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Adapting to Circumstances
The Evolution of Work, School, and Living Arrangements among North American Youth

David Card and Thomas Lemieux

The past three decades have witnessed a series of challenges to the economic well-being of youths in Canada and the United States. During the 1960s and early 1970s the baby boom led to a substantial increase in the fraction of young people in the population. This massive supply shock is generally thought to have exerted downward pressure on the relative earnings of younger workers. In the late 1970s, just as the demographic bulge began to subside, the demand side turned against less skilled workers, resulting in falling real wages for youths and other groups at the bottom of the labor market (see Levy and Murnane 1992). Meanwhile, secular trends in family structure, including the rise in the fraction of children born out of wedlock and increasing divorce rates, have also worked to the relative disadvantage of youths.[1]

In this paper we take advantage of the rich microdata sets available for the United States and Canada to study the responses of young workers to

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1. Eggenbeen and Lichter (1991) conclude that changes in family structure between 1960 and 1988 account for a substantial fraction of the rise in child poverty rates in the United States over the period.

the external labor market forces that have affected the two countries over the past 25 years. Our key hypothesis is that young workers adjust to changes in labor market opportunities through a variety of mechanisms, including changes in living arrangements, changes in school enrollment, and changes in work effort. A comparative perspective offers at least two distinct benefits for evaluating this hypothesis. First, since the nature and timing of cyclical and secular shocks in the United States and Canada are slightly different, we gain valuable leverage for measuring the responses to these shocks. Second, a comparative perspective makes it immediately clear which modes of behavior are driven by country-specific policies or factors and which are attributable to broader forces.

Section 4.1 of the paper provides a descriptive overview of youth behavior in the two countries. Looking at such diverse outcomes as the fraction of youths who live with their parents and the fraction who work while attending school, we find similar behavior in the United States and Canada, with a general tendency toward *convergence* in outcomes over the period 1970–90. In particular, school enrollment rates, which were traditionally lower in Canada than in the United States, are now slightly *higher* in Canada. Very recently, U.S.-Canadian differences have been accentuated by the prolonged and severe recession in Canada. Some differences in family structure—associated with the higher fraction of female-headed families in the United States—stand out. Other differences arise because the distribution of family income has been more stable in Canada while widening sharply in the United States.[2]

In section 4.2 we develop and estimate a series of models for a variety of youth outcomes. Traditionally, economists have focused on youth employment or unemployment. Consistent with much of the existing literature, we interpret variation in youth employment as arising mainly from the demand side. On the supply side, we shift attention to three other behavioral outcomes that provide important mechanisms for adapting to external shocks: the decision to continue living with one's parents, the decision to attend school, and the decision to receive welfare benefits. Building on a standard choice framework, we emphasize two key "exogenous" variables: the wage rate available to young workers in the local labor market and a measure of cyclical conditions in the local labor market. We take as our unit of observation the set of individuals of a given gender and age in a specific regional market. This group-level analysis helps to solve a number of econometric issues (associated with the measurement of wages for nonworkers) while retaining substantial variation in the exogenous variables across observations. We use a pooled data set based on six prov-

2. This observation has been made by many other researchers, e.g., Blackburn and Bloom (1993).

inces/regions in Canada and nine census divisions in the United States over the period 1971–94 to estimate our models.

The results of our analysis suggest that youths in the United States and Canada exhibit a multidimensional response to changing labor market conditions. As in most of the literature, we find that the traditional focus of economists' interest—youth employment—is highly responsive to local cyclical conditions but relatively insensitive to changes in wages. But other aspects of youth behavior are also affected by local labor market conditions. In particular, "home leaving" behavior and enrollment decisions are relatively sensitive to cyclical conditions and to the relative level of youth wages.

4.1 An Overview of Youth Labor Markets and Outcomes

4.1.1 Aggregate Labor Market Data

We begin with an aggregate overview of youth labor markets in Canada and the United States. Columns (1), (2), and (3) of table 4.1 present data on the fraction of young workers in the population, the civilian labor force, and civilian employment.[3] In both the United States and Canada the youth share of population peaked around 1980 and has fallen steadily since then. Similar patterns hold for the labor force and for employment. A longer term perspective on the effect of the baby boom on employment shares is provided in figure 4.1, which plots the relative sizes of different age groups over the period since 1950. After a decade of stability in the 1950s, the fraction of jobs held by youths rose by over 200 percent in both countries from 1960 to 1980. The fractions of jobs held by the 25–34 and 35–44 age groups follow parallel paths with 10 and 20 year lags, respectively.[4]

Despite the relative supply shock created by the baby boom, the economies of Canada and the United States were able to create jobs for young workers at roughly comparable paces. Thus the ratio of the youth employment-population rate to the overall employment-population rate was constant (or even rising) in both countries over the 1970s and 1980s. Another aspect of the supply side that underlies the data in table 4.1 is the rising

3. The addition of members of the armed forces to the population and labor force has a modest effect on the trends in the data in table 4.1. E.g., there were roughly 500,000 fewer members of the armed forces in the United States in 1980 or 1990 than in 1970. Assuming that 80 percent of the difference were aged 16–24, the addition of armed forces members would raise the employment-population rate in 1970 (relative to later years) by 0.6 percentage points.

4. The sharp decline in the employment share of the 15–24 age group in the 1990s in Canada is due to the recession, which led to an unprecedented drop in the youth employment-population rate.

Table 4.1 **Basic Data on Relative Labor Force Status of Youths**

Year	Youth Share				Labor Force Participation Rate			Employment-Population Rate			Unemployment Rate		
	Pop. (1)	LF (2)	Emp. (3)	Unemp. (4)	Youth (5)	All (6)	Youth/All (7)	Youth (8)	All (9)	Youth/All (10)	Youth (11)	All (12)	Youth/All (13)
United States, ages 16–24													
1970	.22	.22	.20	.48	59.8	60.4	.99	53.2	57.4	.93	11.0	4.9	2.23
1975	.23	.24	.22	.45	64.6	61.2	1.06	54.2	56.1	.97	16.1	8.5	1.90
1980	.23	.23	.21	.45	68.1	63.8	1.07	58.7	59.2	.99	13.8	7.1	1.94
1985	.19	.21	.19	.39	68.3	64.8	1.05	59.0	60.1	.98	13.6	7.2	1.89
1990	.17	.17	.16	.35	67.3	66.4	1.01	59.8	62.7	.95	11.2	5.5	2.02
1995	.16	.16	.15	.35	66.3	66.6	.99	58.3	62.9	.93	12.1	5.6	2.16
Canada, ages 15–24													
1970	.26	.25	.24	.45	56.0	57.8	.97	50.3	54.5	.92	10.0	5.7	1.77
1975	.26	.27	.26	.47	62.9	61.1	1.03	55.3	56.9	.97	12.0	6.9	1.74
1980	.26	.27	.25	.47	67.8	64.6	1.05	59.0	59.7	.99	13.1	7.5	1.74
1985	.22	.23	.22	.36	68.1	65.8	1.03	57.0	58.9	.97	16.3	10.5	1.55
1990	.19	.19	.18	.30	69.2	67.3	1.03	60.4	61.9	.98	12.7	8.1	1.56
1995	.17	.16	.15	.27	62.2	64.8	.96	52.5	58.7	.90	15.6	9.5	1.63

Sources: Based on authors' tabulations of published data derived from the U.S. Current Population Survey and the Canadian Labour Force Survey.
Note: Population (Pop.), labor force (LF), and employment (Emp.) are for civilians and exclude members of the armed forces.

