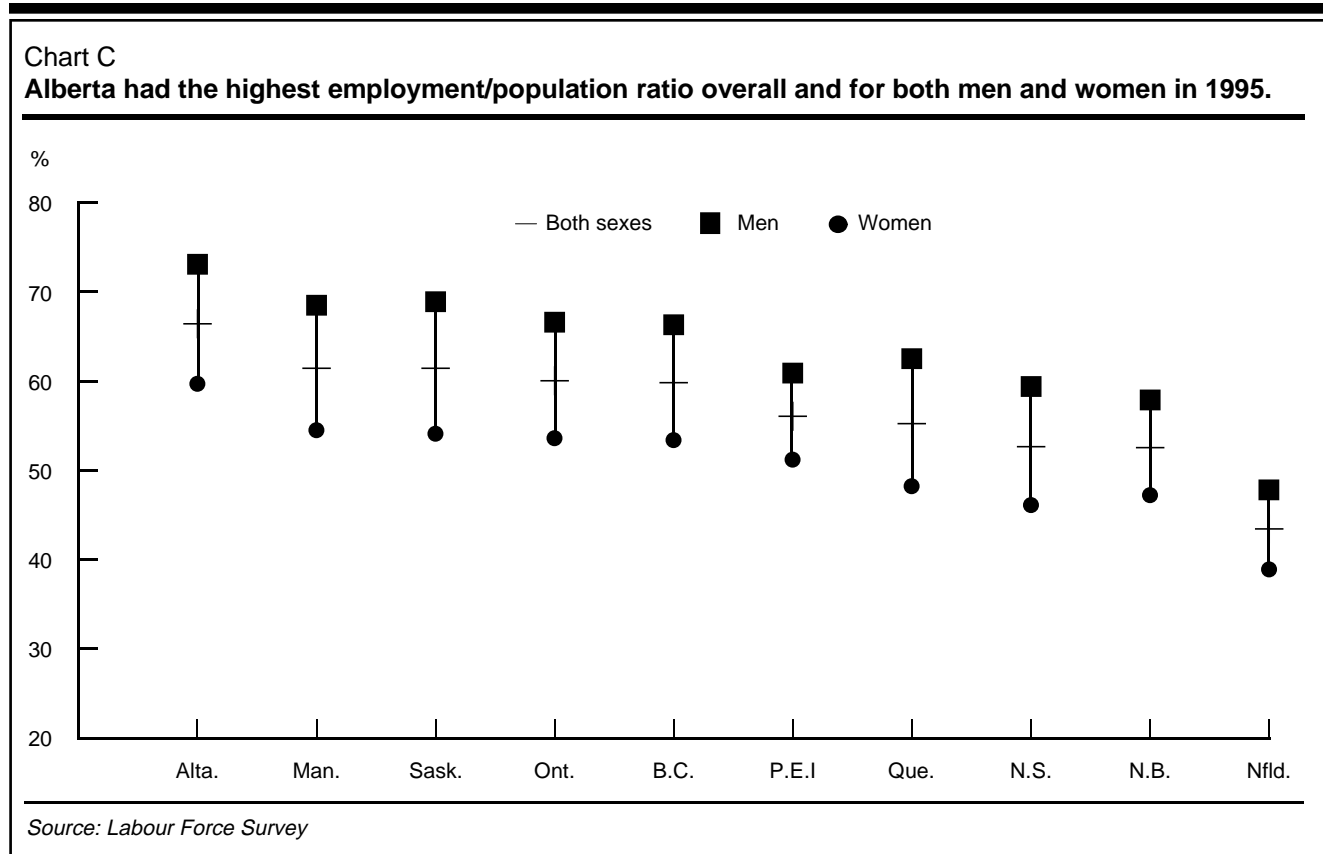
The high immigration levels during the postwar period also put pressure on the ratio. Although annual immigration levels have fluctuated over the years, the annual average more than tripled from around 43,000 in the 1940s to 140,000 from the 1950s to the 1980s. From 1990 to 1995 the annual average was even higher (230,000).

So too has the aging of the population had a dampening effect on the ratio. In 1995, Canadians aged 55 and over formed 25.1% of the working-age population, higher than their 1950 level (21.5%). Because they have always had a lower employment/population ratio, and since that ratio – particularly for older men – has trended downwards over the past two decades (in line with their labour force participation rate) (Gower, 1995), older Canadians have had a growing influence on the overall employment/population ratio.

