

The role of self-employment in U.S. and Canadian job growth

Self-employment rates have been higher in Canada than in the United States for some time, and this tendency became more pronounced during the 1990s

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Although the economies of Canada and the United States are closely linked, their labor markets have diverged in some respects during the 1990s. A striking difference has been in the contribution of self-employment to net job creation.¹ In particular, self-employment accounted for the majority of the net employment growth that took place in Canada in the 1990s, whereas it accounted for effectively none of the net growth in the United States over the same period. During the 1980s, the role of self-employment had been fairly similar in the two countries.

Some background

Not surprisingly, considerable attention has been paid to self-employment in Canada in recent years. Popular concern exists regarding whether workers are “pushed” into self-employment due to lack of full-time paid jobs, or “pulled” in by the positive benefits of self-employment.

Views of self-employment also have been mixed in the research literature. On the one hand, self-employment is a type of entrepreneurship, something that is encouraged by various government policies around the world. Small businesses are sometimes thought to have particularly desirable impacts, such as higher economic growth.² On the other hand, it is sometimes thought that individuals are driven into self-employment by poor opportunities in the wage and salary sector.³

Survey data in both Canada and the United States shed some light on the extent to which many workers may prefer self-employment. A

1995 Canadian Survey of Work Arrangements asked why workers were self-employed, and the vast majority provided positive rather than negative reasons, as have respondents to the U.S. Current Population Survey.⁴

Labor market outcomes, and in particular employment patterns, in different countries may vary for a number of reasons. First, labor supply conditions may differ from country to country due to varying demographic trends. If there is a difference in the growth in the population of an age and with a level of wealth conducive to becoming self-employed, then employment trends may differ for supply reasons. Secondly, institutional arrangements and taxation legislation vary from country to country, and these, too, can influence labor market outcomes. For example, differences in personal or payroll taxes may encourage self-employment (or discourage paid employment) in one country, but not in another. The incidence of “contracting-out” by firms may be influenced by taxation or labor laws, in turn influencing self-employment patterns. Finally, differences in fiscal and monetary policy may also influence labor demand and, thus, employment patterns. Hence, even if all advanced industrialized countries faced similar shifts in labor demand due to globalization and technological change, the country-by-country employment patterns could vary for a number of reasons.

There have been few studies directly comparing self-employment in Canada and the United States. Elaine Reardon used decennial census data from 1990 for the United States and from

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1991 for Canada to compare nonagricultural full-time self-employment in the two countries.⁵ She found that, in both countries, the self-employed are older, are less likely to be female, are more educated, and tend to work more weeks than other labor force participants. Her comparison of industry distributions for the two countries reveals that, compared to the self-employed in the United States, those in Canada are considerably more likely to be in the accommodations and food service industry and less likely to be in finance, insurance, and real estate or in miscellaneous services. She concluded that “[t]he difference in self-employment rates for men appears to be driven in part by worker characteristics and in part by the selection mechanism at work” and that Canada’s far higher immigration rate is the most important demographic factor. In another study, H.J. Schuetze compares trends in male self-employment for Canada and the United States, and concludes that differences in personal tax rates play a role in the divergence in the trends between the countries during the 1990s.⁶

This article does not attempt to explore the causes of the recent differences in the contribution of self-employment to net job creation between the United States and Canada, but instead focuses on comparing the characteristics of the self-employed and the growth of self-employment in the two countries. The similarity of existing data sources between countries is essential to comparisons such as these. Although Canada and the United States use different official definitions of self-employment, and consequently highlight series that are not comparable, certain comparable information is available. In the following section, we discuss these alternative measures, and also address the issue of changes in the U.S. data series.

Measurement issues

One objective of this article is to compare the role of self-employment in job growth in the two countries for both the 1980s and 1990s recession and recovery periods. Different indicators suggest different choices of peaks and troughs in economic performance. Analysts of U.S. economic growth often combine the 1980 recession and the more severe 1982 recession into one downturn. (Indeed, the nonrecession year of 1981 does not represent an altogether positive employment situation.) While there was also a “mini-recession” in Canada in 1980, employment peaked in 1981, and that year is often used as a cyclical peak by analysts dealing with annual data, as we are here. For simplicity’s sake, we choose to analyze the period 1979–89 for both countries. We also analyze the period 1989–1997. In 1990, a recession began in both countries, as determined by National Bureau of Economic Research and Statistics Canada business cycle analysts. Furthermore, the annual average unemployment rate had reached its low point in 1989 in both countries.

Recent employment trends have differed in the two countries. Employment growth has been stronger in the United States, where total employment grew 10.4 percent between 1989 and 1997, compared with 6.5 percent in Canada. But the dramatic difference has been in the contribution of self-employment. The extent of this contribution depends on the definition used. The “official” published series for the two countries are not comparable. Under the Canadian definition, incorporated working owners (with or without employees), as well as the unincorporated, are considered self-employed. Under the U.S. definition, only the unincorporated are considered self-employed; incorporated self-employed persons are considered paid employees.

Both definitions are useful. Previous research findings that incorporated and unincorporated self-employment have experienced different growth rates in each country lead us to analyze both. It is possible to construct series both for *total* self-employment (including the incorporated and unincorporated) and for unincorporated self-employment only from the Canadian Monthly Labour Force Survey for the entire period of interest. For the United States, obtaining the desired data series is more problematic. There are two sources of time series data on the U.S. labor force—the regular monthly Current Population Survey (CPS), and the March Supplement to the CPS. An official series on incorporated self-employment has been published for the years since 1989, based on the monthly CPS data. It would be possible to adjust data collected earlier in order to extend this series back in time, but issues of comparability would still remain. Therefore, to permit examination of *total* U.S. self-employment (incorporated plus unincorporated) back to 1979, we use information from the CPS March Income Supplement for the period 1979–96; 1997 data were not available at the time this article was written.

While Canadian data and the monthly CPS data refer to class-of-worker status in the primary job held during the interview week, the U.S. March Income Supplement question refers to class-of-worker status in the longest job held over the preceding calendar year. In theory, the number of self-employed from the March data could be either higher or lower than the monthly average data for the corresponding year. (A detailed discussion of the U.S. data and the extent to which the monthly data and the March supplement data provide a similar picture of self-employment for years for which both are available is provided in the appendix to this article.) In general, the two sources yield very similar pictures. In the end, we rely primarily on the CPS March supplement for U.S. estimates because it allows a comparable series for “total” self-employment (incorporated plus unincorporated) to be created back to 1979. We do employ the monthly CPS data in places.

Another issue concerning the monthly CPS data is the effect of the January 1994 major revision on estimates of self-employment. When the monthly CPS data are used in analysis,

the estimate of exactly how many self-employment jobs were created depends on whether an adjustment is made to account for the effects of the revision of the monthly CPS. It is important to note that using the unadjusted data increases the estimated *growth* of self-employment over the 1990s (relative to the adjusted data) because, prior to the revision, the CPS was undercounting employment, and particularly self-employment. Hence, the use of the unadjusted data decreases the differences between the United States and Canada. The effect of adjusting the data (or not) on the estimated distribution of jobs by various characteristics is likely to be small. There is also a question of whether the March supplement data were affected by the revision. It is likely that those data were affected to a similar extent as the monthly data, but no information is available to construct adjustment factors for them. These issues are discussed more fully in the appendix.

The role of self-employment

The growth of total self-employment was substantial in both Canada and the United States over the period 1979–97, although it was much greater in the former country (74.8 percent) than in the latter (37.0 percent unadjusted for the CPS redesign, and 24.8 percent adjusted). Chart 1 shows this movement, as well as the trend in the self-employment rate, which is the ratio of total (incorporated plus unincorporated) self-employment to total employment. The increase in the self-employment rate for Canada in the latter part of the period is striking: The rate rose from 13.8 percent in 1989 to 17.8 percent in 1997, after having changed little during the 1980s. There was little change in the self-employment rate in the United States over the entire period. It remained at around 10 percent, well below the rate for Canada.

There has been a tendency for an increasing share of the self-employed to incorporate, particularly in the United States, as can be seen in the bottom panel of chart 1. In Canada, the share of all self-employment that is incorporated rose somewhat, from 33.2 percent to 36.4 percent, between 1979 and 1989, and changed little over the 1990s. In contrast, the comparable U.S. share has grown more substantially: it rose from 21.8 percent to 25.0 percent over the period 1979–89 based on data from the March CPS Supplement, and from 25.6 percent to 29.2 percent from 1989 through 1997 (based on unadjusted CPS monthly averages, compared with an increase from 27.2 percent to 29.2 percent based on adjusted monthly data). Thus, the increasing tendency to incorporate is seen in the United States during the 1990s, but not in Canada.

