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JOB CREATION IN CANADA AND THE UNITED STATES: WHAT DO WE KNOW AND WHERE ARE THE DATA GAPS?

Session 9

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Abstract: From 1989-96, full-time paid (wage and salary) employment accounted for most of the net jobs created in the U.S., whereas in Canada self-employment accounted for the majority of the job creation and part-time paid employment also accounted for a substantial portion of the gain. In both countries, only the services sector produced full-time jobs. For Canada, the growth of self-employment is not inconsistent with the notion of increased contracting out. Information had previously been lacking but new data show that contingent workers were about 5 percent of all workers in the U.S. in 1995, and about 9 percent of paid employees were in contingent work in Canada in 1997. The paper also discusses gross job creation and gross job destruction, where a major gap has been the lack of government data for the services sector for the U.S. but information is being developed. The paper points to some continuing data gaps.

INTRODUCTION

There have been dramatic changes in the labor markets of most industrialized countries through the 1980s and 1990s. These include:

* deteriorating employment conditions for less skilled workers
* chronically high unemployment in many countries
* concern regarding employment stability, layoffs and downsizing
* a sense that the "contingent" labor force is increasing
* a sense that "contracting-out" has increased

In turn, these changing aspects of employment may be related to stagnation of earnings and increased earnings inequality in many countries. While not observed universally, these and other phenomena are characteristic of many developed countries. Events influencing labor markets are increasingly international rather than domestic. Given increased globalization, there is a sense that most developed countries are exposed to similar shifts in demand. For example, there is the notion that with a shift to the "knowledge-based economy", demand for high skilled, high knowledge workers is on the rise, while that for lesser skilled workers is in decline in western industrialized countries. The influence of such demand shifts are not unique to a particular country.

But the labor market outcomes in different countries may vary for a number of reasons. First, labour supply conditions may differ from country to country due to varying demographic trends, differences in the output from the education systems, or for other reasons. Secondly, institutional arrangements vary from country to country, and these too can influence labor market outcomes. Differences in social support systems (e.g. unemployment insurance, social assistance), minimum wage laws, labor laws regarding hiring and layoffs, unionization rates and other institutional arrangements can influence the outcomes of changes in supply or demand. Finally, differences in fiscal and monetary policy may also influence labour demand and thus employment, unemployment and wages. Hence, even though all advanced industrialized countries may face similar shifts in demand due to globalization and technological change, the outcomes may vary for a number of reasons.

If we wish to understand employment trends and issues, international comparisons are increasingly important. The comparability among developed countries of existing data sources is essential to such international work. Furthermore, international comparability should be considered when filling data gaps that result from our desire to better understand the more important employment issues.

This paper focuses on comparisons between Canada and the U.S., two countries whose economies are inter-linked, but where trends in some employment issues differ. The issue selected for this comparison is job creation. Some emphasis is placed on employment trends and issues in the services sector. We address the related issue of job stability in a

companion paper. Job creation statistics presented here relate to both changes in "net" job creation and "gross" job creation and destruction. The former refers to change in employment at the aggregate level, and the focus is on the growth rate of full-time paid jobs, part-time paid jobs, and self-employment in the two countries. Significant differences between the two countries are observed in the 1990s in particular. The trends raise issues regarding contracting out and temporary and contingent labor. Little is known regarding these phenomena in either country, and hence significant data gaps exist. Some survey work has been done in both countries on some aspects of temporary and contingent labor, but significant knowledge gaps remain.

Comparability of results regarding gross job creation and destruction, along with data comparability and data gap issues are also reviewed. Data shortcomings are more significant here, as comparable data exist only for the manufacturing sector in the two countries. Plans to overcome the data gaps are discussed. The need for linked establishment-worker data to extend our knowledge in this area is briefly discussed.

I. CHANGES IN EMPLOYMENT AND ITS CHARACTERISTICS

A. What Do We Know?

From 1979-96, employment increased 28 percent in the U.S. and 27% percent in Canada.[1] In spite of this overwhemingly positive growth, there has been considerable concern over the quality of the new jobs created. In Canada there has been much concern about aggregate job growth in the 1990s as well.

The objective of this section is to contrast the broad characteristics of this employment growth in the two countries for two periods, the 1980s recession and recovery and the 1990s recession and recovery. Different indicators suggest different choices of peaks and troughs in economic performance, so the decision on how to do this is not altogether clear. Analysts of U.S. growth often lump together the 1980 recession and the more severe 1982 recession. Indeed, the non-recession year of 1981 does not represent an altogether positive employment situation. Thus, for the U.S. we analyze the period 1979-88, which begins with the pre-recessions employment peak of 1979. 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 when employing annual data as we are here. Thus 1981-1988 is used for the Canadian analysis of the 1980s. For both countries, we also analyze the period 1989-1996; the recession in both countries as measured by NBER and Statistics Canada business cycle analysts began in 1990. Furthermore, the annual average unemployment rate reached its low point in 1989 in both countries.

Aggregate Net Job Creation

[1] Except as noted, these data and other data in Part I are from the U.S. Current Population Survey, the monthly household survey conducted by the Census Bureau for the Bureau of Labor Statistics, and the Canadian Labour Force Survey, also a household survey.