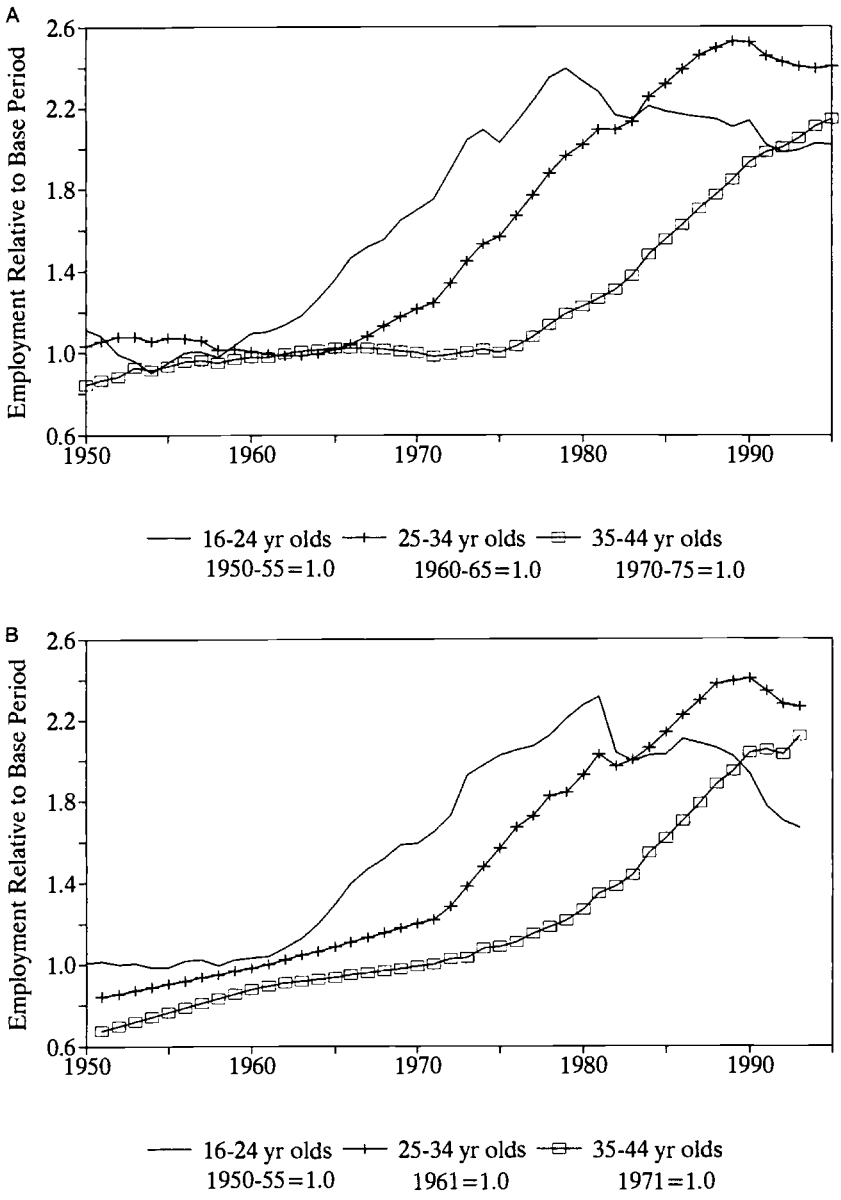

Fig. 4.1 Effect of baby boom on employment by age: relative size of age cohorts, *A*, United States; *B*, Canada

labor force attachment of women. This phenomenon accounts for the roughly 6 percentage point rise in overall labor force participation and employment from the 1970s to 1990. A similar trend occurred for young women, leading to proportional shifts in the youth employment and participation rates.

Columns (11), (12), and (13) of table 4.1 present data on unemployment rates. In the United States young workers historically have accounted for a disproportionate share of unemployment: the unemployment rate of 16–24-year-olds ranges from 1.9 to 2.2 times the overall unemployment rate. In Canada unemployment is more evenly distributed by age: the unemployment rate of 15–24-year-olds ranges from 1.6 to 1.8 times the overall rate. Interestingly, there is little evidence of a systematic *relative* trend in labor market opportunities for youths over the past 25 years in either country.

Both the U.S. and Canadian economies have strong regional components that lead to differential labor market outcomes for youths in different parts of the country.[5] The disparities in regional economic conditions are illustrated in figure 4.2, which shows overall employment-population rates and youth employment rates by province (for Canada) and by region (for the United States). All provinces and regions experienced a peak in employment in the late 1970s, followed by downturn in the early 1980s. The timing and strength of the subsequent recovery varies somewhat by region, with the sharpest gains in the East Coast, Midwest, and Pacific regions of the United States and in Ontario, Quebec, and British Columbia in Canada. The subsequent recession in the early 1990s was particularly pronounced in the New England and Pacific regions of the United States and in the eastern and central provinces (especially Ontario) of Canada. A prominent feature of figure 4.2 is the excess cyclical volatility of youth employment-population rates: national or regional fluctuations in overall employment are typically magnified by a factor of 1.5 to 2.0 in youth employment. We return to a more detailed analysis of this phenomenon in section 4.2.

4.1.2 The Relative Income Position of Youths

While the employment and unemployment data in table 4.1 show little evidence of a shift in the relative economic status of North American youths, a somewhat different conclusion emerges from an analysis of family income. Table 4.2 presents data on the family income distributions and the relative position of youths in Canada and the United States in 1970, 1980, 1990, and 1993. We divide individuals (aged 16 or over) into four

5. See Altonji and Ham (1990) for an interesting model of the regional components of the two economies.

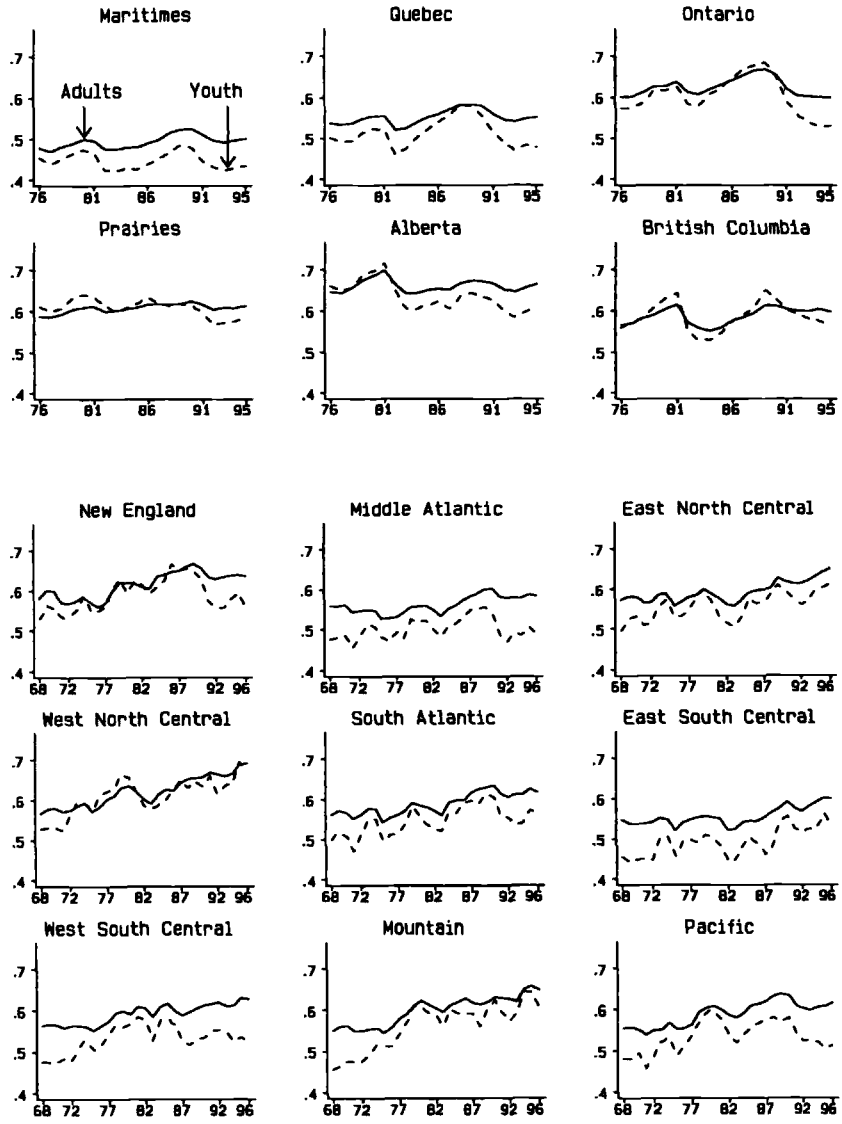

Fig. 4.2 Regional variation in employment

Table 4.2 **Inequality in Adjusted Family Income and Position of Youths in Family Income Distribution**

	United States				Canada			
Quartile	1970	1980	1990	1993	1970	1980	1990	1993
Share of Adjusted Family Income by Quartile among Individuals of All Ages (%)								
Bottom quartile	7.3	7.5	6.5	6.2	6.9	7.7	7.9	9.2
2d Quartile	17.2	17.3	16.1	15.7	17.1	17.3	17.6	18.4
3d Quartile	26.2	27.1	26.3	26.3	26.4	26.6	27.0	27.8
Top quartile	48.8	48.2	51.1	51.9	49.6	48.4	47.5	44.6
Fraction of Youth by Quartile of Adjusted Family Income Distribution (%)								
Bottom quartile	26.5	28.5	32.6	33.9	24.1	25.5	28.5	26.4
2d Quartile	26.5	25.9	24.9	25.6	25.7	25.7	24.0	24.1
3d Quartile	25.9	25.7	23.4	22.1	26.7	26.1	24.8	25.8
Top quartile	21.1	19.8	19.1	18.4	23.5	22.7	22.7	23.7

Sources: U.S. data based on the March Current Population Survey. Canadian data based on the census (1970, 1980, and 1990) and the Survey of Consumer Finances (1993). Families are "economic" families in the CPS and the SCF but "census" families in the Canadian census. See text for details.