Table 1 presents data on net job creation, by which we mean the net change in employment. The most striking difference is that total self-employment accounted for the vast majority of Canadian employment gains over the latest cycle (to date), but it contributed relatively little to U.S. net employment

growth. Between 1989 and 1997, self-employment (incorporated plus unincorporated) accounted for about 80 percent of the net employment gain in Canada, but for very little in the United States (about 1 percent based on adjusted monthly data versus 11 percent based on unadjusted data). By itself, unincorporated self-employment contributed about half of net new jobs in Canada over the latest cycle, but virtually none of net new jobs in the United States (–2.3 percent adjusted; 4.1 percent unadjusted). This dramatic contribution to job creation in Canada was unique to the 1990s. During the 1980s cycle, there was relatively little difference between the two countries; total self-employment contributed 17 percent of new employment in Canada, and 13 percent in the United States.

Another striking difference in the self-employment trends between the 1980s and 1990s cycles in Canada is the role played by the self-employed with and without employees. Most—that is, 60 percent—of the net new self-employment jobs created during the 1980s involved entrepreneurs who themselves engaged other employees. Only 40 percent were own-account self-employed jobs, that is, workers who are employed on their own, without engaging other labor. During the 1989–97 period, however, fully 90 percent of the net new self-employment jobs in Canada were own-account. This difference would have affected growth in paid employment; small entrepreneurs created substantial paid employment during the 1980s, but accounted for very little during the 1990s. Clearly, the 1990s cycle in Canada produced not only many more self-employed jobs relative to the United States and relative to the 1980s, but also jobs that were different in many ways from those produced by the Canadian economy during the the 1980s.

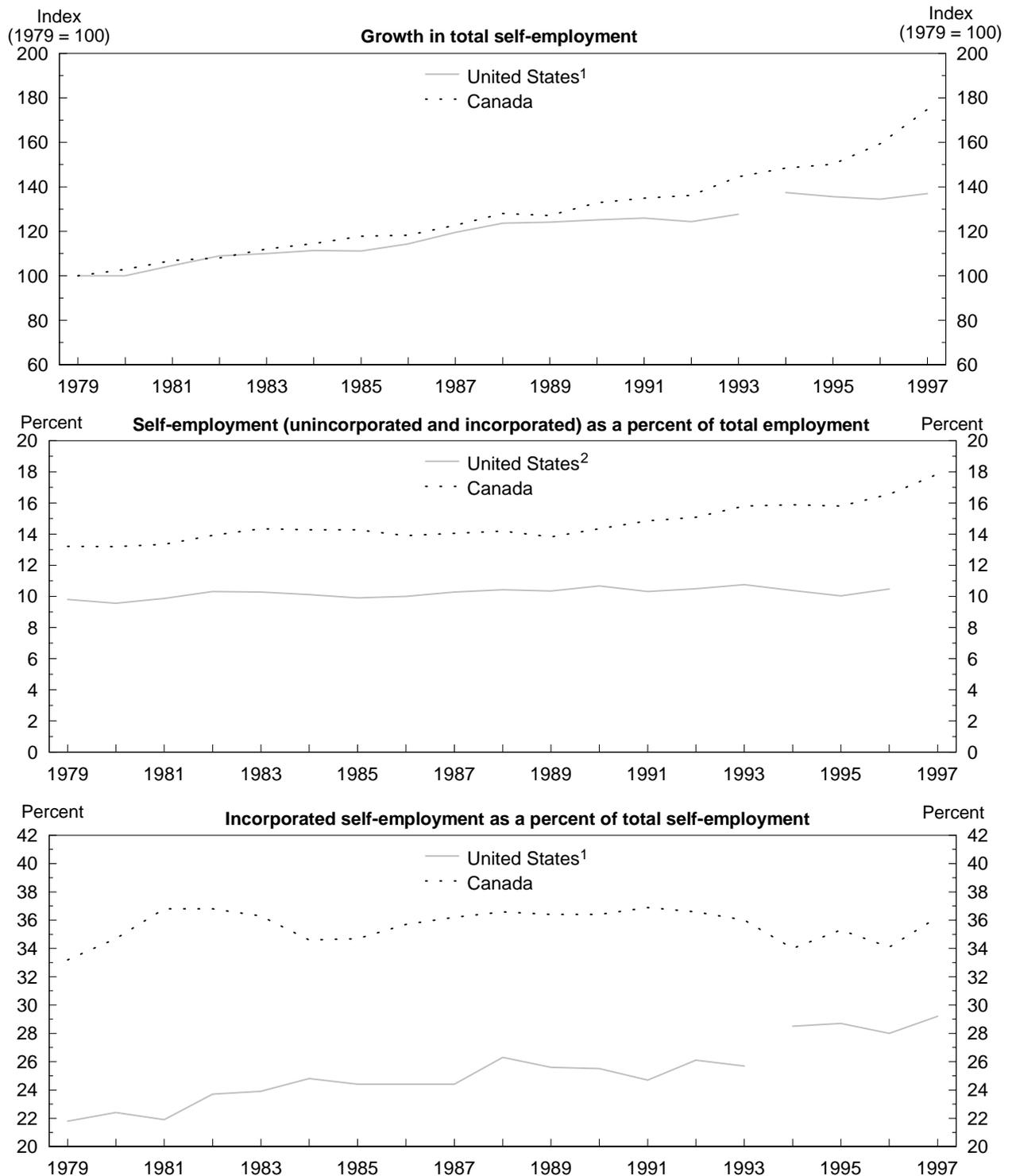
Types of self-employment jobs

Did Canada, with its higher self-employment job creation rate, produce significantly different types of self-employment jobs during the 1990s than were created in the United States over the same period? And, were they, in fact, different from the jobs that Canada itself had produced during the 1980s? Such detail is necessary for an understanding of the dramatic differences in the growth in self-employment, both between the two countries, and over time.

This section focuses on the characteristics of the total self-employed (incorporated plus unincorporated) in both countries. It is based on estimates from March Current Population Survey data for the United States, and from Labour Force Survey data for Canada. For reasons of data availability, 1996 U.S. data are compared with 1997 Canadian data.⁷ We also briefly examine unincorporated self-employment, using data from the monthly CPS for the United States.

Self-employment rates by economic sectors and demographic groups. Data on self-employment rates and the distributions

Chart 1. Selected statistics on the self-employed in the United States and Canada, 1979-97



¹ Data for 1979-88 are from the CPS March Supplement; data for 1989-97 are from the monthly CPS, unadjusted for the redesign.
² Data are from the CPS March Supplement.

Table 1. Contribution of self-employment to total job growth in the United States and Canada, selected periods, 1979-97

Country and period	Growth (in thousands)		Self-employment as a percent of total growth
	Self-employment	Total employment	
Total self-employment (Canadian definition)			
United States:			
1979-89 ¹	2,624	19,638	13.4
1989-96 ¹	1,180	9,597	12.3
1989-97 ²	1,402	12,216	11.5
1989-97 ³	79	10,662	.7
Canada:			
1979-89	288	1,688	17.0
1989-97	679	855	79.4
Unincorporated self-employment (U.S. definition)			
United States:			
1979-89 ¹	1,585	19,638	8.1
1979-89 ²	1,624	18,518	8.8
1989-97 ²	505	12,216	4.1
1989-97 ³	-246	10,662	-2.3
Canada:			
1979-89	187	1,688	11.1
1989-97	407	855	47.7

¹Data are from the Current Population Survey March Supplement.
²Data are monthly averages from the Current Population Survey, unadjusted for the survey redesign.
³Data are monthly averages from the Current Population Survey, adjusted for the survey redesign.

of self-employment by characteristic are shown in table 2 for the United States (relating to 1996) and in table 3 for Canada (relating to 1997). Those data indicate that:

1. *The much greater tendency to be self-employed in Canada than in the United States in the late 1990s is widespread.* It is observed in all industry groupings, across all occupations (except in management, for which the U.S. rate is higher), and in all education and age groups. It is not the case that self-employment is dramatically higher in a few industries or occupations in Canada, thus explaining the difference in the aggregate rate. It also is not the case that part-time self-employment⁸ plays a larger role in Canada than in the United States. If anything, it is less important: 22 percent of self-employment was part time in Canada in 1997, compared with 26 percent in the United States in 1996.
2. *The industrial concentration of self-employed jobs is very similar in the two countries.* Self-employment rates are particularly high in agriculture and construction, and relatively low in mining and manufacturing in both Canada and the United States. In both countries, the finance, insurance, and real estate; retail trade; and wholesale trade industries are in the middle of the pack regarding the tendency to use self-employed workers.
3. *Due to differences in the occupational categories for the two countries, comparisons are difficult. Self-employment appears to be more concentrated in the managerial category in the United States, however.* Self-employment rates are very high among managers and administrators in the United States, relative to those in Canada. Next to farming, management had the highest self-employment rate in the United States, while it was sixth out of seven categories in Canada. Otherwise, the occupational concentration appears similar in the two countries.
4. *In both Canada and the United States, men have a greater tendency to be self-employed than do women.* The proportions of male and female workers who were self-employed in the late 1990s were 13.0 percent and 7.6 percent in the United States, and 21.1 percent and 13.9 percent in Canada.⁹ This did not result from men's being concentrated in particular major industries or major occupations in which self-employment was very prominent. In fact, the male rate is higher in the vast majority of industries and occupations, and also in the majority of age and education groups, than the female rate in the same categories. The major exception is the service occupations, in which women are considerably more likely to be self-employed than men. Compositional differences in the employment patterns of men and women do not seem to explain much of this greater tendency for men to be self-employed in both countries.
5. *The tendency to be self-employed (given that one is employed at all) increases quite significantly with age in both countries.* With the exception of the very young (aged 16 to 19 years) in Canada, there is a strong age pattern to self-employment. In both countries, the self-employment rate is about 2.5 times greater among persons aged 55 to 64 than among 25- to 34-year-olds. However, the number of self-employed is concentrated in the 25-to-44 age groups, simply because that is where the bulk of the employment is located.

