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## **Labour Market Outcomes:**

**A Cross-National Study**

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McMaster University

DEPARTMENT OF ECONOMICS

# Shifting Skill Demand and the Canada-U.S. Unemployment Gap:

## Evidence from Prime-Age Men

Peter Kuhn

A. Leslie Robb

McMaster University

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## **1. Introduction.**

As is well known, beginning in the early 1980's a sizable gap opened up between the unemployment rates of Canada and the United States-- two countries which up to that time had experienced very similar, and highly correlated, unemployment rates. Since that time, considerable research into the possible causes of this gap has taken place (e.g. Ashenfelter and Card (1986), Milbourne, Purvis and Scoones (1991); Card and Riddell (1993)), with the relatively more generous Canadian Unemployment Insurance system commonly cited as a potential explanation.

Another phenomenon that has characterized both Canadian and U.S. labour markets since the early 1980's is a considerable increase in wage polarization, or spreading out of the wage distribution, especially among men: the market wages available to the least skilled men in the both the U.S. and Canadian economies fell considerably, while those of more-skilled men either held their own or increased slightly (see, e.g. Kuhn and Robb, 1995). Interestingly, in a relatively recent paper, Juhn, Murphy and Topel (1991) (henceforth JMT), argue that this wage polarization might be an important cause of the apparent secular increase in unemployment in the United States between 1967 and 1989. Essentially, they see the increase in U.S. male unemployment as a voluntary labour supply response to the declining market demand for less-skilled workers: As the real market wages available to this group fell, unskilled men found it **relatively** more attractive to spend time in a variety of nonmarket activities, much of which was labelled by the individuals involved as unemployment.

More recently, a number of analysts (e.g. OECD (1994) and Freeman (1995), among others) have suggested that shifting skill demand, in combination with differences in the

institutional structure of labour markets, might help explain not only within-country secular trends in unemployment, but differences between countries. Simply put, the idea is that in countries with more generous social safety nets, workers (and especially those near the bottom of the wage distribution) will be more likely to withdraw from market work onto that safety net when market demand for labour shifts against them.<sup>1</sup> Since Canada has often been cited as a "kinder, gentler" country in social policy than the U.S., this "OECD hypothesis" thus seems like a promising potential explanation of the emergence of the Canada-U.S. unemployment gap in the 1980's.

The main purpose of this paper is to ascertain whether the JMT and OECD hypotheses outlined above can indeed provide a convincing and consistent explanation of (a) the recent large increase in Canadian unemployment and/or (b) the emergence of the Canada-U.S. unemployment rate gap. Following JMT, our approach is based on an examination of the covariation of changes in employment rates, unemployment rates and wage rates across deciles of the wage distribution, in Canada and the U.S. Given that the recent increase in wage polarization, especially in the form of real wage declines among the less skilled, has been much more concentrated among men in both countries, our focus here is on men only: If the JMT hypothesis "works" anywhere, it ought to work for men. Further, to avoid complications associated with changes in school attendance

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<sup>1</sup>A closely related hypothesis is that countries in which real wages are downward rigid due to institutional factors like minimum wages will experience an increase in unemployment among the unskilled because wages cannot fall enough to clear the market. Such a model has very similar implications for the covariation of employment rates and wage rates across the skill distribution as a market-clearing model, and we do not attempt to distinguish these two stories in this paper. (It would show up in our analysis as a very elastic "labour supply" locus at low wage levels). We do note, however, that according to our data there has been considerable downward real wage flexibility among less-skilled Canadian males in the past two decades, even relative to the "quintessentially flexible" U.S.

rates and in early retirement behaviour, we restrict our attention to "prime age" men: those between 25 and 54, the age-sex group with the strongest labour force attachment. The data employed are retrospective questions on weeks worked, and weeks unemployed in the calendar years 1973, 1977, 1989 and 1992 in Canada, and 1973, 1975, 1989 and 1992 in the United States, taken from the Survey of Consumer Finances (SCF) March Current Population Survey (CPS) respectively.<sup>2</sup> The advantages of these data are (a) that annual weeks of unemployment give a much more detailed picture of an individual's unemployment experience than does a point-in-time indicator of labour force status; and (b) that (unlike the determination of current labour force status) the retrospective questions on unemployment and employment are simple, and very similar across both countries and time (Actual questions and definitions of the retrospective weeks questions are given in Appendix 1).

The years chosen for the current analysis reflect two main considerations. First, we want years before and after the Canada-U.S. unemployment gap opened up. Second, we want to control as well as possible for cyclical effects on employment and unemployment, and are particularly interested in secular changes between years in which the economy is at "full employment": i.e. at a cyclical peak when workers are least likely to be constrained in their labour supply decisions. To that end, the bulk of our analysis focuses on the years 1973 and

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<sup>2</sup>In the March 1973 CPS, information on annual weeks worked is available in intervals only. To deal with this issue in comparisons involving that data set we recoded actual weeks in the other three data sets involved (1989 CPS; 1973 and 1989 SCF) into the same intervals and took means using midpoints of these intervals. Another potential comparability issue is that unlike the CPS, the Canadian SCF does not provide information on men living with their parents in the 1970's. Examination of the Canadian data after 1980 indicate that this has only a very minor effect on mean employment and wage levels among men in the age group considered here.

1989, in which unemployment rates were at a local minimum in both countries. To provide some indication of more recent trends, however, and to get some idea of the robustness of our results to our particular choice of years, a comparison of the 1992 recession in both countries with the mid-1970's recession is also provided.

In our analysis we identify four main pieces of evidence which support the JMT/OECD hypotheses, suggest one refinement to it which makes it more consistent with the 1973-89 changes in Canada and the U.S., but also point out one outstanding difficulty with the hypothesis that appears to require further study. The first piece of evidence in favour of JMT/OECD concerns wage polarization: Our data do show considerable wage polarization in **both** countries under study, and indeed seem to show considerably more wage polarization among Canadian men than has been noted in some earlier studies of Canadian wage structure (e.g. Freeman and Needels, 1993)<sup>3</sup>. For example, the tenth percentile of the real average weekly earnings distribution of full-time Canadian male workers fell by 19.5 percent between the “full employment” years 1973 and 1989, which, while not as dramatic as the 27.0% fall experienced by U.S. men over essentially the same period, is certainly substantial.

Second, again in support of a “labour supply response to declining demand” interpretation, the wage decline noted above is apparently linked to a decrease in employment: annual weeks worked by prime-age men fell in both countries (by 2.2 weeks in Canada and by 1 week in the U.S.), and the decline was concentrated among those men (nearer the bottom of the wage distribution) who experienced the largest proportional declines in real wages. Third, as suggested

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<sup>3</sup>Of course, Freeman and Needels considered only those skill differentials attributable to education, whereas we consider overall wage inequality here.

by the OECD hypothesis, both the aggregate and within-decile responses of weeks worked to wage declines were larger in Canada than the U.S.: smaller wage declines were associated with larger employment declines, suggesting the availability of better nonmarket alternatives in Canada.

Finally, and crucially to the ability of the OECD/JMT hypothesis to explain trends in **un**employment, the declines in employment noted above are, at least in one of the two countries under study, strongly linked to increases in unemployment, rather than for example to labour force withdrawal. In particular, of the 2.2 week aggregate secular drop in Canadian prime-age male employment, fully 1.7 weeks took the form of increased unemployment, with only a 0.5 week-increase in nonparticipation. Further, and perhaps more convincingly, the pattern of change in unemployment across deciles of the Canadian wage distribution strongly mirrors the pattern of changes in weeks worked, but not the pattern of changes in weeks in the labour force.