Recent employment trends differ considerably in the two countries. Employment growth has been stronger in the U.S., where total employment grew 7% between 1989 and 1996, compared to 4.5% in Canada. But the real difference has been in the characteristics of that employment growth. Table 1 presents data on the kinds of jobs created in Canada and the U.S. The table decomposes net job creation, which is simply the change in employment between two years, into three components: full-time paid (wage and salary) jobs, part-time paid (wage and salary) jobs, and self-employment. These data are from the monthly household labor surveys of the two countries, the Canadian Labor Force Survey (LFS) and the U.S. Current Population Survey (CPS).

The types of employment created in the recent expansion differed dramatically between the two countries. In Canada, self-employment and part-time paid employment accounted for virtually all of the employment gains over the latest cycle (to date), whereas in the U.S. full-time paid work dominated. In the U.S. full-time paid employment accounted for almost all of the employment gains in the 1990s; in Canada there was a net loss in full-time paid employment over the 1989-96 period. In Canada half of the net increase in employment was in part-time employment, far higher than in the U.S., where it accounted for roughly 10% of the gain. And perhaps most significantly, in Canada, self-employment accounted for the majority of jobs created in the 1990s whereas in the U.S. self-employment actually declined slightly. Exactly how many self-employment jobs were created depends on the way in which the self-employed are counted. The published data for the two countries are not comparable. In Canada, incorporated working owners with or without employees are considered self-employed, whereas in the U.S. they are considered paid employees. When the Canadian data are adjusted to the U.S. definition, 58 percent of the employment gain in the 1990s is self-employment.[2]

To put these changes into perspective, however, note that in the U.S. 8.3 percent of civilian employment was self-employed in 1996, and 17.4 percent were paid part-time workers. In Canada the corresponding numbers were 10.9 percent for self-employment when using the U.S. definition (16.6 percent when using the Canadian definition) and 15.4 percent for paid part-time. Thus, even with the changes that occurred, paid employment and full-time status still characterize the majority of workers in these countries.

The kinds of employment created in the two countries over the 1980's recession and recovery differed far less than was the case in the recent period, although during the earlier period more of the new jobs created in Canada than in the U.S. were part-time paid employment or self-employment. The types of the new employment created changed little between the two periods in the U.S., whereas the situation changed dramatically in Canada, particularly regarding the role of self-employment.

Not surprisingly in light of these trends, in recent years there has been considerable concern over part-time paid employment and self-employment in Canada. Of course,

[2] When using the Canadian definition 78% of the employment gain between 1989 and 1996 was self-employment.

these changes do not necessarily have only negative consequences. Many workers may prefer part-time work or self-employment. The U.S. CPS and the Canadian LFS provide information on the number of persons working part-time for economic reasons. That series has more cyclical variation than does voluntary part-time. In 1996, 80% of part-time paid employment was voluntary in the U.S., and approximately 70% in Canada. 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 CPS respondents as well. Nonetheless, 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.

In the U. S., although considerable attention is being paid currently to the part-time issue because of the UPS strike, concern over the quality of employment has focused more on related but different issues especially the industrial composition of jobs, contingent work, contracting out, and job stability (see the companion paper). These issues have been important in Canada as well. In both countries, there has been considerable concern about, and analysis of, changes in real earnings and in earnings dispersion over the 1980's and '90's. However, we do not address these topics in this paper.

During the 1980s especially, many journalists and policy analysts focused attention more broadly on the loss of so-called "good jobs" in manufacturing and their replacement by "bad jobs" such as hamburger-flippers in the service sector. Not surprisingly, there is some difference between sectors in various aspects of employment. Generally speaking, any expansion in the goods-producing sector has been in part-time employment or self-employment (particularly in Canada). Full-time paid jobs in the goods sector have declined in both countries during both periods. The services sector, on the other hand, has generated all three types of jobs in both countries and both periods. In Canada self-employed jobs dominated services sector expansion during the 1990s. Self-employment accounts for a larger share of jobs in the goods than services sector. In 1996, self-employed workers accounted for 10.6 percent of all workers in goods and 7.5 percent in services in the U.S. The corresponding numbers for Canada were 20.3% and 15.3%. Part-time work, however, is more common in the services. In 1996, part-time paid workers were only 5.4 percent of all paid workers in goods but 21.2 percent in services in the U.S. For Canada, the corresponding figures are amazingly similar despite some differences in the definitions[3]: 6.3% for goods and 22.4% for services.

The Characteristics of the New Self-Employed Jobs in Canada

It is important to further understand the types of self-employment jobs created in Canada in the 1990s given their significance. These data originate from the Labour Force Survey. Of the increase in self-employment between 1989 and 1996, almost two thirds was full-time employment, in that the workers worked 30 hours or more per week at the business.. Among the full-time self-employed jobs created, most were in the services to business

[3] Notably that a part-time worker is someone who works less than 30 hours per week in Canada, and 35 hours per week in the U.S.

management sector (30%), as well as personal/food/accomodation (15%), education/health (13%) and finance (12%)sectors. They consisted largely of unincorporated business with no paid help (over 70%). These jobs were acquired largely by prime aged workers; 45-54 year olds accounted for 47% of the increase in full-time self-employed jobs and 35-44 year olds 38%. They were shared by men (accounting for 59%) and women (41%). This increase in full-time self-employment was in a wide range of occupations, including sales (28%), services (19%), health occupations (17%), natural sciences and math (14%) and processing occupations (9%).