Note: Adjusted family income is family income divided by the poverty level (low-income cutoff in Canada) for a family of this size.

quartiles on the basis of their adjusted family income.[6] The upper panel of table 4.2 shows the fractions of total adjusted family income received by individuals in each quartile. The table indicates that the distribution of family income has grown more unequal in the United States while remaining stable in Canada.[7]

The lower panel of table 4.2 shows the position of individuals aged 16–24 in the quartiles of the adjusted family income distribution in the United States and Canada. In both countries, the fraction of youths living in families in the lowest quartile of the income distribution has risen since 1970. The rise is particularly dramatic in the United States: whereas 26.5 percent of youths lived in bottom quartile families in 1970, the fraction had risen to 33.9 percent by 1993 (a 28 percent increase in concentration in the bottom quartile).

6. The data for the United States are based on the March 1971, 1981, 1991, and 1994 Current Population Survey. The data for Canada are based on the 1971, 1981, and 1991 census, and on the 1994 Survey of Consumer Finances (SCF). In constructing the table we use family income adjusted for family composition (i.e., family income divided by the poverty threshold income level for the appropriate family size and composition). Families are "economic" families in the CPS and the SCF (consisting of all related people who live in the same household) but "census" families in the Canadian census (i.e., related subfamilies are assigned their own family income, rather than the total income of all related individuals in their household).

7. As we note below, the Canadian distributional data are not strictly comparable between 1990 and 1993. However, consistent data from the SCF over the 1980s and 1990s show a very stable distribution of family income in Canada (see Beach and Slotsve 1996) over the past decade. The 1993 Canadian data are directly comparable to the 1993 U.S. data.

By contrast, in Canada the fraction of youths living in the lowest quartile only increased by 2.3 percentage points, from 24.1 percent in 1970 to 26.4 percent in 1993. Note, however, that the distribution of family income in 1993 is not strictly comparable to other years because of data differences. Whereas family income in the 1993 SCF represents total income of the *economic* family, in the census (1970, 1980, and 1990) it represents total income of the *census* family. Using census family as opposed to economic family income tends to understate the position of youths in the family income distribution.[8] To estimate the magnitude of this bias, we used the 1990 SCF to compute the fraction of youths in the lowest quartile of the distribution. In the 1990 SCF, only 25.7 percent of youths are in the lowest quartile, compared to 28.5 percent in the census. The fraction of youths in the lowest quartile is thus overstated by 2.8 percentage points in the census. Note, however, that even if we add this correction factor (2.8 percentage points) to the measured increase in the fraction of youths in the lowest quartile in Canada (2.3 percentage points), we still find a smaller increase in Canada (5.1 percentage points) than in the United States (7.4 percentage points).

In terms of relative purchasing power, the economic status of U.S. youths fell even further than suggested by their position in the relative income distribution. This is because, as shown in the upper panel of table 4.2, the fraction of total adjusted income earned by families in the bottom quartile fell by roughly 1 percentage point (a 14 percent decline) between 1970 and 1993. In Canada, on the other hand, the share of adjusted income earned by families in the bottom quartile actually rose from 1970 to 1990.

What can explain the relative deterioration of family incomes of youths over the past two decades—especially in the United States? One potential explanation is changing living arrangements: if youths who live with their parents have higher family incomes than those who live alone or head their own families, then a shift in the fraction who live with their parents would be expected to shift the relative family income status of youths. Table 4.3 describes the evolution of living arrangements among youths by year and gender for the United States and Canada, while table 4.4 illustrates the link between the living arrangements of youths and their family income quartile. In both tables, living arrangements are based on the composition of the economic family in which a young person lives. For example, a young woman who lives in the same household as her parents will be classified as "living with parents" even if she heads her own family (either as a single mother or as a married person). Appendix A explains

8. Since the economic family (all related people who live in the same household) is a broader concept than the census family, economic family income is more likely to include the income of the parents—which tends to improve the relative position of youths—than census family income. See appendix A for more detail.

Table 4.3 Living Arrangements of Youths (percent)

	United States				Canada			
	1971	1981	1991	1994	1971	1981	1991	1994
Men								
Living with parents	71.9	70.7	74.0	74.2	70.3	68.6	73.8	77.3
Husband/wife family	58.3	52.6	52.3	52.3	–	57.5	60.8	65.1
Single-headed family	13.6	18.1	21.7	22.0	–	11.1	12.9	12.1
Head or spouse of own family	21.7	15.9	11.2	10.6	15.5	15.3	9.9	7.8
Married	21.2	14.7	9.6	8.8	15.3	15.2	9.8	8.0
Single parent	.5	1.2	1.6	1.9	.2	.1	.1	.1
Living alone	6.4	13.4	14.8	15.1	14.5	16.1	16.3	14.9
Women								
Living with parents	57.8	58.7	62.5	62.3	55.0	55.3	62.4	66.3
Husband/wife family	47.2	43.9	44.2	43.0	–	46.7	51.7	56.7
Single-headed family	10.6	14.9	18.3	19.3	–	8.6	10.8	9.4
Head or spouse of own family	35.8	29.6	24.3	23.6	31.5	30.4	22.9	19.7
Married	33.2	25.1	17.9	16.0	30.4	28.4	20.0	16.8
Single parent	2.7	4.5	6.5	7.7	1.1	1.9	2.9	3.1
Living alone	6.4	11.6	13.1	14.1	13.5	14.3	14.7	14.1

Sources: U.S. data based on the March Current Population Survey. Canadian data based on the census (1971, 1981, and 1991) and the Survey of Consumer Finances (1994). See text for details.

in detail how the living arrangement status was determined in the U.S. CPS and in the Canadian census and SCF.

As shown in table 4.3, the overall fraction of youths who live with their parents has risen in the United States and especially in Canada. Table 4.4 documents that in both countries, youths who live with their parents are spread fairly evenly across the income distribution, whereas those who live alone or head their own families are disproportionately poor. Furthermore, the relative income position of youths who have left home has declined substantially between 1970 and 1993. Among youths who have left home, the fraction in the lowest quartile increased from 30 percent in 1970 to 50 percent in 1993 in both Canada and the United States. Among youths who live with their parents, the fraction in the lowest quartile is stable both in the United States (around 25 percent) and in Canada (15 to 20 percent).