The one refinement we suggest to the JMT/OECD account of changes in male unemployment results from the following observation: while a strong link between secular declines in employment and secular increases in unemployment is evident in Canada, it is not in the United States. In fact, the one-week aggregate drop in U.S. male employment between 1973 and 1989 was accompanied by a slight *decline* in unemployment, because weeks of nonparticipation rose by 1.3 weeks overall, and much more (4 to 6 weeks) in the bottom wage decile. This huge increase in labour force nonparticipation of unskilled US men of course raises a serious question about the relevance of the JMT “labour supply” hypothesis to recent U.S. trends in male **un**employment.<sup>4</sup> More importantly, it suggests that differences in the “destination states” of

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<sup>4</sup>Indeed most of the secular increase in U.S. unemployment studied by JMT occurs prior to the 1970's.

unskilled workers moving out of employment may also explain some of Canada-US unemployment gap: men leaving employment in countries with generous unemployment insurance programs, like Canada, may be less likely to leave the labour force than those in countries like the U.S. This apparent difference in the labour force withdrawal rates of unskilled Canadian and American men is of course related to, but --because it is driven by a reduction in employment-- somewhat distinct from, Card and Riddell's (1993, 1995) hypothesis of the “relabelling” of nonworking time.<sup>5</sup>

The main difficulty we point out regarding the applicability of the JMT/OECD model to Canada and the U.S. concerns the **size** of the employment declines observed in Canada between 1973 and 1989. Interestingly, while (as JMT have already noted) the cross-sectional association between wages and annual weeks of work is a surprisingly good predictor of the effects of wage changes over this period in the U.S., it is not so in Canada, where the employment changes observed over time appear to be significantly greater than what one would expect based on cross-sectional patterns. We conclude that either the *bias* involved in using cross-sectional profiles to estimate time-series responses is very different in the US and Canada (which seems unlikely) or that there was indeed a **shift** in the Canadian labour supply locus over this period: i.e. there appear to be **some** employment declines, especially in the higher wage decile groups in Canada,

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<sup>5</sup>While “relabelling” of a fixed or diminishing amount of nonworking time may be an important phenomenon for Canadian women, Card and Riddell report similar declines to those found here in men’s **relative** Canadian-US employment levels. (Because they do not specifically choose years at comparable stages in the business cycle, changes in levels within countries are not informative in their approach). Between 1979 and 1986, when relative Canadian unemployment rose by .84 weeks, they report that the relative employment of Canadian male heads fell by 1.28 weeks (clearly more than enough to account for the change in relative unemployment). Comparable statistics for 1981 and 1989 from their 1995 paper are .8 and 1.8, respectively, for adult men, and .5 and .1 for male youths.



which cannot easily be explained by declining market wages. This difficulty is exacerbated when we consider data taken from the recessions of 1992 and the mid-1970's in the two countries: while similar in many respects, the Canadian data now suggest an even greater leftward shift, and the US data now actually suggest a **rightward** shift in male labour supply: at comparable real wages, US men worked considerably more in the 1992 recession than in the one in 1975.<sup>6</sup> While this might result from the greater severity of the 1975 than the 1992 recession in the US (the US, as a greater net importer, was harder hit by the first oil shock), it does suggest that attention to factors which might shift labour supply curves over time deserve further investigation.

In the remainder of the paper we proceed by first documenting the considerable wage polarization, as well as the overall changes in annual weeks of work, unemployment and labour force nonparticipation that occurred among prime-age men in both countries between 1973 and 1989. We then disaggregate the above trends across deciles of the wage distribution between 1973 and 1989 and consider whether these disaggregated trends are consistent with the JMT and OECD hypotheses regarding the determinants of long-run changes in male unemployment. Next, we document the divergence between cross-sectional and time series labour supply responses which makes us reluctant to accept the JMT explanation as the **only** factor behind falling Canadian employment over this period: there appear to be some employment declines quite high up in the Canadian wage distribution, where real wages did not fall substantially over this period. Finally, we provide comparative evidence on US and Canadian labour markets in the recessions of 1992 and the mid-1970's, and ask what it can add to our account of the Canada-US unemployment gap.

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<sup>6</sup>Put another way, unskilled US males worked about the same in 1992 as in 1975, despite a real wage decline of about 25% over that period.

## **2. Wage Polarization, Employment and Unemployment: Aggregate Trends.**

The most reliable, comparable wage information on the Canadian SCF and U.S. CPS is probably the annual earnings of full-time, full-year workers.<sup>7</sup> The percentiles of the distribution of this variable for the “full employment” years, 1973 and 1989 in both countries are given in Table 1(a). To make the numbers as comparable as possible across both countries and years, both in this Table and throughout the rest of the paper, we first converted all dollars to 1992 dollars in each country using its own all-items CPI.<sup>8</sup> We then converted all the U.S. dollar amounts into Canadian dollar amounts using 1992 purchasing power parity numbers from the Penn World Tables. One advantage of this approach is that our measures of rates of change over time in each country will be “true” to that country's own CPI, and thus should be comparable to the results of previous studies on each country individually.

As Table 1(a) shows, there was considerable wage polarization among prime-age men in both countries over the period under study, with real wages essentially unchanged or increasing slightly near the top of the wage distribution, but falling at the median and bottom. Median real wages rose by 3.5 percent in Canada, while falling by about nine percent in the U.S. Considerably more dramatic are the real wage declines at the tenth percentile of the wage

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<sup>7</sup>We define full year workers as those who worked 49 or more weeks in the previous year, including paid vacations. “Full time” means that the respondent said that the work he did in the previous year was mostly full-time work.

<sup>8</sup>The larger real wage declines reported here for the U.S. than in some previous work (e.g. Katz and Murphy, 1992) result in part from our use of the CPI rather than the implicit GDP deflator for consumption expenditures, and in part from the different time period considered.

distribution, amounting to 13.5 and 24 percent respectively in Canada and the U.S.

Since most of the analysis in this paper considers the relation between weeks worked, or weeks unemployed, per year and the weekly wage available to workers, Table 1(b) presents percentiles of the average weekly earnings distribution for full time, but not necessarily full-year workers. The results are very similar, with an even smaller difference between the amount of wage polarization occurring in Canada and the United States. Interestingly, for average weekly earnings, the more-rapid decline of men's real wages in the U.S. led to a reversal of the relative median wages in the two countries, when compared at purchasing power parity levels: In the mid 1970's the median U.S. male had a higher wage than his Canadian counterpart; by the end of the 1980's this situation was reversed.

Aggregate trends in annual weeks worked, unemployed and out of the labour force are presented for both countries in Table 2. As expected, the data clearly show the emergence of a Canada-US unemployment gap: Canadian men spent a slightly smaller fraction of the year (less than half a week) unemployed than American men in 1973. By 1989, Canadian men were unemployed almost 1.8 more weeks per year than American men. As the Table also indicates, this gap emerged because (comparing business cycle peak to peak) Canadian unemployment rose, not because US unemployment fell (US unemployment remained approximately unchanged over this period).

Table 2 also gives a very clear indication of whether the growth of Canadian male unemployment came at the expense of time spent at work, or time spent out of the labour force: it came at the expense of work. Canadian men worked more than their US counterparts in the 1970's, and about the same in 1989. Indeed, the 2.2-week decline in weeks worked among

Canadian men is more than enough to account for the 1.7-week increase in unemployment noted above. US men decreased their annual work weeks by an average of one week. Unlike Canada, however, this did not feed into an increase in unemployment; rather nonparticipation increased by more than enough to absorb the decline in employment.

Taken together with the declines in male wages seen in both countries, these trends are consistent with the following account of how the Canada-US unemployment emerged: Market wages available to both Canadian and US men fell over the period, and men in both countries responded to this decline in market opportunities by working less. However, despite the fact that the wage decline was somewhat less in Canada, the response was different because of institutional differences between the two countries: Canadian men reduced their labour supply more, and when doing so were more likely to remain in the labour market, spending their extra nonwork time as unemployment rather than nonparticipation. We now proceed to examine whether the disaggregated trends in wages and labour force behaviour support this account.

### **3. Disaggregated Trends and the Role of Shifting Skill Demand: 1973-1989.**

Trends in wages, weeks worked and weeks unemployed, disaggregated by deciles of the wage distribution, are presented in Tables 3 and 4. Table 3 restricts its attention to men who did some full-time work for pay in the year under consideration, for whom we can calculate a weekly wage by dividing annual earnings by weeks worked. We then sort these men into ten decile groups based on their calculated wage rate, and present a number of summary statistics for the men in each decile group. Table 4 includes those men who did no work at all in the reference year (for whom, of course, no wage information is observed); in order to do so we assign all

individuals to deciles by their predicted wage in a standard regression, run separately in each country-year.<sup>9</sup> While, as is very well known, this is not a perfect solution to the problem of unobserved wages for nonworkers (in part because it ranks people only on based on the **observed** components of their skills) it does perform the very important function of incorporating the contribution to unemployment of full-year nonworkers into the analysis.<sup>10</sup>

We begin our discussion of Tables 3 and 4 with an examination of the cross-sectional patterns of employment and unemployment across deciles of the wage distribution within country-years, and note first that average within-decile wage levels must, of course, by construction, rise monotonically across deciles. Second --except in the top one or two deciles of Table 3-- both tables show a monotonic, positive relationship between the wage and annual weeks worked. This positive relationship has been interpreted by JMT as a behavioural labour supply curve, with higher market wages encouraging greater labour supply, although we present some evidence in this paper which might be inconsistent with this interpretation.