In summary, other than the fact that the self-employment rates are much higher in Canada than the United States, there does not appear to be a striking difference between the countries in the pattern of self-employment across major industry sectors or age or education groups, or between men and women. Self-employment is somewhat more likely to be a full-time pursuit in Canada than the United States, and there may be some occupational differences, as the management occupation appears to use self-employment to a much greater degree in the United States than in Canada. This may be a reflection of

Table 2. Self-employment rate and percent distribution of total self-employment in the United States, by selected characteristics, 1979, 1989, and 1996

Category	Percent distribution						Self-employment rate ¹		
	Self-employment			Total employment			Total	Men	Women
	Total	Men	Women	Total	Men	Women			
1979²									
Age									
Total	100.00	100.00	100.00	100.00	100.00	100.00	9.8	13.2	5.5
16 to 19 years	1.40	1.42	1.34	11.19	10.48	12.09	1.2	1.8	.6
20 to 24 years	5.05	5.00	5.18	15.09	14.36	16.02	3.3	4.6	1.8
25 to 34 years	21.21	20.59	23.06	25.51	25.35	25.71	8.2	10.7	5.0
35 to 44 years	24.71	24.22	26.18	18.57	18.50	18.65	13.1	17.3	7.8
45 to 54 years	22.69	23.00	21.77	15.79	16.32	15.12	14.1	18.6	8.0
55 to 64 years	17.06	17.66	15.27	10.77	11.59	9.74	15.5	20.1	8.7
65 years and older	7.89	8.12	7.19	3.08	3.41	2.66	25.1	31.4	15.0
Industry									
Total	100.00	100.00	100.00	100.00	100.00	100.00	9.8	13.2	5.5
Agriculture	15.74	18.67	6.93	3.49	4.84	1.79	44.2	50.9	21.5
Nonagricultural industries	84.26	81.33	93.07	96.51	95.16	98.21	8.6	11.3	5.3
Mining .....	.31	.39	.07	.82	1.28	.23	3.7	4.0	1.6
Construction	14.27	18.41	1.85	6.70	11.08	1.18	20.9	21.9	8.8
Manufacturing	5.56	6.31	3.30	22.05	26.47	16.48	2.5	3.1	1.1
Transportation and public utilities	3.19	3.78	1.44	6.11	8.23	3.45	5.1	6.1	2.3
Wholesale trade	4.55	5.40	2.02	3.72	4.74	2.43	12.0	15.0	4.6
Retail trade	19.81	15.93	31.42	17.12	13.91	21.17	11.4	15.1	8.2
Finance, insurance, and real estate	5.59	5.53	5.79	5.60	4.04	7.58	9.8	18.1	4.2
Services	30.98	25.58	47.18	29.08	19.46	41.20	10.5	17.3	6.4
Public administration .....	.00	.00	.00	5.31	5.94	4.50	.0	.0	.0
Occupation									
Total	100.00	100.00	100.00	100.00	100.00	100.00	9.8	13.2	5.5
Managers and administrators, except farm	28.48	30.23	23.24	10.42	13.42	6.64	26.8	29.7	19.4
Professional and technical workers	14.67	14.93	13.88	15.37	14.81	16.07	9.4	13.3	4.8
Sales workers	9.67	8.31	13.73	6.12	5.63	6.75	15.5	19.5	11.3
Clerical workers	3.28	.92	10.37	18.72	6.38	34.28	1.7	1.9	1.7
Service workers	8.54	2.66	26.16	14.23	9.21	20.56	5.9	3.8	7.1
Craftworkers	14.22	18.17	2.36	12.66	21.34	1.71	11.0	11.2	7.7
Operatives and laborers	7.60	8.47	5.00	19.77	25.40	12.67	3.8	4.4	2.2
Farmworkers	13.54	16.30	5.25	2.71	3.82	1.32	49.0	56.4	22.1
Education									
Total	100.00	100.00	100.00	100.00	100.00	100.00	9.8	13.2	5.5
Less than a high school degree	21.96	23.07	18.64	23.36	25.63	20.50	9.2	11.9	5.0
High school degree	34.03	31.53	41.53	36.18	32.46	40.88	9.2	12.8	5.6
Some college	19.33	18.62	21.49	22.65	22.23	23.18	8.4	11.0	5.1
College graduate	24.67	26.78	18.34	17.81	19.69	15.44	13.6	18.0	6.6
Full- or part-time status									
Total	100.00	100.00	100.00	100.00	100.00	100.00	9.8	13.2	5.5
Full-time workers	79.79	87.76	55.87	79.98	88.71	68.98	9.8	13.1	4.5
Part-time workers	20.21	12.24	44.13	20.02	11.29	31.02	9.9	14.3	7.9
1989²									
Age									
Total	100.00	100.00	100.00	100.00	100.00	100.00	10.3	13.3	6.9
16 to 19 years .....	.91	.96	.82	7.96	7.59	8.38	1.2	1.7	.7
20 to 24 years	3.36	3.36	3.35	12.08	11.66	12.57	2.9	3.8	1.8
25 to 34 years	21.36	20.47	23.37	28.53	28.71	28.31	7.7	9.5	5.7
35 to 44 years	28.31	28.05	28.91	23.66	23.52	23.83	12.4	15.9	8.4
45 to 54 years	22.24	22.02	22.75	15.34	15.37	15.30	15.0	19.1	10.2
55 to 64 years	16.19	16.76	14.90	9.39	9.85	8.85	17.8	22.7	11.6
65 years and older	7.62	8.39	5.89	3.05	3.30	2.76	25.9	34.0	14.7

See footnotes at end of table.

Table 2. Continued—Self-employment rate and percent distribution of total self-employment in the United States, by selected characteristics, 1979, 1989, and 1996