This picture is not inconsistent with the notion of increased contracting out in the Canadian economy. Many of these jobs are likely professional or semi-professional jobs held by specialists in the services to business magagement sector, which includes accounting, advertising, management consulting, computer services, lawyers, architects, etc. The large number in the financial sector could be financial analysts or sales personnel. Others are in the health and education sector, both of which are moving increasingly to private sector self-employed jobs such as private duty nursing as public sector growth is restricted. Aside from increased contracting out on the part of Canadian companies, this growth may also be due to the very slow economic growth experienced by Canada during this recovery. Canada has not had a “jobless recovery”, which implies substantial economic growth with relatively little employment growth, so much as what some have called a “recovery-less” recovery. Economic growth has been low in most years, at least until 1997 when stronger growth was evident. In that environment firms may be reluctant to take on full-time paid employees. This is speculation.

Contracting Out, Contingent Work and Temporary Help Services in the U.S.

The net increase in jobs in business services accounted for about 20 percent of all job change in the U.S. nonfarm economy in the 1990s, a proportion far greater than its share of jobs (table 2 from the Current Employment Statistics survey (CES), BLS's monthly payroll survey). This continues a trend that started even earlier, and suggests that contracting out has become increasingly more prevalent. Of course, some of the increase may come from a shift of demand toward services not historically produced within other industries. In addition, other services industries not a part of business services provide outside contractors to other firms. Some of those have grown more rapidly than overall employment but others have grown more slowly; see U.S. Department of Labor (1995). These figures for business services are much higher than those from the CPS. Much of this difference can be explained by differences in survey methodologies.[4]

[4] The CPS classifies workers into industries according to the industry of their main job whereas the CES counts include workers' second jobs. An establishment's report to the CES includes all persons on its payroll the pay period including the 12th of the month, so that employees who were paid by two temporary agencies during that period would be counted on both payrolls. Also, in accord with the definition of SIC 7363, help supply (firms "engaged in supplying temporary or continuing help on a contract or fee basis"), the CES count includes some workers who are reported in the CPS to be contract company employees or to work for employee-leasing firms.

The help supply services industry, which provides workers to client firms on a temporary basis, has grown extremely rapidly in the 1990s expansion, accounting for almost 10 percent of all job creation in the U.S. even though it accounts for a very small part of total employment. This information on help supply is only available beginning in 1982; the growth in help supply services over the period 1993-96 was 7.6 percent, much more rapid than for the period 1983-86 when it accounted for 3.8 percent of all nonfarm jobs created.

Different writers have meant different things by the phrase "contingent work", but BLS has focused on the idea of jobs that are expected to last only for a limited period of time. Specifically, contingent workers are defined as those who do not have an explicit or implicit contract for ongoing employment. A supplement to the CPS showed that contingent workers were 4.9 percent of total employment in February, 1995. Compared to noncontingent workers, a relatively large fraction of contingent workers are part-time: 42.9 percent of contingent workers versus 18.2 percent of noncontingent workers.

There was relatively little difference between the percent of contingent workers and noncontingent workers employed in the services-producing sector, but there were some notable differences in the distribution of these two types of workers among more narrowly-defined industries. Only 10.8 percent of contingent workers were employed in manufacturing in contrast to 17.1 percent of noncontingent workers. The percentage of contingent workers employed in trade, communications, and public utilities; wholesale and retail trade; finance, insurance and real estate; and public administration was also lower than the percentage of noncontingent workers employed in these industries. The percentage of contingent workers in (other) services, 54 percent, was much higher than for noncontingent workers (34.5 percent).

This 1995 CPS supplement also obtained information on the number of workers in indirect or alternative employment arrangements, namely: those in a job that was arranged by temporary help agency or through a contract company; independent contractors; and on-call workers. The industry distribution of workers in these arrangements varied considerably by type of arrangement.

While employment trends, and in particular the characteristics of employment gains, can be understood using existing data, many issues of concern are beyond current sources, The following section documents issues in the data when studying trends, and some of the data gaps.

Temporary and Contingent Work in Canada

With the 1997 revision of the Labour Force Survey, monthly estimates of temporary and “contingent” work are now available. If contingent work includes jobs which, at the time of hiring, have a pre-determined end date (such as seasonal, contract or term work), or jobs which are created on an “as needed” basis, such as casual work, then 9.1% of paid

employees were in contingent work in early 1997 in Canada. This breaks down as follows: 4.7% of paid employees were temporary or contract workers, 2.8% casual workers, and 1.2% seasonal. Contingent and temporary work constitutes a significant proportion of the Canadian workforce.

b. Data Description and Gaps

United States

A major revision of the CPS, which included a revised questionnaire (question wordings and sequencing) and collection methodology, was put into place in January 1994. As is so frequently the case, improvement in current information from this survey poses some problems for analysis of changes over time. Polivka and Miller (1994) calculated adjustment factors for a number of CPS series using information from a parallel survey which collected data using the new procedures from July 1992 through December 1993 and using the unrevised procedures from January through May 1994. They found (p. 30) that ". . . the new methodology significantly raised the employment-to-population ratio." They provided adjustment factors for a number of other series as well. It is particularly important to adjust for the effect of the revision in studies focusing on aspects of employment where the changes were large, such as in part-time employment. Therefore, the figures reported above adjusted the figures for 1989 for the effects of the revision.