Taken together, these tables support two important conclusions. First, the deterioration in the relative family income status of youths is mostly due to a sharp fall in the relative incomes of youths who have left home. This fall is attributable in part to a rise in the fraction of youths not living with their parents who live alone or head a single-headed family (vs. living with a spouse; see table 4.3) and in part to a relative decline in the income of younger individuals (see table 4.5 and the discussion below for more detail). Second, in the United States and especially in Canada, the rise in

Table 4.4 **Effect of Living Arrangements on Fraction of Youths by Quartile of Adjusted Family Income**

Quartile	1970			1993			1993 with 1970 Family Arrangements
	Living Alone	Living with Parents	All	Living Alone	Living with Parents	All	
			Fraction of Youth by Quartile: United States				
Bottom quartile	31.2	24.0	26.5	50.1	26.4	33.9	34.8
2d Quartile	30.5	24.3	26.5	30.5	23.4	25.6	25.9
3d Quartile	24.6	26.7	25.9	14.6	25.5	22.1	21.7
Top quartile	13.7	25.1	21.1	4.8	24.7	18.4	17.7
Percentage of youth	35.4	64.6	100.0	31.7	68.3	100.0	100.0
			Fraction of Youth by Quartile: Canada				
Bottom quartile	31.5	19.6	24.1	49.9	16.5	26.4	29.8
2d Quartile	25.9	25.6	25.7	24.6	23.9	24.1	24.1
3d Quartile	24.4	28.1	26.7	15.1	30.4	25.8	24.8
Top quartile	18.3	26.6	23.5	10.4	29.3	23.7	21.8
Percentage of youth	37.7	62.3	100.0	29.7	70.3	100.0	100.0

Sources: U.S. data based on the March Current Population Survey. Canadian data based on the census (1970) and the Survey of Consumer Finances (1993).
Note: The category "living alone" includes all youths who do not live with their parents. The last column (1993 with 1970 family arrangements) indicates the distribution of youths that would have prevailed in 1993 if the fraction of youths living with their parents had remained as in 1970. See text for details.

the fraction of 16–24-year-olds who remain with their parents has forestalled a potential deterioration in the relative income of youths. Indeed, the simple simulation reported in the last column of table 4.4 suggests that had the fraction of youths living with their parents remained at the 1971 level, the percentage of youths in the bottom quartile of the family income distribution would have risen by an additional 0.9 percentage points in the United States (34.8 − 33.9) and by an additional 3.4 percentage points in Canada (29.8 − 26.4). In other words, the larger "move back home" in Canada has reduced the percentage of youths in the bottom quartile by 2.5 percentage points.

Interestingly, we noted earlier that the percentage of youths in the bottom quartile of the family income distribution rose 2.3 percentage points more in the United States than in Canada between 1971 and 1994, taking account of differences in the definition of family income in the SCF (1993) and the Canadian census (1970, 1980, and 1990). Thus, if the move back home had not been more pronounced in Canada than in the United States, the fraction of youths in the lowest quartile would have risen by about as much in the two countries.

These results suggest that in the United States and especially in Canada, the family has played an important role in dampening the effect of the decline in the economic status of youths. The relative expansion of this family safety net for Canadian youths is potentially surprising, given the much wider public safety net in Canada (see, e.g., Blank and Hanratty 1993). There is certainly no indication that broader public safety net programs in Canada have "crowded out" the role of families in coping with adverse economic conditions.

4.1.3 Living Arrangements by Gender and Age

A striking feature of the data in table 4.3 is the difference in living arrangements between young men and young women. In both Canada and the United States, young women are less likely to live with their parents and more likely to head their own families than young men. In part this reflects the difference in average age at marriage between men and women. In addition, the much higher fraction of women who head their own single-parent families contributes to the male-female gap in living arrangements.[9]

A richer portrait of the changing living arrangements of youths in the two countries is provided in figures 4.3 and 4.4. Figure 4.3 shows the fraction of youths remaining with their parents, by age, for men and women in the two countries in 1971 and 1994. Almost all 16-year-olds live with

9. Note that for the United States we include women who have their own children but live with either or both of their parents as "living with parents" in table 4.3. If these women were considered as heading their own families, the fraction of single-head women would rise by about 3 percentage points in 1994.

their parents. By age 19, 10 to 20 percent of men have left home, while 30 to 35 percent of women have left. Between 1971 and 1994 the most noticeable shift is the rise in the fraction of Canadian women still at home. This change was associated with a very substantial increase in school enrollment of Canadian women (see below).

Close examination of figure 4.3 suggests a larger average increase in the fraction of youths living with parents between 1971 and 1994 than what is reported in table 4.3. A weighted average of the changes for individual age groups (with fixed 1971 weights) shows that the fraction of young men living with their parents increased by 4.9 and 9.0 percentage points in the United States and Canada, respectively (compared to 2.3 and 7.0 in table 4.3). The corresponding numbers for young women are 6.8 and 12.7 percentage points, respectively (compared to 4.5 and 11.3 percent in table 4.3). The source of discrepancy between fixed-weight averages and the averages for all youths is the changing youth age distribution. Since the youth population was younger—and thus more likely to be living with parents—in 1971 than in 1994, the fraction of all 16–24-year-olds living with their parents did not increase as much as it rose for any single-year age group (e.g., 24-year-olds). Note, however, that since the changes in the age compositon are very similar in the United States and Canada, these composition biases do not affect the relative trends in family arrangements in the two countries.

Figure 4.4 provides more detail on the changing living arrangements of youths by age and gender. Perhaps the most striking feature of this figure is the relatively high incidence of single motherhood among U.S. women in 1994. About 11 percent of American women aged 20–24 are currently supporting a family without a male head. Even restricting attention to white women, 8 to 9 percent of U.S. women aged 20–24 were single mothers in 1994, compared to 4 to 5 percent in Canada.[10]

The lower rate of single female headship in Canada also contributes to the higher relative income status of youths in Canada. In both countries, families headed by single mothers are very likely to be poor (Hanratty and Blank 1992). Among single mothers heading their own households in the United States in 1994, for example, 89 percent were in the lowest quartile of the adjusted family income distribution. The U.S.-Canadian gaps in both the fraction of young women heading single-parent families (about 5

10. We have not attempted to decompose the higher incidence of single motherhood in the United States into differences in out-of-wedlock births and differences in marital stability. Overall, the divorce rate is about twice as high in the United States as in Canada. According to vital statistics data (e.g., *Statistical Abstract of the U.S.* 1996, table 1358), the percentage of children born to unmarried mothers was about 18 percent in the United States in 1980 vs. 13 percent in Canada. By 1991 the rate was 30 percent in the United States and 29 percent in Canada. However, vital statistics data on the marital status of mothers are not strictly comparable across countries because of differences in common-law marriage rates and other factors.

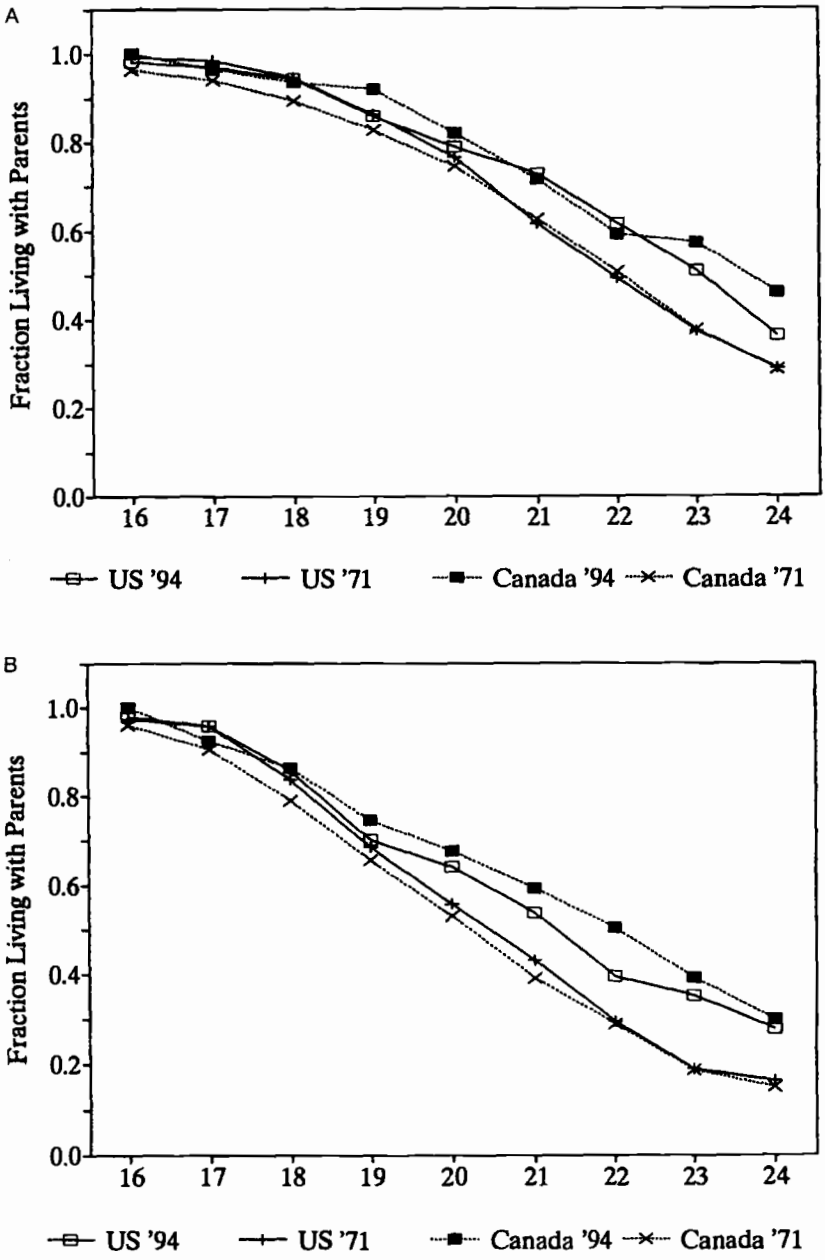

Fig. 4.3 Fraction of youths aged 16–24 living with parents by age: *A*, men; *B*, women