Category	Percent distribution						Self-employment rate ¹		
	Self-employment			Total employment			Total	Men	Women
	Total	Men	Women	Total	Men	Women			
Industry									
Total	100.00	100.00	100.00	100.00	100.00	100.00	10.3	13.3	6.9
Agriculture	12.06	14.73	6.07	2.97	4.30	1.43	42.0	45.7	29.3
Nonagricultural industries	87.94	85.27	93.93	97.03	95.70	98.57	9.4	11.9	6.6
Mining .....	.39	.56	.01	.59	.92	.20	6.8	8.1	.3
Construction	13.82	18.61	3.07	6.81	11.48	1.40	21.0	21.6	15.1
Manufacturing	5.10	5.45	4.33	17.69	21.60	13.17	3.0	3.4	2.3
Transportation and public utilities	3.22	4.02	1.42	6.57	8.69	4.12	5.1	6.2	2.4
Wholesale trade	4.65	5.56	2.60	3.81	5.01	2.43	12.6	14.8	7.4
Retail trade	16.67	14.13	22.35	17.35	15.00	20.08	9.9	12.6	7.7
Finance, insurance, and real estate	6.69	6.82	6.42	6.68	5.15	8.46	10.4	17.6	5.2
Services	37.41	30.13	53.72	32.80	22.78	44.39	11.8	17.6	8.3
Public administration .....	.00	.00	.00	4.73	5.06	4.34	.0	.0	.0
Occupation									
Total ³	100.00	100.00	100.00	100.00	100.00	100.00	10.4	13.4	6.9
Managers	19.97	22.14	15.12	11.95	13.17	10.55	17.3	22.5	9.9
Professionals	14.16	14.48	13.43	12.83	11.48	14.39	11.4	16.9	6.4
Technicians .....	.80	.88	.61	3.18	2.99	3.41	2.6	3.9	1.2
Sales workers	20.03	19.28	21.71	12.42	11.13	13.91	16.7	23.2	10.8
Administrative support	4.07	.74	11.54	15.88	5.91	27.41	2.7	1.7	2.9
Service workers	10.11	2.77	26.57	13.88	10.10	18.25	7.5	3.7	10.0
Precision production, craft, and repair workers	14.45	19.66	2.76	11.46	19.49	2.18	13.1	13.5	8.7
Operators, fabricators, and laborers	5.02	5.83	3.20	15.37	21.05	8.80	3.4	3.7	2.5
Farming and related occupations	11.40	14.22	5.06	3.02	4.69	1.09	39.1	40.6	32.0
Education									
Total	100.00	100.00	100.00	100.00	100.00	100.00	10.3	13.3	6.9
Less than a high school degree	13.99	14.82	12.13	16.21	18.29	13.79	8.9	10.8	6.1
High school degree	33.37	31.39	37.81	35.40	33.49	37.61	9.8	12.5	6.9
Some college	23.12	22.57	24.35	25.52	24.00	27.28	9.4	12.5	6.1
College graduate	29.52	31.22	25.71	22.87	24.21	21.32	13.4	17.2	8.3
Full- or part-time status									
Total	100.00	100.00	100.00	100.00	100.00	100.00	10.3	13.3	6.9
Full-time workers	77.57	85.14	60.59	79.51	87.28	70.52	10.1	13.0	5.9
Part-time workers	22.43	14.86	39.41	20.49	12.72	29.48	11.3	15.6	9.2
Age									
1996²									
Total	100.00	100.00	100.00	100.00	100.00	100.00	10.5	13.0	7.6
16 to 19 years .....	.91	.99	.77	7.27	6.96	7.62	1.3	1.9	.8
20 to 24 years	3.13	3.13	3.13	10.58	10.60	10.57	3.1	3.8	2.3
25 to 34 years	17.01	15.81	19.34	24.92	25.10	24.71	7.2	8.2	6.0
35 to 44 years	29.12	29.19	28.98	26.31	26.26	26.36	11.6	14.5	8.4
45 to 54 years	25.92	25.68	26.38	18.90	18.65	19.18	14.4	17.9	10.5
55 to 64 years	15.30	15.58	14.75	8.92	9.05	8.78	18.0	22.4	12.8
65 years and older	8.60	9.62	6.65	3.10	3.38	2.78	29.1	37.0	18.2
Industry									
Total	100.00	100.00	100.00	100.00	100.00	100.00	10.5	13.0	7.6
Agriculture	10.76	12.45	7.49	2.65	3.84	1.30	42.5	42.2	43.8
Nonagricultural industries	89.24	87.55	92.51	97.35	96.16	98.70	9.6	11.9	7.1
Mining .....	.20	.30	.01	.47	.72	.18	4.4	5.3	.3
Construction	14.30	19.68	3.90	6.60	11.20	1.39	22.7	22.9	21.3
Manufacturing	5.72	5.79	5.58	16.11	20.14	11.55	3.7	3.7	3.7
Transportation and public utilities	4.49	5.53	2.49	6.80	9.32	3.96	6.9	7.7	4.8

See footnotes at end of table.

Table 2. Continued—Self-employment rate and percent distribution of total self-employment in the United States, by selected characteristics, 1979, 1989, and 1996

Category	Percent distribution						Self-employment rate ¹		
	Self-employment			Total employment					
	Total	Men	Women	Total	Men	Women	Total	Men	Women
Wholesale trade	4.52	5.27	3.07	3.64	4.78	2.36	13.0	14.4	9.9
Retail trade	15.16	12.94	19.43	17.71	15.96	19.68	9.0	10.6	7.5
Finance, insurance, and real estate	6.65	6.78	6.39	6.18	4.91	7.61	11.3	18.0	6.4
Services	38.20	31.25	51.64	35.62	24.79	47.85	11.2	16.4	8.2
Public administration .....	.00	.00	.00	4.23	4.34	4.10	.0	.0	.0
Occupation									
Total	100.00	100.00	100.00	100.00	100.00	100.00	10.5	13.0	7.6
Managers	22.94	24.57	19.79	13.48	13.98	12.93	17.8	22.9	11.7
Professionals	14.24	13.62	15.45	14.19	12.22	16.41	10.5	14.5	7.2
Technicians .....	.81	.81	.80	3.18	2.76	3.65	2.7	3.8	1.7
Sales workers	18.74	18.37	19.45	12.37	11.05	13.85	15.9	21.7	10.7
Administrative support	4.46	.81	11.50	14.16	5.70	23.70	3.3	1.9	3.7
Service workers	9.23	2.91	21.45	14.32	10.69	18.41	6.8	3.6	8.9
Precision production, craft, and repair workers	14.48	20.49	2.86	10.89	18.73	2.04	14.0	14.3	10.6
Operators, fabricators, and laborers	5.17	6.50	2.60	14.72	20.70	7.98	3.7	4.1	2.5
Farming and related occupations	9.93	11.92	6.08	2.69	4.18	1.02	38.7	37.2	45.3
Education									
Total	100.00	100.00	100.00	100.00	100.00	100.00	10.5	13.0	7.6
Less than a high school degree	10.86	12.08	8.49	13.60	15.62	11.32	8.4	10.1	5.7
High school degree	30.87	30.02	32.50	32.69	32.00	33.46	9.9	12.2	7.4
Some college	26.20	24.28	29.92	28.67	26.83	30.74	9.6	11.8	7.4
College graduate	32.08	33.62	29.09	25.04	25.54	24.48	13.4	17.1	9.0
Full- or part-time status									
Total	100.00	100.00	100.00	100.00	100.00	100.00	10.5	13.0	7.6
Full-time workers	74.12	83.45	56.06	79.50	86.85	71.19	9.8	12.5	6.0
Part-time workers	25.88	16.55	43.94	20.50	13.15	28.81	13.2	16.4	11.6

¹ Ratio of self-employment to total employment.

² Data are from the Current Population Survey March Supplement and are based on the Canadian definition of self-employment.

³ Self-employment rates differ from those for other categories because observations with missing values for occupation were dropped from the calculation.

NOTE: Due to rounding, sums of individual items may not equal totals.

differences in occupational classification systems, however.

Comparisons between the 1990s and 1980s. The previous section provided a cross-sectional view of self-employment in the late 1990s. But as already discussed, the most striking difference between Canada and the United States has been the rate of self-employment job creation during the 1990s. This section outlines the changes over time in the types of self-employment jobs, with an eye toward determining if there is any notable difference between the two countries. As noted, the growth of self-employment jobs was small or about zero in the United States, depending on how such jobs are measured, so the focus here is on sizeable shifts in the distribution of self-employment. Prior to the CPS redesign, it is likely that U.S. data understated employment of women relative to estimates from the revised survey; thus, because men and women

hold different types of jobs, it is important to consider shifts for men and women separately. Effects of the redesign on other characteristics of the employed are expected to be smaller. Data in tables 2 and 3 indicate that:

1. *In terms of job creation, self-employment was much more important in Canada than in the United States during the 1990s, but not during the 1980s.* As already noted, self-employment (including incorporated and unincorporated) accounted for almost 80 percent of net new job creation in Canada between 1989 and 1997, but for very little in the United States. However, this phenomenon is largely related to events taking place in the 1990s because, during the 1980s, there was relatively little difference between the countries. (The share of net new jobs accounted for by self-employment between 1979 and 1989 was 13 percent