Part-Time Employment and Jobs

Polivka and Miller conclude (p. 32) that ". . . the unrevised CPS either was not completely enumerating individuals who were working part time or was misclassifying them." The desired part-time concept refers to usual hours, with workers with usual hours less than 35 being classified as part-time. In the revised CPS, all respondents are first asked how many hours they usually work, and then are asked in subsequent questions about their actual hours. The revision eliminated a misclassification caused by the procedure in the unrevised CPS of only asking 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 were automatically classified as full time, regardless of how many hours they usually worked. Polivka and Miller estimate that the number of part-time workers as a percentage of the employed would have been about 10 percent higher prior to the revision. Thus, using adjusted figures shows part-time employment accounting for a considerably smaller share of the increase in employment in the recent period than do unadjusted figures.

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

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 provide 35 hours or more of work. Overall, the incidence of multiple job-holding in the U.S. trended upwards through the 1980s, rising from 4.9 percent in May 1979 to 6.2 percent in May 1989.[5] In 1996 this rate was also at 6.2 percent. This suggests that figures for the percent of the 1990s increase in jobs accounted for by part-time jobs would be unlikely to differ substantially from the percent of the increase in employment accounted for by part-time employment, which is discussed in this paper.[6] However, the part of the 1980s increase in jobs accounted for by part-time jobs may be somewhat higher than the corresponding figure for employment shown here from the household survey.

U.S. establishment data sources do not distinguish among employment (jobs) that are full-time and those that are part-time. Because of the availability of information from the revised CPS to monitor the situation it does not appear that this is a major problem. Further, BLS's Current Employment Survey does provide hours paid information for production or nonsupervisory workers in private establishments in all industries and the Census Bureau's Censuses and Annual Surveys provide this information for manufacturing establishments.

Self-Employment

Within self-employment, it is possible to distinguish between employer and own account. The BLS only partially follows the standards set by the International Labor Organization. In the CPS, during the period examined in this paper, employed persons 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 (and in this paper) as wage and salary workers, on the basis that, legally, they are the employees of their own businesses. (It would be possible for analysts to tabulate the number of incorporated and unincorporated self-employed using the question on an incorporated business. In 1993 the incorporated self-employed comprised 3.0 % of total employment (including agriculture and unpaid family workers) whereas unincorporated self-employment accounted for 8.5 percent of total employment.)

There were few changes affecting the self-employment sequence of questions in the 1994 revision, and Bregger (1996) terms the effect of the redesign on this series "quite limited." Here, we ignore this change, but note that the totality of the questionnaire changes as well

[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 job holding were asked infrequently.

[6] In 1995, 915,000 persons had full-time hurs but usually were part-time on both their primary and secondary jobs, and another 1,091,000 persons with full-time hours reported at least one part-time job but said hours varied on both their primary and secondary jobs. If both groups were added to part-time to be consistent with the Canadian definition of part-time based on hours on the main job, we would increase the measure of part-time by 8.6%.

as the collection methodology changes did have a small but significant effect. Polivka and Miller calculated adjustment factors for self-employment which would increase the estimated ratio of the self-employed to total employment for the pre-revision years by about 6 percent. Thus, adjusted figures would show the change in self-employment accounting for a somewhat smaller part of the gain in employment than shown here.

The ES-202 data, which are drawn from administrative data for the U.S. Unemployment Insurance system and which serve as the sampling frame for BLS establishment surveys, have a very broad coverage, covering over 96 percent of total wage and salary civilian jobs. Firms with one or more employees are covered except in agriculture and employers of domestic workers where the rules differ somewhat. Self-employed workers are excluded. Thus, to obtain employment data on the self-employed we must rely on the household survey.

Changing Employment Arrangements

As noted above, at least since the mid-1980's there has been interest in the changing types of employment arrangements. These arrangements include contracting out, where employees work directly for a “contract” firm that provides the worker’s services to a client firm at the client’s work site, and "contingent” jobs, that is, jobs which are structured to last a limited amount of time.

Contracting Out. U.S. establishment data sources measure employment as the number of employees on the establishment’s payroll. Some users also desire information on the industry category of clients for employees, particularly for employees of the temporary help supply industry. Contracting out is of concern for comparing employment trends among goods-producing and service-producing industries to the extent that activities formerly carried out by employees within goods-producing companies, such as accounting and other professional activities, guard services, and so on, are contracted out to firms in business services or other services industries.

Some information on contracting out was collected from establishments by BLS through very small special efforts in the context of ongoing programs, but this is not being collected on an ongoing basis. One special BLS effort surveyed four 2-digit SIC industries in manufacturing about their current and past use of selected services and found that contracting out for some of them increased substantially between 1980 and 1986. Another study found that for several other detailed manufacturing industries the likelihood of contracting out for each of five types of services increased between 1979 and 1986-87. See U.S. Department of Labor (1995) for additional details and citations. These results suggest the potential importance of having information on contracting out for some purposes.

Contingent Work. Concern about the number of workers in contingent work arrangements arose in the context of the good jobs/bad jobs issue. Some analysts were using existing information from a variety of sources on part-time work and self-

employment, temporary workers, and employment in business services to proxy the number of contingent workers. However, such uses suffered from double or even triple counting and included many jobs that are quite stable. Thus, BLS felt it was extremely important to collect information on contingent workers and did so in a supplement to the CPS in February 1995. BLS defined contingent workers as those who do not have an implicit or explicit contract for ongoing employment. The broadest definition is workers who do not expect their jobs to last.[7] Workers who do not expect to continue in their jobs for personal reasons but would have the option of continuing are not counted as contingent workers. The question of how contingent and indirect or alternative employment arrangements are changing over time is of considerable interest. A repeat of the CPS supplement was conducted in February 1997.