The question of whether the decrease in labour supply among Table 3's top one or two deciles (relative to the deciles immediately below them) represents true "backward-bending"

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<sup>9</sup>The regression included six education categories, age and age squared, state or province dummies, marital status indicators and size of place indicators. In general, where choices had to be made, right-hand-side variables were constructed to be as similar as possible in definition and detail in the two countries and over time, even when this meant a loss of detail. Since wages are, effectively, not observed for part-time workers, they were treated just like nonworkers in this procedure. As we could not think of any credible instruments for the work-nonwork decision, the regressions are all run by OLS.

<sup>10</sup>Another potential effect of using predicted, rather than actual wages to rank workers is to reduce the effects of measurement error, and of temporary shocks to wages, in classifying people into "ability" deciles. As we shall see, this is reflected in the fact that, in a cross-section, predicted wages actually are a stronger predictor of unemployment than actual wages.

labour supply behaviour or a special kind of measurement error has been considered both by JMT and Kuhn and Robb (1995); both come down in favour of measurement error.<sup>11</sup> Thus we treat our results for these top two deciles here with considerable skepticism, though we note that this sort of measurement error appears to be considerably more serious in Canada than the U.S. Supporting evidence for the measurement error hypothesis is the fact that the apparently anomalous work behaviour of the top one or two wage deciles, especially in Canada, largely disappears in Table 4, which uses predicted, rather than actual wages to rank workers. The fact that both the employment and unemployment **differences** between the top and bottom wage deciles are considerably higher in Table 4 also suggests measurement error in wages.

Third, still in the cross-sections, we note that the cross-sectional pattern of weeks of unemployment consists, to a very large extent, of a mirror-image of the employment patterns: again with the possible exception of the top two deciles, unemployment falls monotonically with the wage a worker is capable of earning. Like unemployment, nonparticipation in the labour market also rises as we move down the wage distribution, excepting the top one or two deciles where we believe there is a misclassification problem. The cross-sectional patterns of nonemployment, however, exhibit an interesting asymmetry between the two countries. In Canada, nonparticipation generally does not rise as much as unemployment as we move down the wage distribution. In the U.S., especially in 1989, it rises more, indicating that nonparticipation accounts for a larger share of the nonworking time of unskilled U.S. than Canadian men.

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<sup>11</sup>Essentially, the low weeks worked and high unemployment rates in the top decile seem to result from a small number of individuals working very short weeks (1 to 13) per year with annual earnings more on the order of what a full-year worker would receive. This could, for example, represent miscoding of annual earnings as an annual rate of pay.

In Section 2, we argued that aggregate trends in employment and labour force participation are consistent with an account of the Canada-US unemployment gap in men in both countries responded to a decline in market wages by working less. However, despite the fact that the wage decline was somewhat less in Canada, the response was different because of institutional differences between the two countries: Canadian men reduced their labour supply more, and when doing so were more likely to remain in the labour market, labelling their extra nonwork time as unemployment rather than nonparticipation.

What elements do the disaggregated statistics in Tables 3 and 4 add to this “story” of what happened to Canadian and US men between 1973 and 1989? Three main things. First, they confirm that the largest declines in weeks worked did indeed occur in those segments of the wage distribution where wages declined the most: the bottom. In Canada, for example, Table 3 indicates that average weeks worked fell by 0.4 among the top three deciles, while falling by 2.2 among the bottom three; similar patterns are seen in the US, and in Table 4 which incorporates individuals with zero weeks of work. Second, a comparison of Table 3 (which considers workers only) and 4 (which includes full-year nonworkers) suggests that a substantial part of the greater decline in Canadians' weeks of work can be attributed to an increase in the fraction of men working zero weeks per year.<sup>12</sup> Third, the cross-decile pattern of changes in weeks unemployed strongly confirms the impression that the increase in unemployment among Canadian men did *not* result from a shift between unemployment and nonparticipation among nonworking individuals; rather it resulted from a decrease in employment: weeks unemployed increased in exactly the same

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<sup>12</sup>The importance of this zero weeks category in Canada has also been noted by Card and Riddell (1993).

segments of the wage distribution that employment fell, and by very close to the same amount. And finally, as for the aggregate trends, this close correspondence between reductions in employment and increases in unemployment does **not** characterize the U.S.<sup>13</sup> This points out the importance, in accounting for the Canada-US unemployment gap, of differences in the “destinations” of Canadian and US men when they work less: as a group, Canadian men largely left employment for unemployment; the US male labour force on the other hand shifted largely into nonparticipation.

#### **4. The Magnitude of Labour Supply Responses: Are the Declines in Men’s Market Wages Big Enough to Explain the Secular Decrease in Employment?**

In order to assess whether the declines in men’s market wages observed between 1973 and 1989 are sufficient to explain what happened to employment over this period, some independent measure of men’s labour supply elasticities is needed. One such source, suggested by JMT, is the cross-sectional covariation between wages and employment across deciles of the wage distribution. Indeed, JMT present several pieces of evidence to argue that such cross-sectional patterns provide quite a good means of predicting the labour-supply responses of American men to wage changes over time. In this section, we ask whether the actual responses of American **and**

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<sup>13</sup>One potentially helpful way to quantify these statements is the following. Consider two simple models, a “Keynesian” one in which labour force attachment is fixed and all shifts in unemployment result from changes in employment ( $\Delta wksu = -\Delta wksw$ ), and a “relabelling” one in which employment is fixed and all changes in unemployment result from a relabelling of nonworking time ( $\Delta wksu = -\Delta wksn$ ), and use mean absolute deviations to compare the ability of the two models to predict the variation in  $\Delta wksu$  across deciles of the wage distribution. In Table 4, mean absolute deviations of the “Keynesian” and “relabelling” models respectively are .44 and 1.42 for Canada; 1.53 and 1.20 for the U.S. Thus for Canadian males, changes in weeks worked do a much better job of predicting changes in unemployment than do changes in nonparticipation; in the U.S., weeks of nonparticipation actually do somewhat better.



Canadian men to wage changes between 1973 and 1989 correspond to what one would expect from the cross-sectional patterns observed here.

Perhaps the easiest way to see whether the changes in men's work behaviour between 1973 and 1989 is consistent with movements along a cross-sectional labour supply curve is simply to plot the cross-sectional "labour supply" loci from Tables 3 and 4. This is done in Figures 1 and 2 for the "raw" labour supply numbers in Table 3 (which group workers according to their actual wages and exclude those with zero weeks of work) and in Figures 3 and 4 for the Table 4 numbers (based on predicted wages and including those with zero weeks in Figure 4). These figures clearly show the following: with the possible exception of the bottom wage decile (though this exception disappears when we include those with zero weeks), the 1973 and 1989 cross-sectional labour supply loci for the US essentially coincide. The declines in men's weeks of work in the U.S. between 1973 and 1989 are thus entirely consistent with movements along a stable labour supply curve, which is identified from cross-section data. This is consistent with JMT's results, which attribute essentially all the decline in US male employment to such wage declines.

Interestingly, while wage declines clearly seem to play a role in the decline of Canadian male employment between 1973 and 1989, their ability to explain these trends is not as impressive as in the U.S. Instead, except for the top wage decile (which we argue is likely subject to some serious measurement error problems), Canadian men's labour supply locus seems quite clearly to have shifted to the left. In other words, **if we compare Canadian men earning the same real wage in 1989 and in 1973, the men in 1989 will be working significantly less.**<sup>14</sup> Unlike the

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<sup>14</sup>This may be even more surprising given that, because of the decline in real wages, the men in 1989 will be drawn from higher up in the wage distribution. If one believed that tastes for

U.S., therefore, it appears that declining real wages cannot explain **all** the decline in Canadian male employment. Indeed, as Tables 3 and 4 remind us, while the employment declines were concentrated in the bottom wage deciles, there were substantial employment declines, and unemployment increases, even in the top and middle of the Canadian wage distribution, where wage declines were absent or insubstantial. Clearly a JMT-style ‘labour supply response’ model cannot explain these changes. We conclude that any **complete** explanation of the secular increase in Canadian unemployment must also be able to account for the substantial decreases in employment occurring quite high up in the Canadian male wage distribution, which cannot be explained by wage polarization.

##### **5. Trends across recession years: 1975/77-1992.**

In this section we replicate most of the results in the previous sections, which focused on “full employment” years, for years in which the unemployment rate reached a local maximum, before and after the emergence of the Canada-US unemployment gap. The years considered are 1992 in both countries, 1975 in the US, and 1977 in Canada. While --because of the widely touted greater severity of the 1992 recession in Canada than the U.S-- perhaps not as informative about secular changes in unemployment rates, these figures give us some idea of more recent developments in the structure of wages, employment and unemployment patterns in these two countries, and of whether more recent trends are consistent with the patterns identified in previous sections.

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work were positively correlated with rank in the wage distribution, one would expect these men to work **more** at the same wage.