In spite of these downward pressures, the overall employment/population ratio trended up during the 1960-to-1989 period, suggesting that the economy was able to generate jobs at high enough rates to more than compensate for the above-noted major demographic events.

### Alberta has highest rate; Newfoundland, the lowest

Employment/population ratios vary widely by province (Chart C). Over the past three decades, the highest ratios have been in Alberta, and the lowest, in Newfoundland. In 1995, Alberta reported 66.4%, and Newfoundland, just 43.4%. Alberta was followed by Manitoba and Saskatchewan (each with 61.4%) and Ontario (60.0%). In British Columbia, the rate was 59.8%, in Prince Edward Island, 56.0%, and



in Quebec, 55.2%. Nova Scotia and New Brunswick had slightly more than half their working-age populations employed.

With a few exceptions, the provinces maintain these rankings when the ratios of men and women are examined separately. Men in Alberta recorded the highest rate (73.1%) in 1995 and men in Newfoundland, the lowest (47.8%). Similarly, women were most likely to be employed in Alberta (59.7%), and least likely to be working in Newfoundland (38.9%).

**United States has highest rate; Italy, the lowest**

Among selected industrialized countries, the United States recorded the highest overall ratio (62.9%) in 1995, followed by Japan (60.9%) and Australia (59.1%). Canada placed fourth (58.6%)

(Chart D). Germany, France and Italy recorded relatively low rates. Indeed, in Italy, only 41.8% of the working-age population was employed in 1995.

An examination of the national rates by sex reveals some interesting results. In Japan, 3 out of 4 working-age men were employed. They were distantly followed by men in the United States (70.8%), Australia (68.1%) and Canada (65.5%). Among women, the United States led the rest with 55.6%, followed closely by Sweden (54.7%), Canada (52.1%), and Australia (50.3%). Japanese women placed sixth with a rate of 48.0%. Germany, France and Italy (in descending order) recorded the lowest rates among men as well as women. In Germany (41.2%) and France (40.7%), just 4 in 10 women of working age were

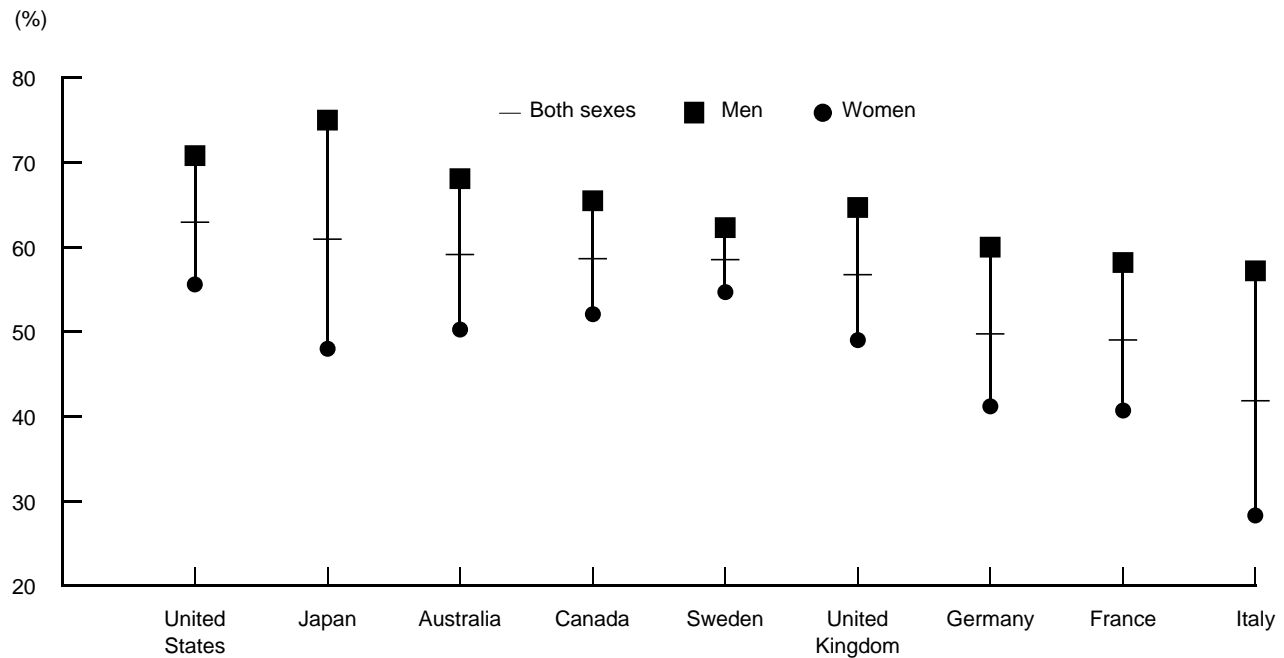
employed; in Italy the figure was a mere 28.3%.