Canada

Part-Time Employment and Jobs

In the Canadian LFS up to 1996, a holder of multiple part-time jobs could be classified as having full-time employment if total hours worked per week exceeded 29. The usual hours worked in all jobs were used to classify part-time or full-time status. Persons working less than 30 hours per week (not 35 as in the U.S.) are classified as part-time. As in the U.S. prior to the revision, part-time/full-time referred to the status of the worker, not of the jobs held by the worker. This was altered in a major Labour Force Survey revision implemented in January of 1997.

Currently, a worker's part-time/full-time status 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 pushed back in the data, so that in this paper part-time/full-time status is determined for both expansions in this way. This tends to increase slightly the proportion of 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 revision. (see "Moving with the Times, Introducing Change to the LFS", Household Surveys Division, Statistics Canada)

Thus, compared to the U.S. part-time numbers utilized in this paper, which are based on hours worked on all jobs, this revised Canadian method of classifying part-time/full-time would tend to increase slightly part-time employment in Canada relative to that in the U.S. On the other hand, using the cut-off of 30 hours in Canada rather than 35 in the U.S would tend to decrease part-time employment in Canada relative to the U.S.

These differences (and others discussed here) refer to differences in levels. Most of the paper, however, focuses on trends and change in levels over various periods. The trends may be comparable, even if the levels are not. The measurement differences discussed here

[7] Because of the way the data were collected, self-employed persons and independent contractors are included only if they expect their employment to last for one year or less and had been self-employed or independent contractors for one year or less.

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.

Self-Employment

There are also differences in the manner in which the self-employed are determined in the American CPS and the Canadian LFS that would tend to increase the share of workers classified as self-employed in Canada relative to the U.S. In the LFS workers are asked questions about their main job or business, including "Were you an employee or self employed?" If self-employed, the respondent is 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. This is different than the published U.S. figures where incorporated working owners with or without employees are deemed to be employees, not self-employed. In 1996, almost one-third (32%) of the self-employed in Canada had incorporated businesses. These people would have been classified as paid employees in the U.S. figures. Thus, levels of self-employment are substantially overestimated in Canada relative to the U.S.in the published data. The Canadian data are adjusted in places to overcome this comparability problem, as noted in the text.

Regarding change, 27% of the increase in self-employment between 1989 and 1996 in Canada was associated with the incorporated self-employed. If they are considered paid employees rather than self-employed, then the share of the increase in employment between 1989 and 1996 that is attributable to self-employment falls from three quarters to 56% in Canada. This concept is comparable with the U.S. concept, but the number is still far higher than the U.S. number.

Changing Employment Arrangements

The 1997 LFS revisions provide considerable new data on temporary and contingent labour. Data are provided for the following categories: seasonal; temporary/term or contract; casual;and temporary help agencies. Change in these types of employment obviously cannot be measured until a time-series is developed. Regarding contracting-out, there is no survey in Canada that directly measures this. Estimates of the impact of contracting out on, for example, the shift in employment from the goods to the services sector, have been made in earlier studies. They are very indirect and not highly reliable, however. The new linked employer-employee survey that is scheduled for the spring of 1998 (the Workplace and Employee Survey) will hopefully provide some information on contracting out in the establishment part of the questionnaire, but this information will again be partial. There is currently no survey or planned survey that will provide definitive data on this phenomenon, or the extent to which it has increased.

II. GROSS JOB CREATION AND DESTRUCTION IN CANADA AND THE UNITED STATES

In recent years, growing attention has been paid to labor market dynamics, particularly to firm-side gross job creation and destruction. Due to a considerable body of recent work based on longitudinal establishment or company data sources, we now know that job creation and destruction are much more dynamic than previously thought, and that the "net" change figures available from cross-sectional surveys were masking much change.

By gross job creation, we mean the total increase in employment in new and expanding establishments (or firms); by gross job destruction, we mean the total decrease in employment in declining establishments and establishments that close. Net job creation is the difference between gross job creation and gross job destruction. Gross job reallocation is defined as the sum of gross job creation and destruction.[8] Interest has centered on a wide range of topics including:

(1) the relationship of gross job reallocation to net job creation;
(2) the extent to which gross job creation and destruction are related to the business cycle;
(3) the relationship of gross job reallocation to establishment births and deaths;
(4) the extent to which job creation and destruction is concentrated among a few establishments (or firms);
(5) whether it is small or large firms that account for most job creation and destruction;
(6) the extent to which job creation at the company level can be "explained" by currently measurable variables;
(7) the relationship between job turnover rates and unemployment.

Gross job creation and destruction data are available in a number of countries, and have been used to address these issues. In an OECD document (1996), Blanchflower reviews the major evidence derived from the establishment-based data. Unfortunately, to date, there are no government data available on gross job change for the U.S. except for manufacturing industries. Canada has longitudinal data on manufacturing establishments similar to the U.S. manufacturing data from which job creation and destruction measures can be determined. There also exists job creation and destruction data for the Canadian economy as a whole, at the company level.

In this section, we describe data availability for the U.S. and Canada, present selected results, and assess data gaps.

A. Data Availability

In the United States

[8] Terminology can be confusing. OECD terms the sum of gross job creation and destruction "turnover." Haltiwanger and his coauthors have defined "total turnover" to be the number of individual worker accessions plus the number of separations that occur in an interval.