Table 5 presents summary statistics on wage polarization, analogous to Table 1. It shows the same pattern of wage polarization observed before; the main difference is considerably greater real wage declines in Canada than were seen up to 1989. Aggregate trends in employment and unemployment between 1975/77 and 1992 are shown in Table 6. Like the earlier period, these show a substantial decline in Canadian employment (4.3 weeks), most of which took the form of increased unemployment (3.1 weeks). The main difference for Canada is the size of these changes, reflecting the widening of the Canada-US unemployment gap in the 1990's. As in the comparison of full employment years, unemployment of US men remained essentially unchanged. Most surprisingly, however, there is now also essentially no change in the **employment** levels of US men between 1975 and 1992, despite the very large real wage declines between these two years observed in Table 5.

The disaggregated statistics of Tables 7 and 8 replicate many of the trends found in Tables 3 and 4. For example, we again see the strong link between wage declines and employment declines in Canada: declines in weeks worked are strongly concentrated in those wage deciles which experienced the largest wage declines. As for 1973-89, however, Figures 5 and 7 show that the employment declines are greater than what one would expect based on cross-sectional patterns: the cross-section labour supply locus shifts leftwards between these two years, and especially in the upper wage deciles, there are declines in employment that apparently cannot easily be "explained" by falling real wages. Tables 7 and 8 also show, once again, the strong link between employment declines and increases in **unemployment** in Canada: those deciles with the biggest employment declines had the biggest increased in unemployment. Finally, we again see the absence of a strong link between employment changes and unemployment changes in the

U.S. The main new feature of the 1975-92 comparisons, as suggested by the aggregate figures, is the apparent absence of a link between wage declines and declines in employment in the U.S. Indeed, although there appears to be some tendency for men in the top deciles to work more, and those in the bottom deciles to work less, the most striking feature of Tables 7 and 8 concerns men in the bottom deciles: **even those U.S. men in the bottom wage deciles, whose real wages fell by a quarter over this period, did not work significantly less in 1992 than in 1975.** Unless this phenomenon, which shows up in Figures 6 and 8 as an **outward** shift in the US cross-sectional labour supply locus, can be convincingly shown to result from differences in the severity of the two recessions in the U.S., it again casts some doubt on the ability of wage changes alone to explain employment changes over time.

In sum, examination of changes between the 1975/77 and 1992 recessions reveals a number of patterns that confirm our findings for the 1973-1989 business cycle peaks, including the pattern of wage changes in the two countries, and the apparent link between these wage changes and both employment and unemployment in Canada. They also raise some interesting new puzzles, including the question of why U.S. male employment did not fall despite the large wage declines experienced there, and why Canadian male employment fell much more than would be suggested by the cross-sectional pattern of wages and weeks worked in that country. While some of the answers to these questions may involve purely cyclical factors, they would seem to warrant further study, perhaps using more years of data, or data disaggregated by region, to try to get a better understanding of the effects of cyclical versus secular changes.

## **6. Summary.**

In this paper we have examined the role played by the declining demand for unskilled labour, in combination with differences in the institutional structure of the Canadian and US labour markets, in the emergence of the Canada-US unemployment rate gap among prime-age men in the 1980's. A key hypothesis which we wanted to assess is linked with recent positions taken by the OECD, and runs roughly as follows. First, (because of factors like skill-biased technical change) the demand for unskilled labour fell in both countries, leading to a substantial decline in wages available to these workers. Further, because of the more generous Canadian social safety net, Canadian men were more likely to respond to this decline in offered wages by leaving employment than U.S. men, who had little choice but to continue working at lower wages.

Overall, we find a number of trends in wages, employment, and unemployment across skill levels in Canada and the U.S. which suggest that declining skill demand played some role in both rising Canadian unemployment and the emergence of the unemployment gap over this period. Annual weeks of work did indeed fall in both countries precisely in those segments of the population (unskilled workers) where wages were falling the most. Also consistent with the OECD story, both in the aggregate and across segments of the wage distribution, employment fell **more** in response to a smaller wage decline in Canada than in the US. Further, at least in Canada this decline in employment corresponded quite closely to an increase in weeks of unemployment.

Our analysis in this paper however also indicates quite clearly that the JMT/OECD story cannot by itself explain all of what went on over this period, for two reasons. First, the relatively small decline in **US** employment between 1973 and 1989 was not accompanied by an increase in unemployment: instead unskilled US men seem to have left the labour market in large numbers when their employment fell, while unskilled Canadian men did not, pointing to a role for

differences in the labelling of this **additional** nonworking time in explaining the Canada-US unemployment gap. Second, unlike the US --where the cross-section association between wages and weeks of work yields a surprisingly good prediction of the effect of wage declines over time--, the declines in Canadian male employment between 1973 and 1989 are greater than what one would expect based on cross-sectional patterns. This apparent cross-national difference **in the relationship between cross-sectional and time-series labour supply patterns**, which is seen even more strongly in data comparing the 1975/77 and 1992 recessions, poses an interesting puzzle for further research on this subject. Indeed, we view such research as essential to producing a more precise, quantitative estimate of the role of shifting skill demand in the emergence of the Canada-US unemployment gap.

## REFERENCES

- Ashenfelter, O. and D. Card, "Why Have Unemployment Rates in Canada and the U.S. Diverged?" *Economica* 53 (1986): S171-S195.
- Card, D. and C. Riddell, "A Comparative Analysis of Unemployment in Canada and the United States", in D. Card and R. Freeman, eds., *Small Differences that Matter: Labor Markets and Income Maintenance in Canada and the United States*, Chicago: University of Chicago Press, 1993.
- Card, D. and C. Riddell, "Unemployment in Canada and the United States: A Further Analysis", Princeton University Industrial Relations Section, working paper no. 352, November 1995.
- Freeman, R. B. "Are Your Wages Set in Beijing?" *Journal of Economic Perspectives* 9 (Summer 1995): 15-32.
- Juhn, C., K.M. Murphy, and R.H. Topel, "Why has the Natural Rate of Unemployment Increased over Time", *Brookings Papers on Economic Activity*, 2:1991.
- Katz, L., and K. Murphy, "Changes in Relative Wages, 1963-1987: Supply and Demand Factors" *Quarterly Journal of Economics* 107 (February 1992): 35-78.
- Kuhn, P. and A. L. Robb, "Unemployment, Skill and Labour Supply: Evidence from Canadian Microdata, 1971-1991", McMaster University working paper no. 95-11, September 1995.
- Milbourne, R., D. Purvis, and D. Scoones, "Unemployment Insurance and Unemployment Dynamics", *Canadian Journal of Economics* 24 (1991): 804-26.
- OECD, *The OECD Jobs Study: Evidence and Explanations*, Paris: OECD, 1994.

## APPENDIX 1: DEFINITIONS OF RETROSPECTIVE WEEKS WORKED AND WEEKS UNEMPLOYED

### WEEKS WORKED IN THE REFERENCE YEAR: CPS 1973, 75, 89 & 92

Persons are classified according to the number of different weeks, during the preceding calendar year, in which they did any civilian work for pay or profit (including paid vacations and sick leave) or worked without pay on a family operated farm or business.

### WEEKS WORKED IN THE REFERENCE YEAR: SCF 1973, 77, 89 & 92

This variable gives the actual number of weeks in which the individual did any work in the reference year. Included in weeks worked are:

- (a) the number of weeks in which the person did any work, either part-time or full-time;
- (b) the number of weeks the person had a job but was not at work due to holidays, vacation, illness, maternity leave, strike or lock-out;
- (c) the number of weeks a person was self-employed; and
- (d) the number of weeks a person had a job but was absent with pay (e.g. for job-related training, etc.)

### WEEKS UNEMPLOYED IN THE REFERENCE YEAR: CPS 1973, 75, 89 & 92

Persons are classified according to the number of weeks in the preceding year in which they were unemployed. Unemployed persons are those civilians who, during the survey week, have no employment but are available for work, and (1) have engaged in any specific job seeking activity within the past 4 weeks such as registering at a public or private employment office, meetings with prospective employers, checking with friends or relatives, placing or answering advertisements, writing letters of application, or being on a union or professional register; (2) are waiting to be called back to a job from which they had been laid off; or (3) are waiting to report to a new wage or salary job within 30 days.

### WEEKS UNEMPLOYED IN THE REFERENCE YEAR: SCF 1973, 75, 89 & 92

This variable gives the actual number of weeks during the reference year in which the individual did no work but looked for work. Weeks in which the individual did any work, even for one hour only, but looked for work the rest of the week, are counted as weeks worked. Unemployed persons are those who during the reference week: (a) were without work, had actively looked for work and were available for work; (b) were not actively looking for work but had been on layoff for twenty-six weeks or less and were available for work; or (c) were not actively looking work but had a new job to start in four weeks or less from the reference week, and were available for work.