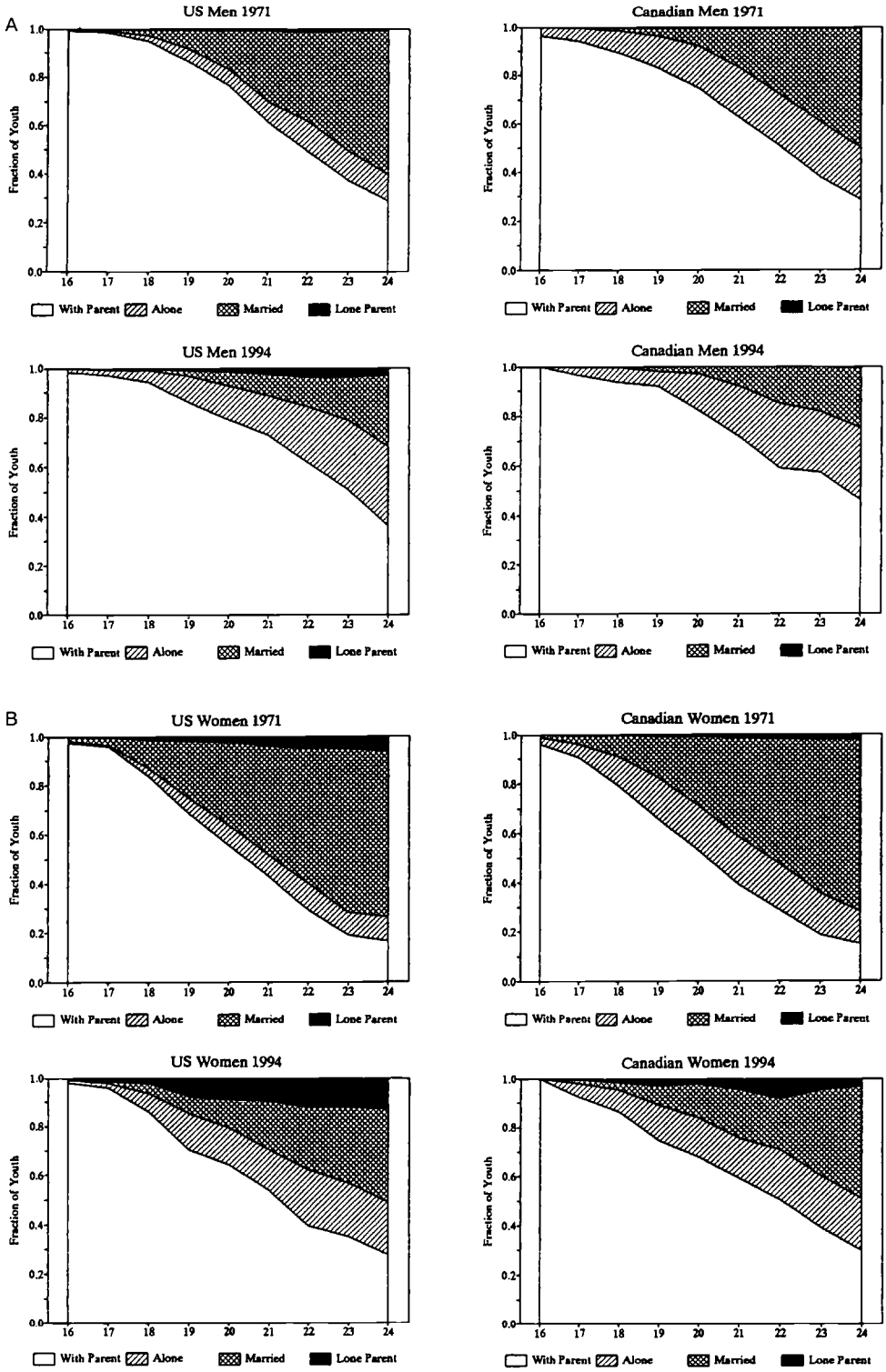

Fig. 4.4 Living arrangements of youths by age: *A*, men; *B*, women

percent in 1994) and the fraction of youths living in single-headed families (about 10 percent in 1994) thus accounts for some of the higher relative income status of youths in Canada.

4.1.4 Relative Earnings of Youths

A second explanation for the declining relative income status of youths is a decline in the relative earnings of young workers. This is in fact the primary explanation for the sharp decline in the relative income position of youths who live on their own. Table 4.5 shows the changing distribution of young men and women across the quartiles of the overall earnings distribution. In both Canada and the United States, a higher fraction of youths were concentrated in the bottom quartile of the earnings distribution in 1990 than in 1970. The increase is more pronounced for women than for men, and greater in Canada than in the United States. The greater effect for young women reflects the widening of age differentials among

Table 4.5 **Inequality in Annual Earnings and Position of Youths in Earnings Distribution**

	United States				Canada			
Quartile	1970	1980	1990	1993	1970	1980	1990	1993
				Men				
Earnings Share by Quartile among Men Aged 16 and Over with Positive Earnings (%)								
Bottom quartile	4.7	4.6	4.8	4.2	5.8	5.5	4.7	4.0
2d Quartile	17.4	17.3	15.4	15.6	14.1	17.9	12.8	15.8
3d Quartile	28.0	29.3	28.0	26.3	32.4	28.8	32.8	28.9
Top quartile	48.7	49.8	51.8	53.8	47.7	48.4	49.7	51.3
Fraction of Young Men with Positive Earnings by Quartile of the Male Earnings Distribution (%)								
Bottom quartile	65.2	60.7	66.6	67.2	59.9	59.9	69.4	68.6
2d Quartile	23.0	27.8	24.3	25.1	29.3	26.8	23.5	23.5
3d Quartile	9.8	9.6	7.9	6.3	8.0	11.6	6.4	5.8
Top quartile	2.0	2.0	1.2	1.4	2.8	1.7	.7	2.1
				Women				
Earnings Share by Quartile among Women Aged 16 and Over with Positive Earnings (%)								
Bottom quartile	2.7	3.5	3.8	3.5	4.0	3.7	4.1	3.8
2d Quartile	12.8	14.2	14.2	14.7	15.0	15.1	15.0	14.2
3d Quartile	29.1	28.7	27.6	26.7	29.0	29.0	28.6	28.7
Top quartile	55.5	53.5	54.4	55.1	52.0	52.2	52.3	53.3
Fraction of Young Women with Positive Earnings by Quartile of the Female Earnings Distribution (%)								
Bottom quartile	40.3	43.5	53.1	54.8	36.0	39.5	54.5	56.3
2d Quartile	28.3	27.4	27.4	28.3	25.8	28.6	27.5	26.7
3d Quartile	20.1	21.3	14.9	13.7	28.5	26.2	15.7	12.4
Top quartile	11.4	7.8	4.5	3.2	9.7	5.7	2.3	4.6

Sources: U.S. data based on the March Current Population Survey. Canadian data based on the census (1970, 1980, and 1990) and on the Survey of Consumer Finances (1993).