A number of papers and reports have been issued presenting data on gross job changes for U.S. manufacturing industries using the Census Bureau's Longitudinal Research Datafile (LRD). This very carefully constructed database includes information from the quinquennial Censuses of Manufacturing and the Annual Surveys of Manufacturing.

Another (potential) source of information on gross employment changes is administrative data from the Unemployment Insurance (UI) program, under which businesses report employment and wages for covered workers to each of the states. (Over 96 percent of total wage and salary civilian jobs are covered.) In turn, under a Federal-State Cooperative program called the ES-202 program, these data are provided quarterly to BLS. The ES-202 data are used by BLS as the sampling frame for its establishment surveys and to benchmark the employment data from its monthly payroll survey. A few states have made available microdata to researchers who have developed matched longitudinal files and constructed gross flows data. BLS is currently developing a longitudinal microdata file from the ES-202 data and will publish gross job creation and destruction tables based on this file. As an initial part of the development work for this project, Spletzer (1995) developed longitudinal data for West Virginia from the ES-202 data; a major focus was on exploring the treatment of establishment births and deaths.

For periods prior to 1992, for firms operating more than one establishment within a state, reporting units in the ES-202 data may not be single establishments. Thus, these UI units may not be meaningful units for analysis. For this reason, BLS is not planning to publish gross job creation and destruction information for 1991 and earlier years. During 1989-1991, employers who operate more than one establishment in a state began filing a Multiple Worksite Report (MWR) each quarter, which is used to collect separate employment and wage data for each establishment of these employers.

In our discussion below, we include information for all industries for selected states from the UI data and information for manufacturing for the U.S. as a whole from the LRD. Readers are also referred to the report by OECD (1994) that described data that are available for several European countries, as well as for Canada and the U.S. However, the data for the U.S. that they discussed are from a private sector data source that suffers from a number of important problems and we do not discuss those U.S. data further.

In Canada

There are two major sources of data on job creation and destruction in Canada. One is very similar to the U.S. LRD described above. It is a longitudinal file of manufacturing establishments that has on it information on employment, output, inputs, and other establishment characteristics. It is based on the Census of Manufacturers, and in later years, the Survey of Manufacturers. It cover the 1970s, 1980s and 1990s. This data source has been in use for over a decade, and has supported a large number of studies on a broad range of topics.

The second data source is a longitudinal file of companies (legal entities) that has also been in use for a decade or more. It is a census of all Canadian companies that have employees. The file is derived from taxation data which is linked to the business register. It covers the period 1978 to 1995. Considerable editing is conducted to ensure that false births and deaths are detected and corrected, and that companies which are linked from year to year are in fact the same companies. A novel method of tracking the workers in these companies to determine if the same company has roughly the same workers from year to year is used in the editing procedure.

The major shortcoming of this data base is the lack of co-variates. Compared to the longitudinal manufacturing establishment data sources, this file, known as LEAP, has relatively few variables. One is restricted to payroll, estimated employment, industry, firm size, and province.

B. What Do the Data Show?

Results for Manufacturing

Because of the existence of high quality, national U.S. data for manufacturing, this sector has received a great deal of attention. In Canada an extensive research program using the longitudinal manufacturing establishment data culminated in a document by Baldwin and Gorecki (1990). It addressed many of the issues noted above, as well as the role of births and deaths in job creation, and the link between the birth and death process and productivity gains. One of their most interesting findings was that, when excluding cyclical variation and focusing on longer term structural change, the variation was primarily in entry rates (births and other entries) rather than exits. They concluded that “an industries net employment rate varies over time (structurally) primarily because of differences in yearly entry rates, not exit rates”. Thus, they concluded, one should focus on the creation of new companies, rather than job retention policies.

A similar research program in the U.S. using the LRD data culminated in a recent book by Davis, Haltiwanger and Schuh (1996). This body of work, underway for a number of years, is responsible for a large part of our understanding of employment dynamics. They too address many of the issues listed above.

Baldwin, Dunne, and Haltiwanger (1996) analyze the period 1973-92 and conclude that the Canadian and U.S. job creation and destruction rates are "remarkably similar" for 2-digit manufacturing industries and for manufacturing as a whole. They find that job destruction is much more cyclically volatile than job creation in both countries, although it is more pronounced in the U.S. than Canada. Another difference is that job reallocation (the sum of job creation and job destruction) has a pronounced upward trend in Canada but has essentially no trend in the U.S.

The findings regarding the role of small and large firms in the job creation process differ somewhat between Canada and the U.S. Davis and Haltiwanger conclude in their work

that for the manufacturing sector at least, there appears to be little relationship between plant size and job creation rates. This is at odds with the earlier belief that small firms (establishments) create the majority of jobs. They argued that poor measurement technique and improper use of data led to earlier findings. When duplicating this work for the Canadian manufacturing sector, Baldwin and Picot (1995) found that small firms did create a disproportionate share of jobs, although the measurement issues outlined by Davis and Haltiwanger were very important. Later Canadian work (Picot and Dupuy, 1996) suggested that births appear to account for the differential job creation rates between small and large firms. Existing small and large firms appear to grow at roughly the same rate, but the small firm sector displays faster growth rates because births are included in the aggregate count. Still later work by Baldwin (1997) suggests that while in the aggregate job creation may be greater in the manufacturing small firm sector in Canada, relative wage rates and productivity are falling. The research continues.