**Discussion**

The employment/population ratio is a good barometer of the state of the economy. The relative stability (indeed, the slight increase) in the ratio over the past half century attests to how well the economy has withstood the potential dampening effects of certain demographic changes. In fact, among several industrialized countries Canada has a relatively high proportion of its working-age population employed. (An examination of the sources of geographical ratio differences, while interesting in itself, is outside the scope of this paper.)

The ratio's potential analytical applications *vis-à-vis* certain social programs have also been noted here.

**Chart D**  
**The gap between men's and women's employment/population ratios varies by country.**



Sources: Labour Force Survey; U.S. Bureau of Labor Statistics

Note: Data relate to the total or civilian non-institutionalized working-age population, except that the institutionalized working-age population is included in Japan and Germany. All data approximate U.S. labour market definitions so as to make these comparisons meaningful. Reference year was 1995 for all countries but the United Kingdom, Germany and Italy, whose overall figures were for 1995, but whose data for men and women were for 1994. Data for Germany refer to the Federal Republic of Germany before unification.

Why, then, has this indicator been so little used? At most, there has been modest attention paid to the overall rate. And, since month-to-month changes in the overall rate are small, further scrutiny has been rare. The very stability of the ratio masks some interesting offsetting trends, however. For instance, as noted earlier, while the ratio for adult men has been trending downward, that of adult women has taken the opposite route and that of youths has been most sensitive to business cycles. The factors underlying these trends and their implications for social programs, among others, deserve to be fully researched. Such research efforts could help raise the analytic value

of this potentially important, but neglected labour market indicator. □

■ **Notes**

1 Since 1966, the working-age population has included persons aged 15 and over. Employment is defined here as any work for pay or profit in the "formal" market economy. It consists of paid work in the context of an employer-employee relationship, or self-employment. It also includes unpaid family work, defined as unpaid work that contributes directly to the operation of a farm or business owned or operated by a family member.

2 Data published by both the OECD (1996) and the International Labour Office (ILO, 1995) show a correlation between per capita GNP and the employment/population ratio for 1993:

Country	Per capita GNP 1993 US\$	Emp./pop. ratio (15-64 year-olds) %
Switzerland	36,410	80.2
Japan	31,450	74.2
Norway	26,340	71.9
Sweden	24,830	71.2
United States	24,750	71.6
<b>Canada</b>	<b>20,670</b>	<b>66.7</b>
Spain	13,650	45.7
Ireland	12,580	52.6
Portugal	7,890	67.2
Greece	7,390	53.2
Turkey	2,120	53.3

Sources: ILO; OECD

Also, the ratio is affected by the prevailing cultures, norms and attitudes of a society (ILO, 1995).

3 The Unemployment Insurance Program (now known as Employment Insurance Program) was designed to be self-financing, with contributions coming from both employers and employees. In bad economic times, the fund is heavily used, and benefit payments often exceed contributions, putting it in a deficit position. The reverse is true in good times, when it is usually in surplus.

4 Public pension plans refer to the Canada and Quebec Pension Plan (C/QPP). Private pension plans refer to employer-sponsored pension plans (registered pension plans or RPPs), registered retirement savings plans (RRSPs) and registered retirement income funds (RRIFs).

5 Two Labour Force Survey design changes also affected the overall rate: the exclusion of 14 year-olds from the working-age population in 1966 (see note 7 for details), and the decision in 1975 to abolish the restriction that married women on farms could be counted as employed only if they regularly worked 20

hours or more each week. As well, the admission of Newfoundland into Canada in 1949 (a province with a low employment/population ratio) altered the rate slightly.

6 The employment/population ratio for men aged 55 or over with fewer than nine years of schooling, for example, fell from 36.7% in 1976 to only 19.4% in 1995.

7 In 1966, 14 year-olds were excluded from the Labour Force Survey's working-age population partly because many provinces required school attendance at that age. Since relatively few 14 year-olds participate in the workforce, this exclusion resulted in a very large jump of 8.0 percentage points (to 53.0%) in the youth rate and a 3.1 percentage-point increase (to 55.4%) in the overall rate that year.

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