Note: Earnings are defined as all wages and salaries received during the year.

female workers in both countries over the 1980s. Whereas historically the wage gaps between younger and older women were much smaller than the corresponding gaps for men, over the past two decades age differentials among women have risen sharply.[11] The greater fall in the relative earnings of young workers in Canada than in the United States has been noted in other recent studies (e.g., DiNardo and Lemieux 1997). Compared to the United States, age differentials among male workers rose faster in Canada over the 1980s.

Table 4.5 also shows the fractions of overall earnings accruing to each earnings quartile in the United States and Canada over the past 25 years. Among male workers, earnings inequality increased in both countries, while among female workers the trend was ambiguous. Taken together with the trend toward an increasing fraction of young workers in the bottom earnings quartile, however, the growth in overall earnings inequality presents at least part of the explanation for the falling relative income of youths.

Although we have treated changes in family structure and changes in the relative earnings position of youths as separate phenomena, it is possible that family structure exerts some causal effect on earnings, or vice versa. For example, Korenman and Neumark (1991) have attempted to estimate the causal effect of marital status on male wages. While we place *no* causal interpretation on the correlation between wages and family structure, for completeness we estimated a series of linear regression models to measure the wage differentials associated with three living situations: living with one's parents, living alone, and heading one's own family. The results are summarized in appendix table 4B.1 and are fairly similar across countries. As one might expect, young men who live alone or head their own families earn higher average hourly or weekly earnings than those who live with their parents, with a generally larger differential (10 to 35 percent) for those who head their own families and a smaller effect (5 to 20 percent) for those who live alone.[12] Among young women the wage differentials associated with different living arrangements are smaller and tend to be close to zero in more recent years.

4.1.5 Work and School

While economists' attention is traditionally directed toward the labor force activities of youths, school attendance is at least as important an outcome for many youths. Figure 4.5 presents some simple aggregate statistics on overall employment and full-time enrollment rates among youths

11. It could be argued that the rising return to labor market experience among women reflects a tendency for women to take less time off work for child rearing and to choose careers with greater returns to experience.

12. These are estimated from linear regression models that control for age, education, race, and location, estimated by gender and country using data for log average weekly or hourly earnings in 1970, 1980, 1990, and 1993.

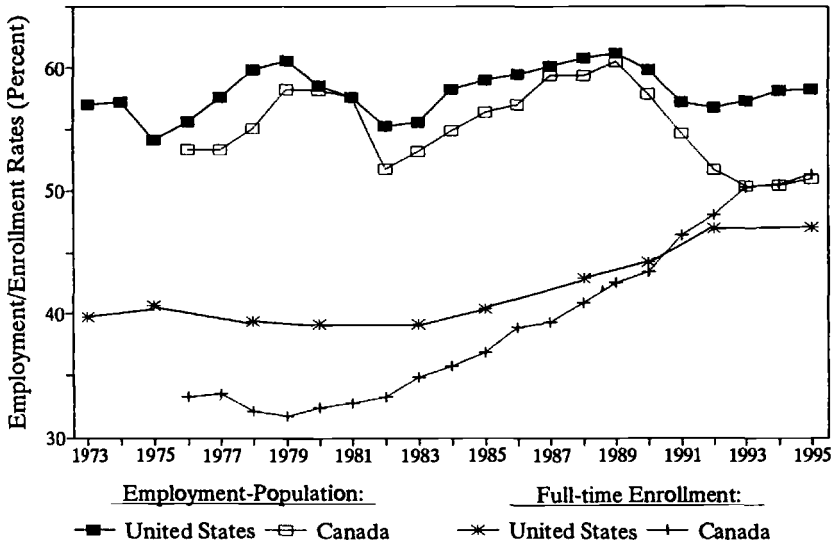

Fig. 4.5 Employment-population rate and full-time enrollment rate of youths

in the United States and Canada.[13] (Full-time enrollment rates exclude individuals who attend college part time; total enrollment rates are about 4 to 5 percentage points higher.)[14] In the early 1970s, full-time enrollment rates were 5 to 10 percentage points higher in the United States than in Canada. Throughout the 1980s, however, relative enrollment rates in Canada rose, so that by 1990 the fraction of 16–24-year-olds enrolled full time in Canada actually surpassed the U.S. rate. This crossover marks a historic turning point: throughout the twentieth century the United States has had a much better educated labor force than Canada (see, e.g., Freeman and Needels 1993). The data in figure 4.5 suggest that the rankings will be reversed within the next 25 years.

Table 4.6 gives a more detailed breakdown of work and school activity rates by gender and age group over our sample period. We distinguish four types of activities: school only, work and school, work only, and "inactivity" (neither work nor school).[15] Our data on school enrollment and

13. The Canadian data underlying this figure are for individuals aged 15–24 while the U.S. data are for individuals aged 16–24. We have adjusted the Canadian enrollment figures to a U.S. basis assuming that 100 percent of 15-year-olds are enrolled. We have not adjusted the Canadian employment rates; observe that any reasonable adjustment would *raise* the Canadian employment rates (by 4 to 5 percentage points).

14. The Canadian data in fig. 4.5 are from published tabulations from the October Labour Force Survey. The U.S. data are our own calculations using the October CPS files.

15. We classify as "inactive" individuals who do not actively participate in the labor market by working or investing in human capital (going to school). Many individuals classified as inactive are of course actively involved in home production activities such as child rearing. They are only inactive from a labor market point of view.

Table 4.6 **Activity Rates of Youths**

Age Group and Year	United States				Canada			
	School Only (1)	School and Work (2)	Work Only (3)	Inactivity (4)	School Only (5)	School and Work (6)	Work Only (7)	Inactivity (8)
				Men				
Ages 16–17								
1971	61.7	30.4	4.5	3.5	61.9	23.0	6.6	8.6
1981	58.0	31.6	5.5	4.8	55.3	22.2	10.7	11.8
1991	63.4	29.2	3.4	4.1	57.3	30.8	5.8	6.1
1991 (SCF)					53.6	38.8	3.2	4.5
1994	68.1	25.4	2.3	4.3	64.3	31.0	1.9	2.7
Ages 20–21								
1971	26.8	18.6	44.3	10.4	15.5	24.2	47.3	13.0
1981	18.4	15.7	51.8	14.1	10.4	24.0	54.0	11.5
1991	20.1	20.3	48.2	11.5	16.6	34.2	35.7	13.5
1991 (SCF)					26.1	14.3	38.6	21.0
1994	23.1	19.4	41.7	15.7	30.0	16.9	35.5	17.6
Ages 23–24								
1971	8.3	14.7	70.2	6.8	7.2	16.2	65.7	10.9
1981	5.9	10.0	70.4	13.6	5.7	18.7	66.2	9.5
1991	7.1	11.2	71.0	10.7	9.4	21.1	54.6	14.9
1991 (SCF)					13.2	10.1	56.0	20.7
1994	8.3	13.0	63.9	14.7	12.8	11.6	55.8	19.9

(*continued*)

Table 4.6 (continued)

Age Group and Year	United States				Canada			
	School Only (1)	School and Work (2)	Work Only (3)	Inactivity (4)	School Only (5)	School and Work (6)	Work Only (7)	Inactivity (8)
	Women							
Ages 16–17								
1971	64.8	24.6	3.2	7.4	67.8	15.2	6.5	10.5
1981	58.9	30.4	3.9	6.8	58.7	20.4	7.3	13.5
1991	63.5	28.9	2.7	4.9	59.6	29.9	4.6	6.0
1991 (SCF)					56.0	35.8	2.9	5.3
1994	65.1	28.0	1.7	5.2	61.6	34.0	1.5	2.9
Ages 20–21								
1971	15.3	11.7	41.5	31.5	13.0	14.5	44.5	28.0
1981	16.0	14.7	46.3	23.1	10.2	20.6	49.4	19.7
1991	17.3	21.8	38.6	22.4	18.4	36.4	30.9	14.3
1991 (SCF)					24.9	18.3	38.5	18.4
1994	21.5	25.2	31.2	22.1	30.2	22.6	30.6	16.5
Ages 23–24								
1971	3.4	5.8	47.4	43.5	4.4	8.3	46.3	40.9
1981	5.5	8.7	56.1	29.6	5.2	13.8	55.2	25.7
1991	5.9	11.3	58.3	24.6	9.0	20.8	50.2	20.1
1991 (SCF)					9.7	12.6	58.4	19.2
1994	7.6	13.2	55.6	23.6	14.9	10.2	53.0	21.9