- in the United States and 17 percent in Canada.)
2. *The difference between the two countries in the change in importance of full-time jobs among the self-employed is difficult to assess.* The percentage of self-employment jobs that are full-time declined over the 1990s in both countries, in total and for men and women separately. But because part-time jobs were undercounted in the monthly CPS prior to the redesign, this result for the United States is likely to be biased toward showing a decline. Over the 1980s, the United States experienced a small decline in the percentage of self-employment jobs that were full time, whereas there was no change in Canada.
 3. *In the 1990s, jobs in the services industry became a larger component of self-employment in Canada, but distributions were relatively little changed in the United States.* In Canada, 42 percent of self-employment jobs were in services in 1997, compared with 35 percent in 1989. The services industry includes generally higher paying components, such as business services and education and health services, as well as generally lower paying areas, such as recreational and personal services; in Canada, it also includes food and accommodation services. Over the period, about 40 percent of all net new self-employment jobs created in Canada were in the generally higher paying services components, including business services (28 percent), such as computer services and management consulting, and education and health services (12 percent). The remaining new services jobs (20 percent of all self-employment jobs created) were largely in personal, food, and accommodation services. The United States did not experience a similar increase in the importance of services industry jobs; 38 percent of U.S. self-employment jobs were in services in 1996, which is not significantly different from the share posted in 1989, and there was a slight decrease for women over the same period. Moreover, the distribution of self-employment jobs in the overall U.S. service-producing sector did not change in major ways; the percentage in retail trade (which includes eating and drinking places) fell for both men and women, and there were small offsetting increases elsewhere. In contrast to the 1990s, the share of self-employment jobs in the services industry increased in both countries over the 1980s—from 31 percent to 37 percent in the United States and from 29 percent to 35 percent in Canada.
 4. *The (nonagricultural) goods-producing sector played a relatively strong role in U.S. self-employment during the 1990s.* The share of U.S. self-employment jobs that are in the goods-producing sector increased slightly over the 1990s (although this increase is not statistically significant), whereas the corresponding share in Canada fell somewhat. During the 1980s, however, it was Canada in which the goods-producing sector played a relatively strong role.
 5. *The occupational concentration of self-employment jobs changed differently in the two countries during the 1990s.* As noted earlier, the classification systems are different, but estimates for even the very broad categories suggest that the occupational characteristics of the recent experience are notably different. In the United States, the percentages of both self-employed men and women who were managers rose and the percentages who were sales workers fell slightly during the 1990s. Over the same period in Canada, there were noteworthy increases in the percentages of self-employed workers in professional and technical jobs (from 13 percent to 17 percent) and in sales occupations (from 17 percent to 18 percent), and a decline in the percentage who were managers (from 13 percent to 11 percent). Although their share of jobs was little changed, it is also important to note that services occupations accounted for 17 percent of the new self-employment jobs in Canada during the 1990s. Changes in the CPS occupational classifications prevent us from assessing the occupational changes taking place in the ranks of the self-employed during the 1980s.
 6. *The share of self-employment jobs held by more highly educated workers rose during the 1990s in both countries.* The same is true for paid employment. This is largely because the numbers of people with lower levels of education were declining in both countries, while the numbers of more highly educated persons were expanding at a rapid pace. Hence, employment gains were concentrated among the more highly educated. The tendency to be self-employed (that is, the self-employment rate), perhaps a better indicator of differences among groups, rose during the 1990s in all educational categories considered in Canada. In contrast, it decreased slightly for high school dropouts and was essentially unchanged for other groups in the United States. During the 1980s, the self-employment rate rose for all education classes in Canada, but in the United States, it increased only for those with a high school degree and those with some postsecondary schooling.
 7. *In both countries, all age groups shared in the general self-employment trends during the 1990s.* The self-employment rates rose in Canada in all age groups (but particularly among persons over age 55), while, in the United States, they changed relatively little between 1989 and 1996 in most age groups. During the 1980s in both countries, the tendency was for only the middle and older age groups to increase their self-employment rates.

Table 3. Self-employment rate and percent distribution of total self-employment in Canada, by selected characteristics, 1979, 1989, and 1997

Category	Percent distribution						Self-employment rate ¹		
	Self-employment			Total employment					
	Total	Men	Women	Total	Men	Women	Total	Men	Women
1979²									
Age									
Total	100.00	100.00	100.00	100.00	100.00	100.00	13.2	15.3	9.9
16 to 19 years	7.54	4.76	14.35	10.12	8.85	12.13	9.8	8.3	11.7
20 to 24 years	5.67	5.32	6.52	15.50	13.77	18.24	4.8	5.9	3.5
25 to 34 years	22.47	22.50	22.39	27.63	27.83	27.31	10.8	12.4	8.1
35 to 44 years	22.96	23.55	21.51	19.30	19.86	18.41	15.7	18.2	11.5
45 to 54 years	21.70	22.47	19.81	15.84	16.72	14.45	18.1	20.6	13.5
55 to 64 years	14.62	15.56	12.31	9.89	10.89	8.32	19.5	21.9	14.6
65 years and older	5.05	5.84	3.10	1.72	2.08	1.15	38.8	43.0	26.6
Industry									
Total	100.00	100.00	100.00	100.00	100.00	100.00	13.2	15.3	9.9
Agriculture	27.45	29.76	21.80	5.64	7.19	3.18	64.4	63.5	67.6
Nonagricultural industries	72.55	70.24	78.20	94.36	92.81	96.82	10.2	11.6	8.0
Mining .....	.12	.15	.04	1.45	2.11	.40	1.1	1.1	1.0
Construction	12.02	16.11	2.00	6.15	9.24	1.27	25.8	26.7	15.5
Manufacturing	3.81	4.52	2.08	19.98	23.99	13.65	2.5	2.9	1.5
Transportation and public utilities	4.06	5.21	1.26	8.70	11.25	4.67	6.2	7.1	2.7
Wholesale trade	4.08	5.12	1.52	4.71	5.71	3.15	11.4	13.8	4.8
Retail trade	17.10	15.75	20.40	12.71	10.79	15.74	17.8	22.4	12.8
Finance, insurance, and real estate	2.50	2.77	1.83	5.38	3.57	8.25	6.1	11.9	2.2
Services	28.85	20.61	49.07	35.28	26.14	49.69	10.8	12.1	9.7
Public administration ³	—	—	—	—	—	—	—	—	—
Occupation									
Total	100.00	100.00	100.00	100.00	100.00	100.00	13.2	15.3	9.9
Managers	3.54	4.33	1.62	7.66	9.32	5.04	6.1	7.1	3.2
Professionals and technicians	9.94	10.59	8.34	15.39	13.01	19.16	8.5	12.5	4.3
Sales workers	19.13	18.97	19.52	10.43	10.29	10.66	24.2	28.3	18.1
Clerical workers	2.95	.56	8.81	17.20	6.43	34.21	2.3	1.3	2.5
Services workers	15.58	6.88	36.93	12.80	9.73	17.65	16.1	10.9	20.6
Precision production workers	15.34	20.94	1.61	14.62	22.75	1.78	13.9	14.1	8.9
Operators and laborers	5.69	7.03	2.41	15.61	20.06	8.59	4.8	5.4	2.8
Farming, forestry, fishing, trapping, and mining occupations	27.82	30.70	20.76	6.28	8.42	2.90	58.6	55.9	70.6
Education									
Total	100.00	100.00	100.00	100.00	100.00	100.00	13.2	15.3	9.9
Grade 8 or less	25.78	27.56	21.40	16.34	18.97	12.19	20.9	22.3	17.3
Some high school or completed high school	48.81	45.83	56.11	53.12	51.10	56.31	12.2	13.8	9.8
Some postsecondary, or diploma or certificate	15.41	15.20	15.94	19.60	17.86	22.36	10.4	13.1	7.0
University graduate	10.00	11.41	6.55	10.94	12.07	9.14	12.1	14.5	7.1
Full- or part-time status									
Total	100.00	100.00	100.00	100.00	100.00	100.00	13.2	15.3	9.9
Full-time workers	81.15	91.56	55.61	86.19	93.46	74.72	12.5	15.0	7.3
Part-time workers	18.85	8.44	44.39	13.81	6.54	25.28	18.1	19.8	17.3
Age									
1989²									
Total	100.00	100.00	100.00	100.00	100.00	100.00	13.8	17.0	9.8
16 to 19 years	4.00	2.55	7.21	7.37	6.78	8.12	7.5	6.4	8.7
20 to 24 years	3.53	3.18	4.29	11.87	11.02	12.95	4.1	4.9	3.2
25 to 34 years	22.22	21.70	23.40	29.63	29.35	29.99	10.4	12.5	7.6
35 to 44 years	28.80	28.88	28.62	25.27	24.92	25.72	15.8	19.7	10.9
45 to 54 years	22.30	22.52	21.82	15.90	16.41	15.25	19.4	23.3	14.0
55 to 64 years	14.32	15.57	11.51	8.49	9.77	6.86	23.3	27.1	16.4
65 years and older	4.84	5.60	3.15	1.47	1.75	1.12	45.4	54.3	27.6

See footnotes at end of table.

Table 3. Continued—Self-employment rate and percent distribution of total self-employment in Canada, by selected characteristics, 1979, 1989, and 1997