Results for Services

A number of significant findings have emerged from the research on manufacturing sector data, but it is important to ask whether or not these results apply to the Canadian and U.S. economies as a whole. Based on present information it is not possible to say definitively either way, but evidence suggests that many of the results found for manufacturing will not apply to other industries, particularly service-producing industries.

Table 3 presents annual data by major industry for six states from Anderson and Meyer (1994), for West Virginia from Spletzer (1995) and for Michigan from Foote (1997), as well as data for manufacturing from the LRD and for Canada. West Virginia was one of eight states that began filing MWR's in 1989, so that Spletzer's data are at the establishment level, in contrast to other studies using UI data. These data may not be strictly comparable for other reasons as well, and of course results may differ because of different time periods as well as differences in economic conditions across areas. But some regularities emerge. For all these industries, gross job creation and gross job destruction rates far exceed the rate of net job creation; even in declining industries many firms increase employment. All four series for the U.S. as well as that for Canada show that on average, as expected, gross job destruction exceeds gross job creation in manufacturing, since employment in manufacturing declined over 1973-94, but gross job creation usually exceeded gross job destruction for services-producing industries. A notable difference between sectors is that gross job reallocation (the sum of creation and destruction) is almost always greater in other industries than in manufacturing; the exceptions are FIRE in the A-M and Foote data and TPU in the A-M data. This results not only from higher gross job creation rates in non-manufacturing industries but also from higher gross job destruction rates in some of them.

Foote's data for Michigan refer to UI reporting units not to single establishments, but given the absence of data for nonmanufacturing industries not affected by this problem, and the similarity of his results for manufacturing to those from the LRD, a brief discussion of these results seems useful. Foote finds that in these Michigan data for

manufacturing, as for the LRD data for the U.S. as a whole, job destruction varies much more than job creation over the cycle. However, this is not the case for growing industries outside of manufacturing. His results strongly point to the importance of not drawing conclusions about economic behavior based on data only for manufacturing.

In sum, based on the limited information available, it seems unreasonable to assume that the results from studies of manufacturing in general will apply to these economies as a whole.

Assessment

Gross job creation and destruction data have been used to address a wide range of economic issues in many countries. To date much of the focus has been on the documentation of extent and location of such job creation and destruction. By debunking many stereotypes and misperceptions regarding the magnitude, timing and location of job gains and losses this work has made a large contribution to economics. Our view of the job creation and destruction process has been fundamentally altered from that obtained when using aggregate data such as that used in the first section of this paper, to a much more dynamic and realistic view obtained when using longitudinal data. It has been the creation of longitudinal data sets that has driven this work forward. Not surprisingly, this work leaves us with many questions.

As discussed above, a critical question concerns the extent to which findings for manufacturing will apply to the economy as a whole. Even for manufacturing, many important questions remain unanswered. Why is job creation greater in some firms than others? Does a more regulated labor market entail a significant difference in the dynamic nature of job creation and destruction between countries? What is the association between job creation (destruction) and employee outcomes at the company level? Just as new data sources were required to initiate this body of work, yet others will be required to push it forward.

C. Data Gaps

As already discussed, the major data gap for the U.S., the lack of gross flows information for non-manufacturing industries, will be filled shortly. Most of the major issues on which the research on manufacturing has focused to date can be addressed with these data. But some data gaps will remain for both countries in the near future at least.

Time series: Addressing questions concerning the extent to which gross job creation and destruction vary over the business cycle requires a time series, which will not be available for the U.S. at the establishment level in the near future. As noted above, the fact that prior to 1992 the ES-202 data are, to some unknown extent, available only at the UI account level, not the establishment level, will prevent BLS's publishing gross change estimates for that earlier period. Such time series data do exist in Canada for all industries on an annual basis from 1978 to 1995.

Lack of covariates. The U.S. ES-202 data from which the job creation and destruction series are being prepared provide information on employment, gross quarterly wages of workers, industry classification, establishment age, and location (state). Development of a richer dataset is possible through matching to other establishment data, including hours data and occupational employment and wages, although work on this has not begun. The Census Bureau's LRD data for manufacturing are richer in that they provide considerable information in addition to employment and wages including gross revenues and purchases of inputs by the establishment. The Census Bureau also is now collecting information for services industries under a recent expansion, but in general these data do not include employment and wages. Under present law, sharing of confidential data (such as establishment microdata) is not possible between BLS and the Census Bureau in general.

In Canada there is a project underway to link the longitudinal file of companies (LEAP) to corporate taxation data in order to increase the number of co-variates. This would allow the dynamics of employment change at the company level to be associated with financial variables. In addition, this longitudinal file has been the sampling frame for a number of surveys on topics such as technological change and the determinants of growth. This process allows new variables to be added to the file, at least for a point in time.

Periodicity. A major advantage of the ES-202 data is that they are quarterly and can be used to produce gross change information on a more timely basis than information from annual sources. Quarterly data are likely to be particularly useful for analyses of business cycle effects. Monthly employment is also available in the ES-202 but BLS is not presently developing monthly gross job creation and destruction figures because of concern about the quality of the monthly information. Quarterly information for manufacturing is available from the Census Bureau's Censuses and Annual Surveys but this is reported retrospectively.