Sources: U.S. data from the October Current Population Survey (1971, 1981, and 1991) and the March CPS (1994). Canadian data from the census (1971, 1981, and 1991) and the Survey of Consumer Finances (1994). Data from the 1991 SCF are also reported. In the SCF and the CPS, enrollment and work activities refer to the survey week (April in the SCF). In the Canadian census, enrollment refers to school attendance at any time over the nine-month period from September of the previous year to the "census week" (in June of the corresponding year), while work activity refers to the census week.

employment for the United States are taken from the October CPS and pertain to enrollment and employment as of the survey week. Our data on enrollment and employment for Canada are taken from two different sources. The rows labeled "SCF" present data from the Survey of Consumer Finances, a supplement to the Labour Force Survey much like the March CPS. Enrollment and work activities refer to the SCF survey week, in April of the corresponding year. The other rows present data from the Canadian censuses of 1971, 1981, and 1991. Enrollment in these data sources refers to school attendance at any time over the nine-month period from September of the previous year to the "census week" (in June of the corresponding year), while work activity refers to the census week. Complementing the data in table 4.6, figure 4.6 shows decompositions of work and school activities by age for U.S. and Canadian men and women in 1971 and 1994.

Among the notable features of table 4.6 and figure 4.6 is the rapid rise in school enrollment rates of women over the past two decades. For example, in 1981 the enrollment rate of 20–21-year-old women was about 30 percent in both the United States and Canada. By 1994 this rate was 46 percent in the United States and 52 percent in Canada. Coupled with this rise in school attendance (and an increase in employment rates) was a drop in inactivity rates. In 1971 over 40 percent of 23–24-year-old women in the United States and Canada were inactive (many of these were of course homemakers). By 1994 this rate had halved in both countries.

A more subtle feature of the data in table 4.6 is the relative propensity of enrolled youths in Canada to work compared to those in the United States. For example, among 16–17-year-old enrollees in 1994, 27 percent of U.S. men worked versus 33 percent of Canadian men. At higher ages, however, the relation was reversed. Among 23–24-year-old enrollees, for example, 61 percent of U.S. men worked versus 48 percent of Canadian men. A similar pattern holds among women: in Canada, younger students are more likely to work than their U.S. counterparts, while older students are less likely to work. It is interesting to speculate whether this pattern is driven by the higher average cost of U.S. colleges.

Schooling and work activities of youths are intimately connected to their choice of living arrangements. Many youths who want to attend school full time, for example, must live with their parents, while those who want to live alone are forced to work to support themselves. In appendix table 4B.2 we present cross-tabulations of work and school activity rates with living arrangements for men and women in 1971 and 1994. For simplicity we limited the analysis to older youths (20–24-year-olds) whose work, school, and living arrangements exhibit more variability than those of teenagers. The cross-tabulations show many of the expected patterns. For example, in both the United States and Canada, young men who live with their parents are *more* likely to be inactive, whereas young women

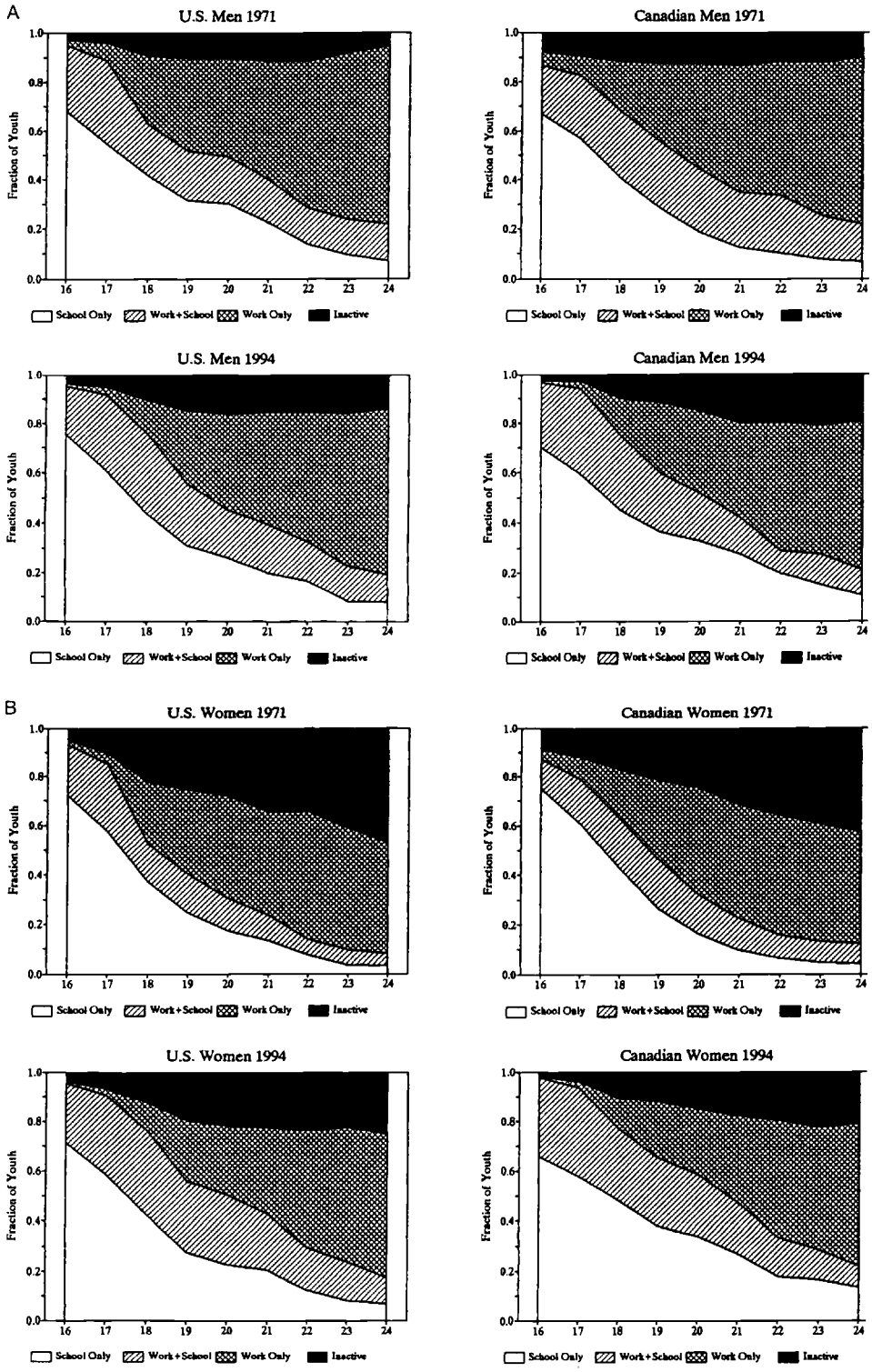

Fig. 4.6 School and work activities of youths by age: *A*, men; *B*, women

Table 4.7 Proportion of Youths Receiving Welfare Payments

	All Youths				Youths Not Living with Their Parents			
	United States		Canada		United States		Canada	
Year	Men	Women	Men	Women	Men	Women	Men	Women
1970	1.0	2.8	–	–	2.1	4.4	–	–
1980	1.2	5.7	–	–	1.8	8.8	–	–
1990	0.9	6.8	3.6	5.3	1.3	12.9	8.4	11.2
1993	1.0	7.9	6.3	7.4	0.9	14.1	15.4	17.8

Sources: U.S. data from the March Current Population Survey. Canadian data from the Survey of Consumer Finances.

who live with their parents are *less* likely to be inactive (presumably reflecting the importance of full-time homemakers in the group of women who head their own families). Interestingly, differences in school and work activity rates between young men and women who live with their parents and those who do not tended to narrow over the 1971–94 period in both countries.