Category	Percent distribution						Self-employment rate ¹		
	Self-employment			Total employment			Total	Men	Women
	Total	Men	Women	Total	Men	Women			
Industry									
Total	100.00	100.00	100.00	100.00	100.00	100.00	13.8	17.0	9.8
Agriculture	18.54	20.26	14.72	4.22	5.47	2.62	60.7	62.9	55.0
Nonagricultural industries	81.46	79.74	85.28	95.78	94.53	97.38	11.8	14.3	8.6
Mining .....	.42	.54	.15	1.44	2.26	.40	4.0	4.0	3.5
Construction	13.05	17.75	2.56	6.18	9.84	1.48	29.2	30.6	16.9
Manufacturing	5.07	5.84	3.36	17.08	21.77	11.07	4.1	4.6	3.0
Transportation and public utilities	4.23	5.38	1.66	7.70	10.14	4.58	7.6	9.0	3.5
Wholesale trade	4.89	6.04	2.33	4.54	5.88	2.82	14.9	17.4	8.1
Retail trade	15.21	14.39	17.02	12.98	11.59	14.76	16.2	21.1	11.3
Finance, insurance, and real estate	3.76	4.22	2.75	5.88	4.08	8.19	8.9	17.6	3.3
Services	34.83	25.57	55.46	33.25	22.09	47.58	14.5	19.7	11.4
Public administration .....	.00	.00	.00	6.71	6.89	6.49	.0	.0	.0
Occupation									
Total ⁴	100.00	100.00	100.00	100.00	100.00	100.00	13.8	17.0	9.8
Managers	12.65	14.85	7.75	12.39	13.69	10.72	14.1	18.4	7.1
Professionals and technicians	12.62	12.09	13.80	16.73	13.52	20.84	10.4	15.2	6.5
Sales workers	16.70	16.35	17.47	9.37	8.99	9.85	24.7	30.9	17.4
Clerical workers	3.18	.90	8.28	16.73	5.91	30.60	2.6	2.6	2.6
Services workers	14.51	6.27	32.85	13.23	10.28	17.00	15.2	10.4	18.9
Precision production workers	15.28	21.10	2.31	12.88	21.45	1.88	16.4	16.7	12.1
Operators and laborers	6.30	7.39	3.85	14.04	19.55	6.97	6.2	6.4	5.4
Farming, forestry, fishing, trapping, and mining occupations	18.76	21.04	13.69	4.65	6.61	2.15	55.8	54.1	62.4
Education									
Total	100.00	100.00	100.00	100.00	100.00	100.00	13.8	17.0	9.8
Grade 8 or less	13.92	15.24	10.97	8.87	10.64	6.59	21.7	24.3	16.3
Some high school or completed high school	46.76	44.94	50.82	48.22	47.87	48.66	13.4	15.9	10.2
Some postsecondary, or diploma or certificate	22.48	21.59	24.46	27.35	25.09	30.25	11.4	14.6	7.9
University graduate	16.85	18.24	13.75	15.57	16.40	14.50	15.0	18.9	9.3
Full- or part-time status									
Total	100.00	100.00	100.00	100.00	100.00	100.00	13.8	17.0	9.8
Full-time workers	81.15	89.97	61.52	83.43	91.32	73.29	13.4	16.7	8.2
Part-time workers	18.85	10.03	38.48	16.57	8.68	26.71	15.7	19.6	14.1
1997²									
Age									
Total	100.00	100.00	100.00	100.00	100.00	100.00	17.8	21.1	13.9
16 to 19 years	3.40	2.33	5.39	5.20	4.88	5.60	11.7	10.1	13.3
20 to 24 years	2.88	2.62	3.36	9.32	8.92	9.82	5.5	6.2	4.7
25 to 34 years	18.32	17.76	19.34	25.71	25.29	26.22	12.7	14.8	10.2
35 to 44 years	30.40	29.58	31.93	28.81	28.39	29.31	18.8	22.0	15.1
45 to 54 years	26.06	26.77	24.72	21.20	21.31	21.07	21.9	26.5	16.3
55 to 64 years	13.73	14.93	11.50	8.20	9.26	6.93	29.9	34.1	23.0
65 years and older	5.22	6.00	3.76	1.55	1.95	1.06	60.2	65.0	49.4
Industry									
Total	100.00	100.00	100.00	100.00	100.00	100.00	17.8	21.1	13.9
Agriculture	13.71	15.38	10.61	3.85	5.03	2.43	63.5	64.6	60.5
Nonagricultural industries	86.29	84.62	89.39	96.15	94.97	97.57	16.0	18.8	12.7
Mining .....	.55	.70	.27	1.27	1.98	.41	7.8	7.5	9.2
Construction	11.17	15.57	3.03	5.36	8.69	1.31	37.2	37.8	32.1
Manufacturing	4.49	5.13	3.32	15.54	20.34	9.71	5.2	5.3	4.7
Transportation and public utilities	5.17	6.92	1.93	7.44	10.04	4.27	12.4	14.6	6.3

See footnotes at end of table

Table 3. Continued—Self-employment rate and percent distribution of total self-employment in Canada, by selected characteristics, 1979, 1989, and 1997

Category	Percent distribution						Self-employment rate ¹		
	Self-employment			Total employment			Total	Men	Women
	Total	Men	Women	Total	Men	Women			
Wholesale trade	4.90	5.99	2.88	4.70	6.11	2.97	18.6	20.7	13.4
Retail trade	13.10	12.74	13.77	12.42	11.40	13.66	18.8	23.6	14.0
Finance, insurance, and real estate	5.05	5.25	4.67	5.70	4.07	7.70	15.8	27.3	8.4
Services	41.85	32.31	59.50	38.04	26.51	52.06	19.6	25.7	15.8
Public administration .....	.00	.00	.00	5.67	5.83	5.48	.0	.0	.0
Occupation									
Total ⁴	100.00	100.00	100.00	100.00	100.00	100.00	17.9	21.1	13.9
Managers	10.53	11.71	8.35	13.85	13.95	13.74	13.6	17.7	8.4
Professionals and technicians	17.30	16.72	18.38	19.39	15.66	23.92	15.9	22.6	10.7
Sales workers	17.51	17.37	17.76	10.17	9.89	10.51	30.7	37.1	23.4
Clerical workers	3.52	.90	8.36	13.83	5.22	24.31	4.5	3.7	4.8
Services workers	15.15	7.06	30.15	13.49	10.43	17.21	20.1	14.3	24.3
Precision production workers	15.25	21.91	2.93	11.79	19.91	1.92	23.1	23.3	21.2
Operators and laborers	6.14	7.39	3.84	13.11	18.72	6.29	8.4	8.3	8.5
Farming, forestry, fishing, trapping, and mining occupations	14.60	16.95	10.23	4.37	6.22	2.11	59.7	57.6	67.2
Education									
Total	100.00	100.00	100.00	100.00	100.00	100.00	17.8	21.1	13.9
Grade 8 or less	6.53	7.24	5.22	4.47	5.23	3.56	26.1	29.3	20.4
Some high school or completed high school	33.54	32.81	34.90	34.28	34.94	33.49	17.5	19.8	14.5
Some postsecondary, or diploma or certificate	39.18	37.96	41.44	42.47	40.93	44.34	16.5	19.6	13.0
University graduate	20.74	21.98	18.44	18.77	18.90	18.61	19.7	24.6	13.7
Full- or part-time status									
Total	100.00	100.00	100.00	100.00	100.00	100.00	17.8	21.1	13.9
Full-time workers	78.05	87.71	60.16	81.00	89.51	70.64	17.2	20.7	11.8
Part-time workers	21.95	12.29	39.84	19.00	10.49	29.36	20.6	24.7	18.8

¹ Ratio of self-employment to total employment.

² Data are annual averages, and are based on the Canadian definition of self-employment.

³ Employment in public administration is included in the services industry.

⁴ Data file contains observations with missing values for these variables.

NOTE: Due to rounding, sums of individual items may not equal totals.

To summarize, not only was there a significant difference in the volume of total self-employment created in the two countries during the latest cycle, but the types of jobs differed across some important dimensions as well. In particular: the share of self-employment jobs in the goods sector increased slightly in the United States but declined somewhat in Canada; the share of self-employment jobs in services increased substantially in Canada but not in the United States; and the distribution of self-employment jobs shifted towards the management and administration category in the United States, and towards the professional-technical, sales, and services categories in Canada. The share of self-employment jobs that are full time declined, at least in Canada. The experience of the 1980s was somewhat different, as detailed above.

In general, many of the large number of jobs created in Canada appeared to be fulltime jobs in industrial sectors that

are associated with an average or higher income level, such as business services. During the early 1990s, the earnings of own-account self-employed workers relative to those of paid workers changed little, standing at around 70 percent, and this is the area in which most of the expansion in self-employment took place. The earnings of the self-employed considered as employers fell relative to those of paid workers, and there was little expansion of this type of job.¹⁰

In 1997, a higher percentage of self-employed women than of their male counterparts was unincorporated: among persons designated as self-employed, 71.0 percent of women and 59.8 percent of men in Canada were thus categorized, compared with 77.6 percent of women and 67.3 percent of men in the United States.¹¹ A particularly small fraction of managers are in unincorporated self-employment. Although the distributions of unincorporated self-employment are somewhat dif-

ferent from those for total self-employment, the general story is not particularly different when one focuses on the unincorporated only.

Directions for further research

Arriving at comparable data on trends in self-employment for Canada and the United States is a challenging task, given the differences in the official definition of self-employment and, more importantly, the changes to the U.S. CPS in 1994. However, it is clear that self-employment rates have been higher in Canada than in the United States for some time, and that this difference has become more pronounced during the 1990s. The fact that self-employment is more likely to be a full-time pursuit in Canada simply increases the importance of this difference. And this greater propensity for Canadian workers to be self-employed is widespread. It is observed in virtually all industrial sectors and among most types of workers. During the 1990s, the new self-employment jobs in Canada were more likely to be full-time than were those created in the United States, and many were in the relatively high-paying business, health, and education service sectors. Self-employment growth was more likely to be in management and administration in the United States, more likely to be professional or technical or in sales and services in Canada.