Need for linked establishment-worker data. Many researchers have pointed to the need for linked establishment-worker data. For instance, this was a major theme to emerge from a recent NBER Conference on Labor Statistics Measurement Issues (Haltiwanger, Manser, and Topel.) Some states in the U.S. have made available for analysis the UI establishment data linked to the individual records for workers. The individual UI data provide information on the employment and wages of individual workers but not on their demographics. BLS does not receive the individual worker data. An interesting project is planned at the Census Bureau by Julia Lane, an ASA/Census Research Fellow, and James Spletzer of BLS, which will link the UI establishment-worker data for the state of Maryland to LRD and other Census Bureau data and demographic information from the Current Population Survey data. Although only for one state, these data are expected to provide valuable opportunities for research

In Canada worker and firm data are linked in the LEAP file discussed above. This is achieved through the taxation system. However, the lack of co-variates problem is large, and little research has been done that has taken advantage of this link. To overcome this

problem, a pilot linked worker-establishment survey has been developed and carried out by the Business and Labour Market Analysis Division and the Labour Division of Statistics Canada. The Survey is sponsored by Human Resources Development Canada, a federal ministry concerned with labour market issues.

This survey collected information on the establishment (e.g. employment, hirings and separations, training, business strategies, organizational change, technology implemented recently, etc.). Workers from that same establishment were then surveyed to obtain information on worker outcomes and characteristics, such as wages and hours worked, tenure, use of computer and other technologies, fringe benefits, personal characteristics, type of job, training taken, etc. In this way worker outcomes can be associated not only with their human capital, but also with events taking place in the establishment. Similarly, establishment outcomes can be associated with the types of workers the establishment engages, the pay and benefits schemes, the training offered, etc. The pilot has information on 750 establishments and 2000 workers. Plans are to carry out a production version of this survey in early 1998, subject to the finalization of funding.

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Table 1

What Kind of Employment Is Being Created?

	Canada (Unadjusted)		Canada[a] (Adjusted)		United States[b]	
	Number ('000s)	% of New Jobs Created	Number (‘000s)	% of New Jobs Created	Number ('000s)	% of New Jobs Created
1990's recession & recovery 1989-96						
Total employment change	590	100%	590	100%	8043	100%
Full-time wage & salary	-142	-24%	-41	-7%	7543	94%
Part-time wage & salary	275	47%	300	51%	770	10%
Self-employment	458	78%	342	58%	-270	-3%
1980's recession & recovery (1981-88 for Canada; 1979-88 for U.S.)						
Total employment change	1421	100%	1421	100%	16,501	100%
Full-time wage & salary	721	51%	866	61%	11,873	72%
Part-time wage & salary	400	28%	421	30%	3095	19%
Self-employment	300	21%	133	9%	1533	9%

Sources: Canadian Labor Force Survey; U.S. Current Population Survey

[a]The definition of self-employment has been altered to match that in the U.S. data. Notably, own-account workers without employees who are incorporated are categorized as paid workers (as in the U.S.), not as self-employed as in the unadjusted Canadian data.

[b]U.S. data exclude unpaid family workers. The 1994 CPS Redesign caused changes in the survey so that pre- and post-redesign changes should be interpreted with caution; see text. These estimates are based on figures for 1989 that have been adjusted using estimates from Polivka and Miller (1994). In addition, we have adjusted the 1989 employment level to account for the 1990 population weights that are used for 1990 and the following years.

Table 2

What Kind of Employment is Being Created in the United States?

1990's Recession & Recovery 1989-96	Net change in total employment (thous.)	Net change in total employment (percent)	Percent of 1996 Employment
Total Nonfarm	11,639	100.0%	100.0%
Business Services	2313	19.9%	6.1%
Help Supply	1125	9.7%	2.0%
1980's Recession & Recovery 1979-88			Percent of 1988 Employment
Total Nonfarm	15,386	100.0%	100.0%
Business Services	2228	14.5%	4.4%
Help Supply	n.a.	n.a.	1.1%

Source: Current Employment Statistics Survey

Table 3

Panel A: Percent Average Annual Gross Job Creation

Sector	Canada	United States		
	B-D-H[a]	B-D-H[a]	A-M[b]	Spletzer	Foote[c]
		All States	6 States	W.Va.	Michigan
	1973-92	1973-92	1979-83	1990-94	1978-88
All			11.4%	16.0%	10.0%
Mining			12.5	15.3	11.9
Construction			21.7	42.7	18.3
Manufacturing	10.9	8.8	10.2	10.3	6.2
TPU			7.5	14.3	7.8
Wholesale Trade			13.8	13.6	11.0
Retail Trade			14.6	17.1	11.4
FIRE			10.8	14.3	8.0
Services			10.6	17.3	15.6

Panel B: Percent Average Annual Gross Job Destruction

Sector	Canada	United States		
	B-D-H	B-D-H	A-M	Spletzer	Foote
		All States	6 States	W.Va.	Michigan
	1973-92	1973-92	1979-83	1990-94	1978-88
All			9.9	14.5	9.6
Mining			12.2	20.8	13.4
Construction			29.6	34.5	18.7
Manufacturing	11.1	10.1	11.5	13.1	8.5
TPU			9.2	12.6	7.5
Wholesale Trade			15.6	13.2	9.2
Retail Trade			7.3	15.3	10.0
FIRE			5.4	14.3	5.8
Services			8.7	11.8	11.0

[a]Baldwin, Dunne, and Haltiwanger (1996)
[b]Anderson and Meyer (1994). Based on 10-20 percent sample of records in six states: Georgia, Idaho, Louisiana, New Mexico, South Carolina, and Washington. Units are defined based on EIN number. Only units with 50 or more employees are included. There is an underrepresentation of smaller firms.
[c]Data are at the UI account level, not establishment level.