TABLE 1: Measures of Real Wage Changes, Men Aged 25-54, 1973-1989

(a) Percentiles of Real Annual Earnings,  
Men working Full time and Full year.

	Percentile	1973	1989	% Change
CANADA	90	\$61,271	\$63,924	4.3%
	50	\$36,295	\$37,558	3.5%
	10	\$19,272	\$16,670	-13.5%
USA	90	\$75,378	\$75,972	0.8%
	50	\$42,435	\$38,653	-8.9%
	10	\$21,977	\$16,660	-24.2%

(b) Percentiles of Average Weekly Earnings,  
Men working Full time.

	Percentile	1973	1989	% Change
CANADA	90	\$1,204	\$1,236	2.7%
	50	\$698	\$705	1.1%
	10	\$356	\$286	-19.5%
USA	90	\$1,460	\$1,437	-1.5%
	50	\$803	\$687	-14.5%
	10	\$365	\$267	-27.0%

NOTES In these and the following tables, Canadian Data comes from the Survey of Consumer Finances (SCF) while the U.S. data comes from the Current Population Survey (CPS). Both draw on microdata files. Values are all in 1992 Canadian Dollars, converted using the Canadian and U.S. all items Consumer Price Indexes and the PENN World Tables (vers 5.6) Purchasing Power Parity series.

TABLE 2: Annual Weeks Worked, Unemployed and Out of the Labour Force  
Canada and the U.S., 1973 and 1989.

		1973	1989	Change
CANADA	WksW	46.9	44.8	-2.1
	WksU	1.9	3.6	1.7
	WksN	3.2	3.6	0.4
USA	WksW	45.9	44.9	-1.0
	WksU	2.1	1.8	-0.3
	WksN	4.0	5.3	1.3

TABLE 3: Mean Wages, Weeks Worked and Unemployed, 1973-1989,  
by Percentiles of the Real Weekly Earnings Distribution:  
Men with positive weeks worked.

Decile Group	1973				1989				1973-1989 Changes			
	Wage	WksW	WksU	WksN	Wage	WksW	WksU	WksN	Wage (%)	WksW	WksU	WksN
90-100	\$ 1,701	47.2	1.7	3.1	\$ 1,698	46.3	3.6	2.1	0%	-0.9	1.9	-1.0
80-90	\$ 1,079	48.4	1.3	2.3	\$ 1,122	48.9	1.7	1.4	4%	0.4	0.4	-0.8
70-80	\$ 921	49.2	1.1	1.7	\$ 961	48.5	2.0	1.5	4%	-0.7	0.9	-0.2
60-70	\$ 818	49.2	1.1	1.7	\$ 847	48.7	2.1	1.3	4%	-0.5	1.0	-0.5
50-60	\$ 737	49.2	1.1	1.7	\$ 748	48.4	2.4	1.2	1%	-0.9	1.3	-0.4
40-50	\$ 665	49.1	1.3	1.6	\$ 662	48.5	2.2	1.2	-1%	-0.6	1.0	-0.4
30-40	\$ 595	49.0	1.5	1.6	\$ 569	47.2	3.3	1.5	-4%	-1.8	1.8	0.0
20-30	\$ 517	48.1	2.0	1.9	\$ 473	45.7	4.6	1.7	-8%	-2.4	2.6	-0.2
10-20	\$ 416	46.8	3.1	2.1	\$ 353	44.7	5.4	1.9	-15%	-2.2	2.4	-0.2
0-10	\$ 243	46.1	3.2	2.7	\$ 181	43.5	5.5	2.9	-25%	-2.6	2.3	0.2
All Deciles	\$ 769	48.2	1.7	2.0	\$ 761	47.0	3.3	1.7	-1%	-1.2	1.6	-0.4

## USA

90-100	\$ 2,113	48.7	1.3	2.0	\$ 2,062	48.6	1.0	2.4	-2%	-0.1	-0.3	0.4
80-90	\$ 1,311	49.4	1.6	1.0	\$ 1,256	48.9	1.0	2.1	-4%	-0.5	-0.6	1.1
70-80	\$ 1,095	49.3	1.3	1.4	\$ 1,025	49.4	0.8	1.8	-6%	0.0	-0.5	0.4
60-70	\$ 956	49.1	1.8	1.1	\$ 874	49.6	0.7	1.7	-9%	0.6	-1.1	0.6
50-60	\$ 853	49.8	1.2	1.0	\$ 753	48.9	1.3	1.9	-12%	-1.0	0.1	0.9
40-50	\$ 761	49.6	1.1	1.3	\$ 641	49.0	1.1	1.9	-16%	-0.6	0.0	0.6
30-40	\$ 678	49.2	1.7	1.1	\$ 540	48.8	1.3	2.0	-20%	-0.4	-0.4	0.8
20-30	\$ 572	48.8	2.3	0.9	\$ 443	47.0	2.2	2.8	-23%	-1.8	-0.1	1.9
10-20	\$ 443	47.7	3.2	1.0	\$ 334	45.8	2.8	3.4	-25%	-1.9	-0.5	2.4
0-10	\$ 207	46.7	5.5	-0.2	\$ 169	41.5	4.5	6.0	-18%	-5.1	-1.1	6.2
All Deciles	\$ 899	48.8	2.1	1.1	\$ 810	47.8	1.7	2.6	-10%	-1.1	-0.5	1.5

TABLE 4: Mean Wages, Weeks Worked and Unemployed, 1973-1989,  
by Percentiles of the Predicted Wage Distribution, All Men.

Decile Group	1973				1989				1973-1989 Changes			
	Wage	WksW	WksU	WksN	Wage	WksW	WksU	WksN	Wage (%)	WksW	WksU	WksN
90-100	\$1,118	48.4	0.6	3.0	\$1,157	48.8	0.9	2.3	3%	0.4	0.3	-0.7
80-90	\$908	49.0	0.8	2.3	\$859	48.0	1.5	2.5	-5%	-1.0	0.8	0.2
70-80	\$824	48.7	0.6	2.7	\$817	46.8	2.1	3.1	-1%	-1.9	1.5	0.4
60-70	\$802	48.7	0.9	2.4	\$754	47.3	2.3	2.4	-6%	-1.3	1.4	0.0
50-60	\$749	48.2	1.2	2.6	\$718	46.6	2.3	3.1	-4%	-1.6	1.2	0.5
40-50	\$694	48.2	1.4	2.4	\$655	45.0	3.7	3.3	-6%	-3.2	2.3	0.9
30-40	\$647	46.8	1.8	3.3	\$632	43.9	4.4	3.7	-2%	-3.0	2.6	0.3
20-30	\$608	45.6	2.9	3.6	\$605	42.6	5.7	3.7	-1%	-3.0	2.8	0.2
10-20	\$570	44.7	3.6	3.7	\$554	41.5	5.9	4.7	-3%	-3.2	2.3	0.9
0-10	\$480	41.1	5.1	5.7	\$439	37.1	7.3	7.6	-9%	-4.1	2.2	1.9
All Deciles	\$740	46.9	1.9	3.2	\$719	44.8	3.6	3.6	-3%	-2.2	1.7	0.4
USA												
90-100	\$1,328	48.6	0.8	2.7	\$1,291	48.9	0.7	2.5	-3%	0.3	-0.1	-0.2
80-90	\$1,093	47.8	1.0	3.1	\$1,037	48.2	0.9	3.0	-5%	0.3	-0.2	-0.2
70-80	\$954	47.5	1.5	3.1	\$923	47.7	1.0	3.3	-3%	0.2	-0.5	0.3
60-70	\$895	47.2	1.9	2.9	\$827	46.2	1.3	4.4	-8%	-1.0	-0.5	1.5
50-60	\$831	46.8	1.7	3.5	\$761	46.1	1.8	4.2	-8%	-0.7	0.1	0.7
40-50	\$792	46.3	2.1	3.6	\$673	44.9	1.9	5.1	-15%	-1.4	-0.1	1.5
30-40	\$751	45.5	2.6	3.9	\$631	43.9	1.9	6.2	-16%	-1.6	-0.7	2.3
20-30	\$699	45.1	2.6	4.2	\$564	44.4	2.3	5.3	-19%	-0.8	-0.3	1.1
10-20	\$604	43.6	2.9	5.5	\$492	41.3	2.9	7.8	-19%	-2.3	0.0	2.3
0-10	\$462	41.0	4.0	7.0	\$379	37.5	3.2	11.2	-18%	-3.4	-0.7	4.2
All Deciles	\$841	45.9	2.1	4.0	\$758	44.9	1.8	5.3	-10%	-1.0	-0.3	1.3

TABLE 5: Measures of Real Wage Changes, Men Aged 25-54, 1975/77 - 1992

(a) Percentiles of Real Annual Earnings,  
Men working Full time and Full year

	Percentile	1975/77	1992	% Change
CANADA	90	\$64,427	\$65,000	0.9%
	50	\$39,705	\$37,856	-4.7%
	10	\$19,982	\$16,500	-17.4%
USA	90	\$72,149	\$73,036	1.2%
	50	\$39,991	\$35,340	-11.6%
	10	\$20,782	\$15,314	-26.3%

(b) Percentiles of Average Weekly Earnings,  
Men working Full time

	Percentile	1975/77	1992	% Change
CANADA	90	\$1,268	\$1,243	-2.0%
	50	\$751	\$692	-7.9%
	10	\$352	\$288	-18.2%
USA	90	\$1,359	\$1,359	0.0%
	50	\$765	\$662	-13.5%
	10	\$361	\$271	-24.9%

The base year for Canada is 1977 and for the USA is 1975.