Why would job creation have been so heavily self-employment dominated in Canada, while being concentrated in the paid job sector in the United States? Differences in economic conditions could be one possible explanation. Z. Lin, J. Yates, and G. Picot have examined the association between the self-employment rate and economic conditions in Canada.¹² They find that while there is substantial cyclical variation in unemployment and in the paid-employment to population ratio, there is relatively little variation in the self-employment rate. Hence, one observes only a very weak (and negative) association between changes in economic conditions and the self-employment rate in Canada. Analysis based on a totally different data set (taxation data) provides similar results for Canada, as does an analysis of entry to and exit from self-employment, as reported in a companion paper by the same authors.¹³ Furthermore, Canadian unemployment was as high during the 1980s cycle as during the 1990s cycle, but this did not result in rapid growth of self-employment during the

former period. These results suggest that the slower economic growth in Canada during the 1990s (compared to the 1980s) would be unlikely to explain all of the difference in growth of self-employment between the two decades—and by extension, perhaps, between the two countries during the 1990s. While both the “push” and “pull” effects are no doubt at work, these results taken together suggest that the “push” does not dominate the “pull.”

There may be other causes of the differences between the countries. More rapid growth in personal tax rates in Canada could provide some incentive for Canadians to be self-employed, as they could shelter more income from taxes as self-employed persons than as paid employees.¹⁴ More rapid growth in payroll taxes, and the fact that they have become a major policy issue in Canada recently, could act as a disincentive for firms to produce paid jobs, and induce them to turn instead to contracting-out and other methods of engaging labor that might result in increased self-employment. It is not clear how important this factor would be, however, as payroll taxes are higher in the United States than in Canada, although they have increased significantly in the latter country during the past two decades.

There are numerous other factors that might affect self-employment levels, including: technological change that results in reduced operating costs and increased production opportunities for small business, especially home-based business; contracting-out by employers for other than tax reasons; changes in the attractiveness to U.S. workers of health benefits provided by paid-employment jobs; immigration rates and incentives for immigrants to enter self-employment; effects of interest rates on the ability of entrepreneurs to finance their businesses; and the intensity of entrepreneurial spirit, perhaps associated with the preference to be one's own boss. However, without further analysis, it is difficult to see why the first two of these factors, in particular, would play a more prominent role in Canada than in the United States, given the similarities in the economies and demographics. Certainly, the industry and demographic changes examined in this article do not appear to account for the major differences in the recent self-employment experiences of Canada and the United States. Thus, much remains to be discovered about the differences in incidence of self-employment that have evolved between the countries in the 1990s. □

Notes

ACKNOWLEDGMENT: The authors thank Steve Hipple, Zhengxi Lin, and Anne Polivka for helpful discussions, and Lynn Walters and Hector Rodriguez for assistance with the data. The views expressed in this article are the authors' own, and do not reflect those of the Bureau of Labor Statistics or of Statistics Canada.

¹ For comparisons of net and gross job creation, job security, and job stability between Canada and the United States over the past two decades,

see Marilyn E. Manser and Garnett Picot, “Job Creation in Canada and the United States: What Do We Know and Where Are the Data Gaps?” Paper presented at the Voorburg Meetings on Service Sector Statistics, Copenhagen, Denmark, September 1997; and Garnett Picot and Marilyn E. Manser, “Job Stability in Canada and the United States: What We Know and the Data Gaps,” Paper presented at the Voorburg Meetings on Service Sector Statistics, Copenhagen, Denmark, September 1997.

Interestingly, one analyst, using U.S. Survey of Consumer Finances data, has found that the self-employed were substantially overrepresented in the ranks of the rich in 1983, and that they gained share at the top of the distribution between 1983 and 1995. See Edward N. Wolff, "Recent Trends in the Size Distribution of Household Wealth," *Journal of Economic Perspectives*, Summer 1998, pp. 131–50.

³ For a discussion of the determinants and consequences of self-employment, see, for example, D.B. Blanchflower and A.J. Oswald, "What Makes an Entrepreneur?" *Journal of Labor Economics*, vol. 16, no. 1, 1998, pp. 26–60, and references therein.

⁴ Estimates of the preferences of the self-employed to be working for themselves have been calculated internally at BLS, based on responses to the Contingent and Alternative Work Arrangement supplements to the CPS conducted in February 1995 and February 1997. The Canadian data are published in Earnest Akyeampong, "Work Arrangements: 1995 Overview," *Perspectives on Labour and Income*, Spring 1997, pp. 48–53.

⁵ Elaine Reardon, "Self-employment in Canada and the United States," Unpublished paper (Santa Monica, CA, The Miken Institute, June 1997).

⁶ H.J. Schuetze, "Taxes, Economic Conditions and the Recent Trends in Male Self-Employment: A Canada-U.S. Comparison," Paper presented at the 1998 Canadian Economics Association meetings, University of Ottawa, Ottawa, Ontario, Canada, May 1998.

⁷ Differences discussed here are significant at the 90-percent level, unless otherwise indicated. Approximate standard errors for the U.S. estimates in table 2, calculated using generalized variance function techniques, are available upon request. Estimated standard errors for the Canadian estimates in table 3 also are available.

⁸ Fewer than 30 hours per week in Canada, fewer than 35 hours per week in the United States.

⁹ Theresa J. Devine examined trends in total self-employment using CPS March Supplement data for 1974–1990. She found an increase in the self-employment rate in the U.S. nonagricultural sector over that period which was greater for women than for men. (Over the period 1979–89, the percent self-employed rose somewhat more in the nonagricultural sector—from 9.8 percent to 10.3 percent—than it did for all industries—from 8.6 percent to 9.4 percent.) Devine focused on the self-employment situation of women. She compared the characteristics of self-employed women with the characteristics of women in the wage-and-salary sector, as well as with the characteristics of self-employed men. See Theresa J. Devine, "Characteristics of self-employed women in the United States," *Monthly Labor Review*, March 1994, pp. 20–34.

¹⁰ *Labour Force Update: The Self-Employed*, Catalogue 71–005–XPB (Ottawa, Statistics Canada, 1997).

¹¹ U.S. estimates are based on data from the monthly Current Population Survey. Tables corresponding to tables 2 and 3 of this article, but referring to unincorporated self-employment only, are available upon request. For the categories examined here, the characteristics of the unincorporated self-employed in 1994 are presented and discussed in John E. Bregger, "Measuring self-employment in the United States," *Monthly Labor Review*, January/February 1996, pp. 3–9.

¹² Z. Lin, J. Yates, and G. Picot, "The Entry and Exit Dynamics of Self-Employment in Canada," mimeo. (Ottawa, Statistics Canada, 1998).

¹³ Z. Lin, J. Yates, and G., Picot, "Rising Self-employment in the Midst of High Unemployment: An Empirical Analysis of Recent Developments in Canada," Paper 133 (Ottawa, Statistics Canada, 1999).

¹⁴ This was explored in Schuetze, "Taxes, Economic Conditions and the Recent Trends in Male Self-Employment."

APPENDIX: Data issues

United States

Information on self-employment in the United States is obtained in the monthly Current Population Survey (CPS). This is the survey from which the monthly unemployment rate series are constructed. Data on self-employment also are available in the form of retrospective annual information collected each March for the preceding calendar year, as part of the March Income Supplement to the CPS.

A major revision of the monthly CPS, which included a revised questionnaire (question wordings and sequencing) and collection methodology (a switch from paper-and-pencil data collection to computer-assisted data collection), was put into place in January 1994. As is so frequently the case, these survey improvements pose some problems for analysis of changes over time. To measure the effects of the changes, Anne E. Polivka and Stephen M. Miller calculated adjustment factors for a number of CPS series using information from a parallel survey that employed the new procedures from July 1992 through December 1993 and the unrevised procedures from January through May 1994.¹ They found that ". . . the new methodology significantly raised the employment-to-population ratio."² They provided adjustment factors for a number of other series as well. It is particularly important to recognize the effect of the revision on studies of aspects of employment for which the changes were large, such as part-time employment.

The March supplement questionnaire was not explicitly revised. However, because it was adapted for computer-assisted interviewing at the same time as the monthly CPS and is administered after the respondent has been asked questions from the revised monthly questionnaire, there may be a redesign effect on the March data. Because no overlap survey was conducted for the March supplement, it is

not possible to construct estimates of the impact of the revision on the retrospective estimates.