TABLE 6: Annual Weeks Worked, Unemployed and Out of the Labour Force

		1975/77	1992	
CANADA	WksW	47.1	42.8	-4.3
	WksU	2.5	5.6	3.1
	WksN	2.4	3.6	1.2
USA	WksW	44.4	44.1	-0.3
	WksU	2.9	3.0	0.1
	WksN	4.7	4.9	0.2

TABLE 7: Mean Wages, Weeks Worked and Unemployed, 1975/77 - 1992,,  
by Percentiles of the Real Weekly Earnings Distribution,  
Men with Positive Weeks Worked.

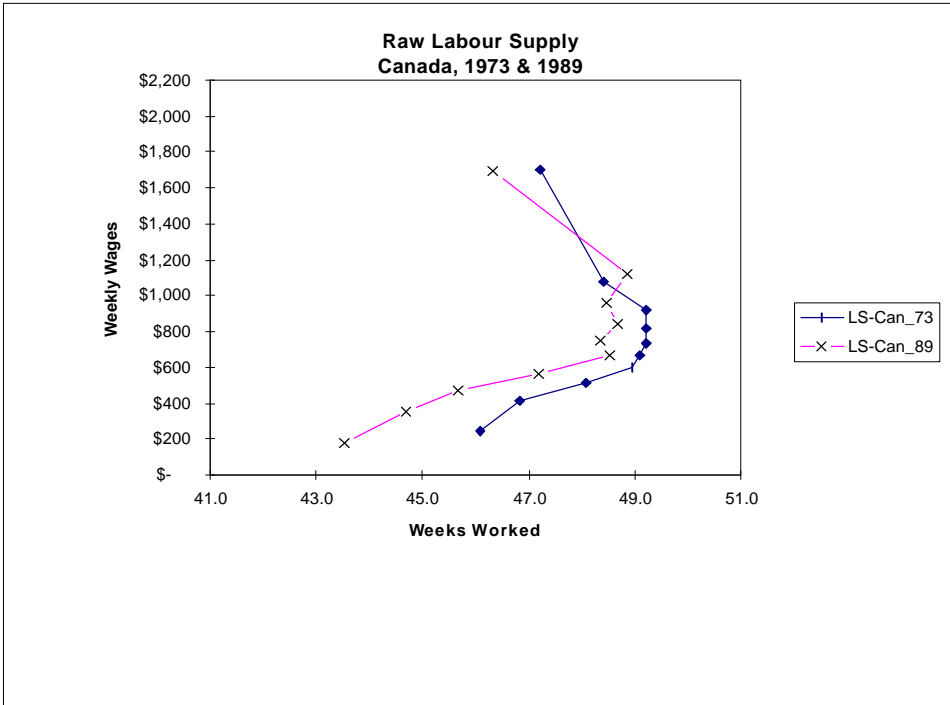
Decile Group	1975/1977				1992				1975/77-1992 Changes			
	Wage	WksW	WksU	WksN	Wage	WksW	WksU	WksN	Wage (%)	WksW	WksU	WksN
<i>CANADA</i>												
90-100	\$1,760	46.0	3.1	2.9	\$1,722	47.2	4.1	0.7	-2%	1.2	1.0	-2.2
80-90	\$1,136	50.1	1.4	0.5	\$1,117	49.4	2.3	0.3	-2%	-0.7	0.9	-0.2
70-80	\$980	50.1	1.2	0.7	\$956	48.7	3.0	0.3	-2%	-1.4	1.8	-0.4
60-70	\$876	50.3	1.3	0.4	\$838	49.0	2.5	0.5	-4%	-1.3	1.2	0.1
50-60	\$791	50.1	1.3	0.6	\$742	48.3	3.5	0.2	-6%	-1.8	2.2	-0.4
40-50	\$714	50.3	1.2	0.5	\$654	48.4	3.2	0.4	-9%	-1.9	2.0	-0.1
30-40	\$635	49.9	1.6	0.5	\$563	47.1	4.2	0.7	-11%	-2.8	2.6	0.2
20-30	\$548	49.0	2.3	0.7	\$470	45.7	5.1	1.2	-14%	-3.3	2.8	0.5
10-20	\$432	47.4	3.4	1.2	\$357	44.8	6.4	0.8	-17%	-2.6	3.0	-0.4
0-10	\$212	45.7	4.6	1.7	\$179	43.0	7.0	2.0	-16%	-2.7	2.4	0.3
All Deciles	\$808	48.9	2.1	1.0	\$760	47.2	4.1	0.7	-6%	-1.7	2.0	-0.3
<i>USA</i>												
90-100	\$1,975	48.8	1.5	1.7	\$1,878	49.7	1.3	1.0	-5%	0.9	-0.2	-0.6
80-90	\$1,205	49.2	1.6	1.1	\$1,195	50.2	1.3	0.6	-1%	0.9	-0.4	-0.5
70-80	\$1,018	49.4	1.8	0.8	\$965	50.3	1.0	0.6	-5%	1.0	-0.8	-0.2
60-70	\$900	49.3	1.8	0.9	\$826	49.9	1.3	0.7	-8%	0.7	-0.5	-0.2
50-60	\$805	49.2	1.9	0.9	\$708	49.5	1.6	0.9	-12%	0.3	-0.3	0.0
40-50	\$715	49.2	1.9	0.9	\$607	49.3	1.7	1.0	-15%	0.1	-0.2	0.1
30-40	\$628	48.7	2.2	1.1	\$512	47.6	3.0	1.4	-18%	-1.1	0.8	0.3
20-30	\$544	47.9	2.8	1.3	\$417	47.6	2.8	1.6	-23%	-0.3	0.0	0.3
10-20	\$433	45.8	4.3	1.9	\$319	46.1	4.0	1.9	-26%	0.3	-0.2	-0.1
0-10	\$251	43.6	5.0	3.5	\$182	41.9	6.7	3.5	-27%	-1.7	1.7	0.0
All Deciles	\$847	48.1	2.5	1.4	\$761	48.2	2.5	1.3	-10%	0.1	0.0	-0.1

TABLE 8: Mean Wages, Weeks Worked and Unemployed, 1975/77 - 1992,  
by Percentiles of the Predicted Wage Distribution, All Men.

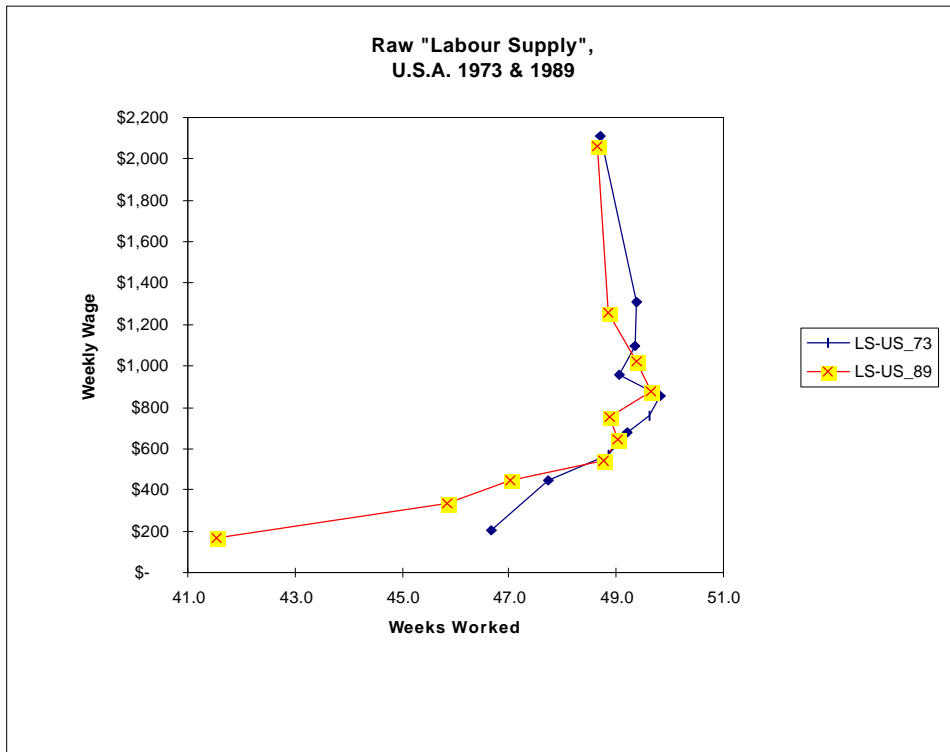
Decile Group	1975/1977				1992				1975/77-1992 Changes			
	Wage	WksW	WksU	WksN	Wage	WksW	WksU	WksN	Wage (%)	WksW	WksU	WksN
<i>CANADA</i>												
90-100	\$1,072	49.7	0.8	1.5	\$1,092	48.5	2.2	1.3	2%	-1.2	1.4	-0.2
80-90	\$919	49.8	1.0	1.3	\$835	47.1	3.1	1.8	-9%	-2.7	2.2	0.5
70-80	\$846	49.6	1.2	1.2	\$769	45.5	4.0	2.5	-9%	-4.1	2.8	1.3
60-70	\$807	49.4	1.3	1.2	\$700	46.0	3.9	2.1	-13%	-3.4	2.5	0.9
50-60	\$756	48.4	2.1	1.5	\$654	44.7	4.5	2.8	-13%	-3.7	2.4	1.3
40-50	\$729	47.7	2.1	2.2	\$598	42.7	5.5	3.8	-18%	-4.9	3.4	1.5
30-40	\$704	46.7	2.7	2.6	\$544	41.6	5.8	4.6	-23%	-5.1	3.0	2.1
20-30	\$652	45.0	4.0	3.0	\$507	39.6	8.1	4.3	-22%	-5.3	4.1	1.2
10-20	\$626	44.7	4.3	3.0	\$441	37.5	8.8	5.7	-30%	-7.1	4.5	2.7
0-10	\$515	40.3	5.6	6.0	\$363	35.0	10.0	7.0	-29%	-5.3	4.4	1.0
All Deciles	\$763	47.1	2.5	2.4	\$650	42.8	5.6	3.6	-15%	-4.3	3.1	1.2
<i>USA</i>												
90-100	\$1,240	48.2	1.0	2.9	\$1,221	49.0	1.1	1.9	-2%	0.8	0.1	-0.9
80-90	\$1,005	47.6	1.4	3.0	\$920	47.8	1.7	2.5	-8%	0.2	0.3	-0.5
70-80	\$869	46.9	2.1	2.9	\$838	47.4	1.8	2.8	-3%	0.4	-0.3	-0.1
60-70	\$814	46.0	2.4	3.6	\$721	44.8	2.5	4.7	-11%	-1.2	0.1	1.1
50-60	\$751	45.7	2.6	3.7	\$657	44.8	2.9	4.2	-13%	-0.9	0.3	0.5
40-50	\$725	45.7	2.3	4.0	\$595	44.5	3.0	4.5	-18%	-1.2	0.7	0.5
30-40	\$661	43.4	3.7	4.9	\$556	43.1	3.4	5.6	-16%	-0.4	-0.3	0.7
20-30	\$607	42.8	3.6	5.6	\$487	41.6	3.9	6.5	-20%	-1.2	0.3	0.9
10-20	\$549	41.0	4.6	6.4	\$415	40.8	4.5	6.7	-24%	-0.3	-0.1	0.3
0-10	\$425	36.9	5.1	10.0	\$316	36.8	5.5	9.8	-26%	-0.1	0.4	-0.3
All Deciles	\$765	44.4	2.9	4.7	\$673	44.1	3.0	4.9	-12%	-0.4	0.1	0.2



FIGURES 1 and 2

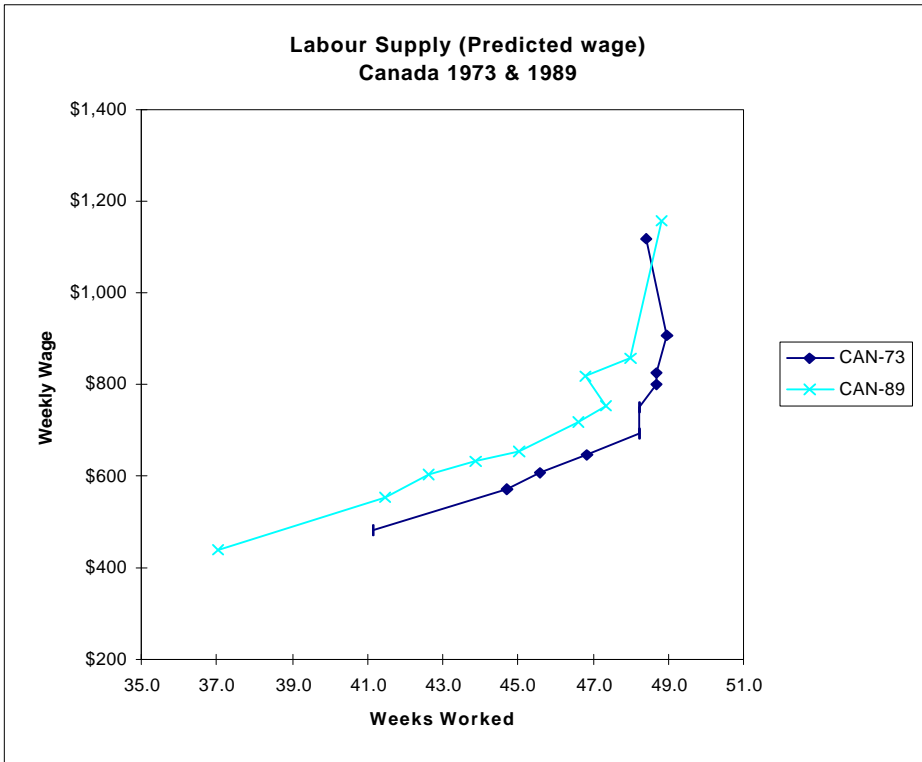


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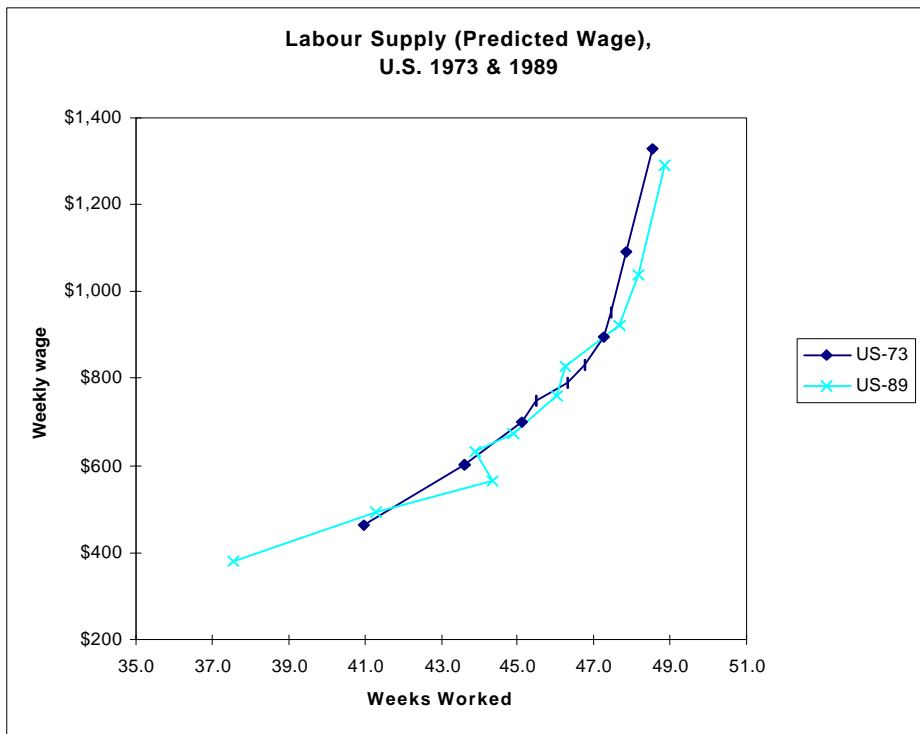