Self-employment. Within the category of self-employment, it is possible to distinguish between "employer" and "own-account" employment. BLS only partially follows the standards established by the International Labor Organization for defining types of employment. During the period examined in the foregoing article, employed respondents to the monthly CPS have been asked: "Were you employed by government, by a private company, a nonprofit organization, or were you self-employed (or working in a family business). Persons who respond that they are self-employed are asked: "Is this business incorporated?" Persons who respond "yes" are classified by BLS as wage and salary workers, on the basis that, legally, they are the employees of their own businesses. For 1989 and later years, BLS has tabulated the number of incorporated self-employed on the basis of the question about the incorporation status of the business. To extend the U.S. series for incorporated self-employment based on the monthly data back as far as 1979 leads to issues of comparability.

Although there were few changes affecting the self-employment sequence of questions in the 1994 revision of the monthly CPS,³ the beginning of the survey questionnaire was changed. The new approach to asking about jobs identifies more employment, as noted above, and the distribution of this new employment among class of worker categories may well differ than from that for employment found formerly. In addition, the order of the industry and occupation questions changed, so that the information on class of worker is now obtained first. Research indicates that the totality of the questionnaire changes, as well as the collection methodology changes,

had a small but significant effect on estimates of the number of self-employed workers. Polivka and Miller calculated adjustment factors for self-employment that would increase the estimated ratio of the self-employed to total employment for the prerevision years by about 6 percent. Thus, adjusted figures show the change in self-employment accounting for a smaller part of the gain in employment during the 1990s than shown by unadjusted figures, as can be seen in table 1.

Polivka and Miller also provide adjustment factors for employment in an industry as a percentage of the employment total for nine major industries (but no adjustment factors are provided for cross-tabulations, such as class of worker by industry). The adjustment factors by industry are small, although a few are statistically significant. The effect of the redesign on the sectoral estimates reported here is ignored.

Comparing estimates of the contribution of self-employment to overall employment growth over the 1980s and 1990s from the March Income Supplement and the monthly CPS suggests that the CPS redesign affected the March estimates and the monthly estimates to a similar extent. Over the 1980s, during which there was no major revision of the survey, the estimate of the percent of total employment growth accounted for by unincorporated self-employment was 8.8 percent in the monthly CPS and 8.1 percent in the retrospective March data. We do not compare these two series over the 1990s because there is a problem in the March supplement variables for incorporated and unincorporated self-employment for 1995–96. The unadjusted estimate of the share of total employment growth accounted for by self-employment from the monthly CPS is 11.9 percent for the period 1989–96, quite close to the corresponding 12.3-percent estimate from the March supplement. In contrast, the adjusted estimate from the monthly CPS for 1989–96 is –3.1 percent. Thus, the similarity of the CPS monthly and March supplement series for both periods suggests that using unadjusted March supplement series will overstate the change in the self-employment share of total employment over the 1990s.

Comparison of recent year-to-year changes in total self-employment from the monthly CPS and the March Income Supplement does not contribute to an understanding of the impact of the redesign. As table A-1 indicates, the year-to-year movements in the two series are quite erratic.

Part-time employment and jobs. Polivka and Miller conclude that “. . . the unrevised [monthly] CPS either was not completely enumerating individuals who were working part time or was misclassifying them.”⁴ For purposes of the U.S. labor force survey, the desired part-time concept refers to the usual hours of workers on all jobs held, with workers having usual weekly hours less than 35 being classified as part-time. In the revision, the CPS was changed so that all respondents now are first asked how many hours they usually work, and then what their actual hours were during the survey reference week. The revision eliminated a misclassification that had resulted from asking only those individuals who actually worked less than 35 hours in the reference week how many hours they usually worked. Thus, prior to 1994, all individuals who were at work 35 hours or more in the reference week were automatically

classified as full time, regardless of how many hours they usually worked. Perhaps more importantly, the more complete enumeration increased the estimate of part-time workers. Polivka and Miller estimate that the share of part-time workers in total employment would have been about 10 percent higher prior to the revision. The use of adjusted figures thus shows part-time employment accounting for a considerably smaller share of the increase in employment in the recent period than would estimates based on unadjusted figures.

In the CPS, a person is classified as full time if he or she held two or more part-time jobs with different employers that together provide 35 hours or more of work per week. Overall, the incidence of multiple jobholding in the United States trended upwards through the 1980s, rising from 4.9 percent of total employment in May 1979 to 6.2 percent in May 1989.⁵ In 1996, this rate also stood at 6.2 percent. This finding suggests that figures for the share of the increase in *jobs* accounted for by part-time *jobs* during the 1990s would be unlikely to differ substantially from the share of the increase in *employment* accounted for by part-time *employment*.⁶ However, the portion of the 1980s increase in jobs accounted for by part-time jobs may be somewhat higher than the corresponding figure for employment shown here.

Canada

Self-employment. There are differences in the Canadian and U.S. official definitions of self-employment that increase the share of workers classified as self-employed in Canada relative to that reported for the United States. In the Canadian Labour Force Survey (LFS), workers are asked questions about their main job or business, including “Were you an employee or self employed?” If self-employed, the respondents are further asked whether they had an incorporated business, and whether they had any employees. The self-employed in Canada can then be classified as incorporated with or without employees, and unincorporated with or without employees; in the official Canadian definition, all of these organizational types are included in self-employment. By contrast, the published U.S. figures reflect the treatment of incorporated working owners with or without employees as employees, rather than self-employed persons.

Table A-1. Annual change in self-employment in the United States from the monthly CPS and from the March Supplement, 1989–97

Year	Change in annual averages from the CPS		Change in March Supplement estimate	
	Total self-employment	Unincorporated self-employment	Total self-employment	Unincorporated self-employment
	1989–90	108	89	502	418
1990–91	93	177	–438	–407
1991–92	–174	–314	288	188
1992–93	355	319	592	194
1993–94	1,060	369	–285	–263
1994–95	–188	–166	–339	—
1995–96	–137	7	860	—
1996–97	285	24	—	—

NOTE: Dash indicates data not available.

Part-time employment and jobs. Until 1996, the Canadian LFS classified a holder of multiple part-time jobs as having full-time employment if total hours worked per week exceeded 29. The usual hours worked in all jobs were used to classify persons by part-time or full-time status. Persons working fewer than 30 hours per week (not 35, as in the United States) were classified as part time. Thus, “part time” or “full time” referred to the status of the worker, not of the jobs held by the worker. This practice was changed in a major Labour Force Survey revision implemented in January of 1997.

Currently, a worker’s status as part time or full time is determined on the basis of the main job. Persons working less than 30 hours per week in the main job are classified as part time. This revision was applied to data for years prior to 1997, permitting part-time/full-time status to be determined in the same way for both of the expansions studied in the foregoing article. This tends to increase slightly the proportion of incorporated workers classified as part time, compared to the earlier method of classification. The part-

time employment rate was 0.7 percentage points higher in 1994 due to this backward revision.⁷

Because U.S. estimates of numbers of part-time workers presented in the foregoing article are based on hours worked on all jobs, the revised Canadian method of classifying part-time and full-time workers would tend to slightly increase the estimate of part-time employment in Canada relative to that in the United States. On the other hand, using the cutoff of 30 hours in Canada (rather than 35, as in the United States) would tend to decrease part-time employment in Canada relative to U.S. estimates.

These observations (and others discussed here) refer to differences in employment *levels*. However, most of the foregoing article focuses on trends and *changes in levels* over various periods. The trends may be comparable between the two countries, even if the levels are not. The measurement differences discussed here would have some effect on the share of the employment gain accounted for by, say, part-time employment, but it is not clear how much.

Notes to the appendix

¹ See Anne E. Polivka and Stephen M. Miller, “The cps After the Redesign: Refocusing the Economic Lens,” in John Haltiwanger, Marilyn Manser, and Robert Topel, eds., *Labor Statistics Measurement Issues, National Bureau of Economic Research, Studies in Income and Wealth*, vol. 60 (Chicago, University of Chicago Press, 1998).

² Polivka and Miller, “The cps After the Redesign,” p. 30.

³ According to BLS analyst John E. Breggar, the effect of the redesign on the self-employment series was “quite limited.” See John E. Breggar, “Measuring self-employment in the United States,” *Monthly Labor Review*, January/February 1996, pp. 3–9.

⁴ Polivka and Miller, “The cps After the Redesign,” p. 32.

⁵ Since the revision, the focus is on obtaining a more precise measure of

actual hours at the main job, and multiple jobholders are asked separately about hours worked at their other job or jobs. Prior to the redesign, the questions on multiple jobholding were asked infrequently.

⁶ In 1995, 915,000 persons had full-time hours but usually worked part time on both their primary and secondary jobs. Another 1,091,000 persons with full-time hours reported at least one part-time job, but said that hours varied on both their primary and secondary jobs. If both groups were added to U.S. part-time estimates for consistency with the Canadian definition of part-time status based on hours on the main job, we would increase the measure of U.S. part-time employment by 8.6 percent.

⁷ See Statistics Canada, “Moving with the Times, Introducing Change to the LFS” in *The Labor Force*, Catalogue 71–001 (Ottawa, Statistics Canada, December 1995.)