2

FIGURES 3 and 4

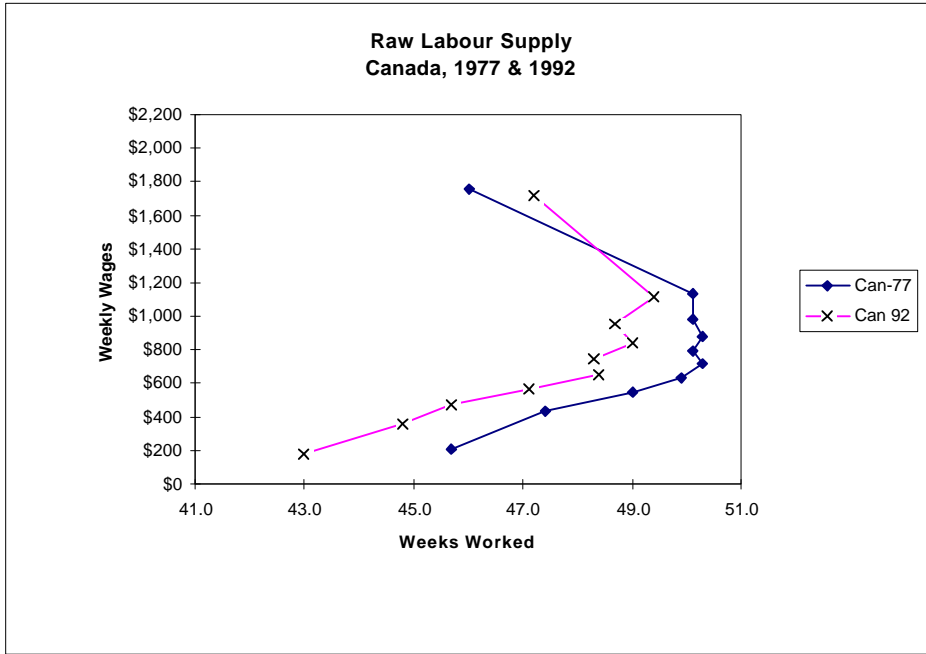


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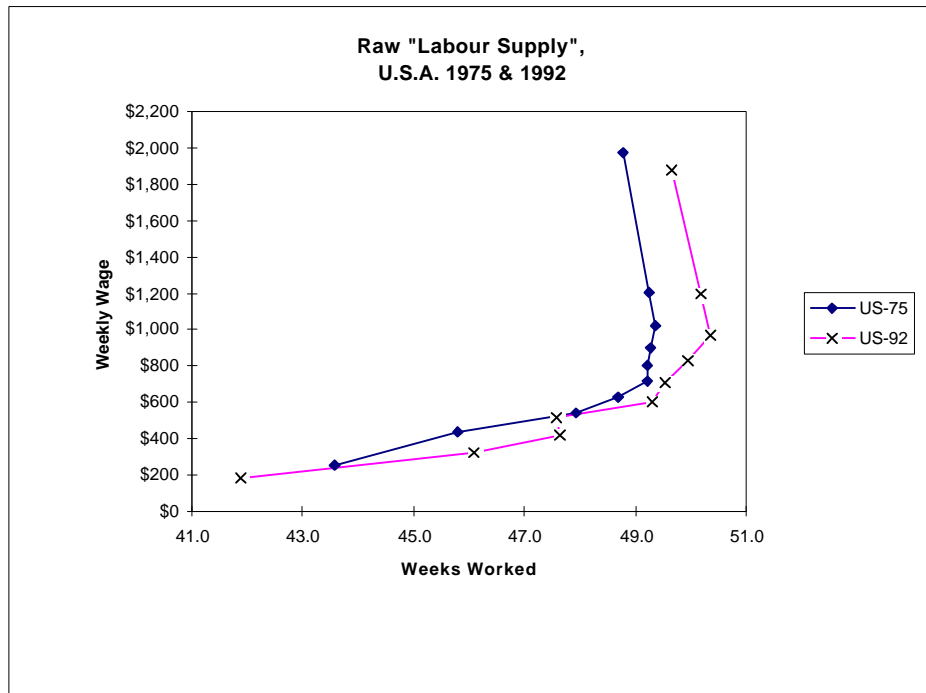


4

FIGURES 5 and 6

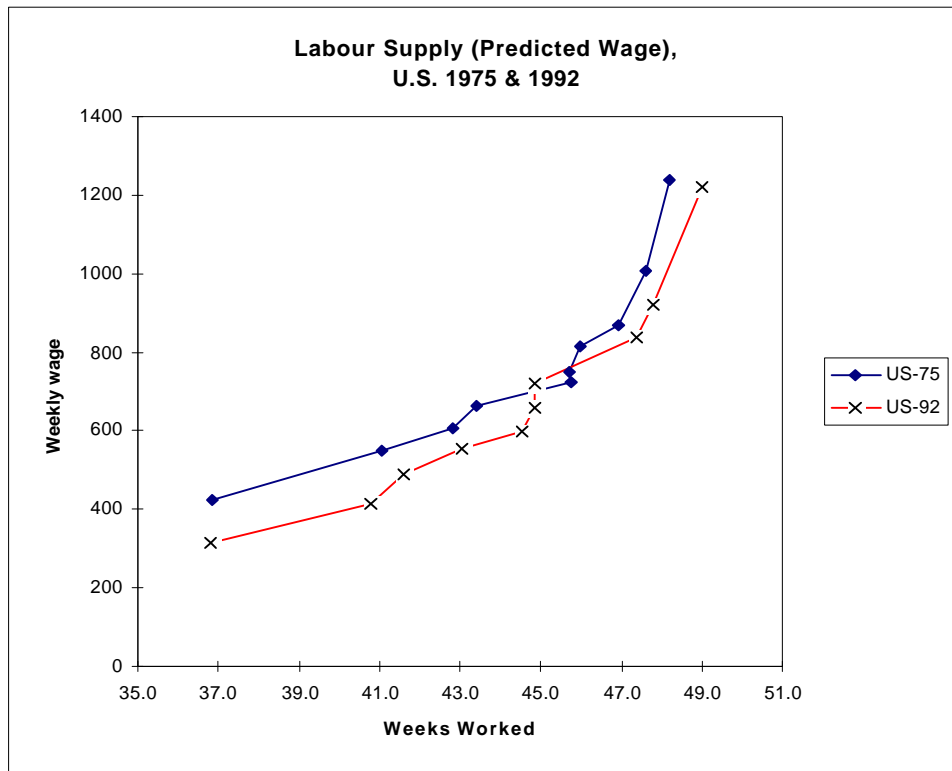
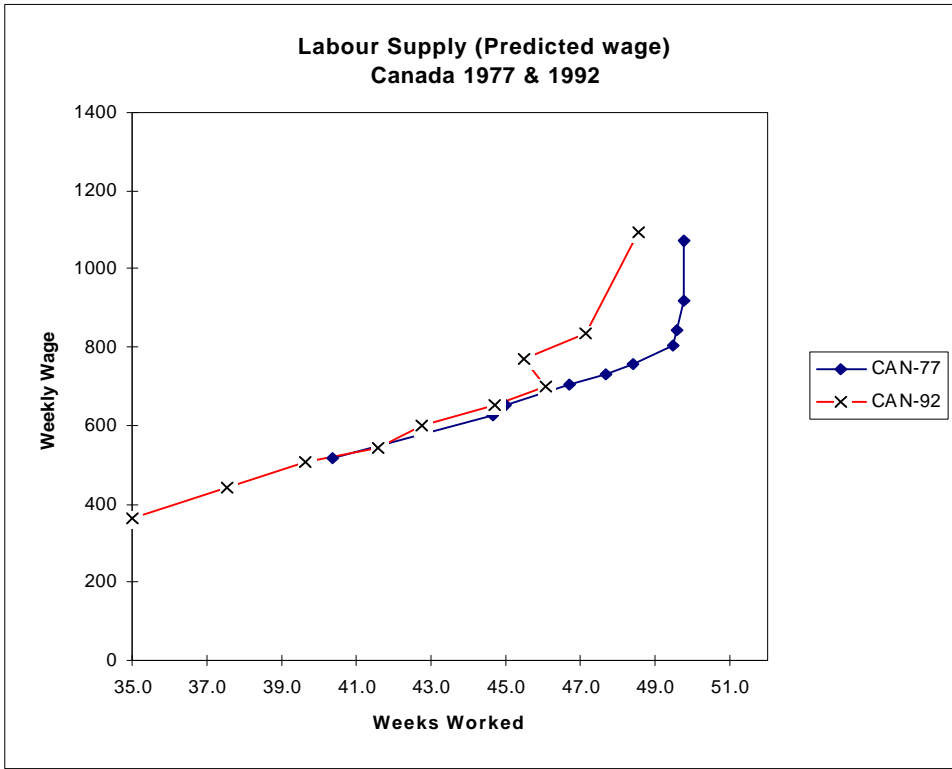


5



6

FIGURES 7 and 8



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