4.1.6 Welfare Recipiency

A final important determinant of the overall income status of youths is participation in government transfer programs. Table 4.7 gives the fractions of all youths who reported receiving "welfare" payments in the two countries, and the fractions of youths *not* living with their parents who reported welfare recipiency.[16] The data reveal several interesting similarities and differences between the United States and Canada. First, in both countries overall recipiency rates have risen over the past 25 years. Second, despite the much higher rate of single headship among U.S. women (see fig. 4.4), welfare recipiency rates are similar for women in the two countries. This presumably reflects more generous Canadian benefits, as well as the availability of social assistance payments in Canada to dual-headed families and individuals living alone (see Blank and Hanratty 1993; Hanratty and Blank 1992). Third, welfare recipiency rates are much lower for young men than for young women in the United States, but only marginally lower for men than for women in Canada. We believe that this reflects the much greater availability of cash welfare benefits to men in Canada than in the United States. The major welfare benefit available to men in

16. In our U.S. data files, welfare receipt is defined as receipt of AFDC or public assistance. In our Canadian SCF files for 1990 and 1993, welfare receipt is defined as receipt of social assistance. We do not report numbers for earlier years in Canada because of data limitations in the Canadian census (welfare receipts cannot be distinguished from other transfers like workers' compensation in the 1981 census, and there is no information at all on transfers in the 1971 census).

the United States (food stamps) is not accurately recorded in the CPS and is not included in our tabulations.

4.2 Analytic Modeling of Youth Behavior

4.2.1 Theoretical Framework

Much of economists' attention to youths has focused on the determination of employment.[17] A conventional framework for modeling youth employment is a supply-demand model, in which wages and employment are jointly determined by demand-side factors (e.g., the state of the business cycle) and supply-side factors (e.g., the relative size of the youth population). As we have emphasized throughout this paper, however, youth behavior is characterized by far more than simply holding a job. In principle, the same exogenous factors that affect employment and wages also affect other aspects of youth behavior. Thus a natural approach to modeling the evolution of youth living arrangements, school enrollment, and program participation would be to estimate "reduced form" models, comparable to standard reduced-form models for employment and wages, which show the dependence of living arrangements, enrollment, and so forth, on such exogenous shift factors as the state of the business cycle and the relative size of the youth population.

On the other hand, most research on youth employment in both the United States and Canada has (at least implicitly) assumed that minimum wages or other institutional features lead to above-equilibrium wages in the youth labor market. In this case, the wage is exogenous to supply-side factors and employment is determined "on the demand curve" (see, e.g., Brown, Gilroy, and Kohen 1982). According to this view of the youth labor market, the youth wage rate and demand-side shift factors (such as the state of the business cycle) also determine other behavioral responses of youths, such as the decision to live with one's parents or the decision to attend school.

While a full investigation of the question of which (if either) of these two models of the youth labor market is correct is beyond the scope of this paper, we attempted a very simple test based on the effect of supply-shift factors on the youth wage. Specifically, we investigated the effect of changes in the relative youth population share on the level of youth wages in different regional labor markets in the United States and Canada.[18]

17. See, e.g., Freeman and Wise (1982). A voluminous literature focuses on the effect of minimum wages on youth employment. See Card and Krueger (1995).

18. We used data for nine regions in the United States and six provinces/regions in Canada for 1971, 1981, 1991, and 1994. In our models we regressed average youth wages on the fraction of the local population aged 16–24, the employment-population rate of adults, region dummies, and year-country dummies.

Contrary to the prediction of an unconstrained supply-demand model, but consistent with a model in which wages are held at above-equilibrium rates by minimum wage regulations or other institutional factors, we found no evidence that a larger youth population share is associated with a lower youth wage. (Indeed, our point estimates typically showed higher youth wages in regions or time periods with larger youth population shares.) Based on this evidence, we decided to adopt a modeling framework in which the youth wage and the state of demand (i.e., the business cycle) are taken as exogenous, with youth employment determined on the demand side (i.e., by employers' demand functions) and youth living arrangements, school enrollment, and program participation determined on the supply side (i.e., by individuals).

4.2.2 Regional Labor Markets

As noted in figure 4.2, labor markets in Canada and the United States exhibit significant regional differences. This regional variation provides a valuable tool for understanding the determinants of youth employment and other behaviors like leaving home or deciding to enroll in school.[19] For example, even in the presence of unspecified aggregate-level taste shifts, it is possible to identify the effect of changing business cycle conditions on the probability that a young person lives with his or her parents by correlating differences in living arrangements across regions with differences in local labor demand indicators. By pooling cross-sectional data for several years and including unrestricted region effects, it is also possible to account for any permanent differences in a particular outcome across different regions.

In this paper we combine region-specific data for the nine census divisions in the United States with data for the six major provinces/regions in Canada (the Maritimes, Quebec, Ontario, the Prairie provinces, Alberta, and British Columbia).[20] Our U.S. data are drawn from the 1971, 1981, 1991, and 1994 March CPS.[21] Comparable Canadian data are drawn from the 1971, 1981, and 1991 censuses and the 1994 SCF.

Table 4.8 provides a brief overview of the regional differences within the United States and Canada in three key youth outcomes: the fraction who live with their parents, the fraction employed, and the fraction enrolled in school. In both 1971 and 1994 the data for the two countries show sizable

19. Regional variation has been used in some studies of the effect of minimum wages; see Card and Krueger (1995).

20. The use of regional data (as compared to state data, e.g.) greatly increases the number of observations for youths in each age group.

21. We augment the March 1971 and 1981 data with enrollment data from the October 1970 and 1980 CPS. Beginning in the mid-1980s the March CPS contains enrollment information for youths—thus our 1991 and 1994 enrollment data are taken from the March CPS. A comparison of enrollment rates in the March 1991 and the October 1990 CPS reveals a high degree of consistency across regions and age groups in the two surveys.

Table 4.8 **Fraction of Youths Living with Parents, Working, and Enrolled in School, by Region**

Region	1971			1994		
	Living with Parents (1)	Working (2)	Enrolled (3)	Living with Parents (4)	Working (5)	Enrolled (6)
United States						
New England	69.5	53.2	51.0	75.2	56.9	55.2
Middle Atlantic	72.5	45.5	49.3	78.5	48.3	56.1
East North Central	64.5	50.9	46.2	68.0	59.5	52.6
West North Central	63.3	52.4	52.4	59.6	63.8	55.7
South Atlantic	64.4	47.1	43.4	68.2	53.1	49.2
East South Central	64.8	45.0	43.6	67.8	52.0	51.4
West South Central	62.4	48.4	46.9	68.4	51.5	52.3
Mountain	53.5	47.6	46.6	59.4	64.3	50.2
Pacific	58.7	45.7	50.4	64.8	51.0	52.9
National average	64.6	48.2	47.9	68.2	54.5	52.6
Canada						
Maritimes	66.4	46.0	45.9	78.1	40.0	53.8
Quebec	69.9	45.4	45.2	75.1	47.5	60.0
Ontario	60.1	57.5	49.7	75.1	51.1	60.3
Prairies	58.8	58.1	48.1	64.8	56.8	50.9
Alberta	53.3	59.2	48.3	59.9	59.6	48.7
British Columbia	55.6	55.4	45.6	62.2	58.3	47.9
National average	62.5	52.8	47.4	71.9	51.4	56.3

Sources: U.S. data based on the Current Population Survey. Canadian data based on the census (1971) and the Survey of Consumer Finances (1994). In the SCF and the CPS, enrollment and work activities refer to the survey week (April in the SCF). In the Canadian census, enrollment refers to school attendance at any time over the nine-month period from September of the previous year to the "census week" (in June of the corresponding year), while work activity refers to the census week.

differences across regions. For example, in 1971 the fraction of youths living with their parents ranged from 53.5 percent (Mountain region) to 72.5 percent (Middle Atlantic region) in the United States, and from 53.3 percent (Alberta) to 69.9 percent (Quebec) in Canada.[22] The range of interregional differences in the fraction living with their parents was comparable in 1994. Similarly, in 1971 the fraction of youths enrolled in school ranged from 43.4 percent (South Atlantic region) to 52.4 percent (West North Central region) in the United States, and from 45.2 percent (Quebec) to 49.7 percent (Ontario).[23] Interregional differences in school enrollment were even wider in 1994: for example, Canadian enrollment rates ranged from 47.9 percent (British Columbia) to 60.3 percent (Ontario).

A second fact revealed by the data in table 4.8 is that although interregional differences tend to persist, they are far from permanent. In the United States, for example, the New England and Middle Atlantic regions had among the highest enrollment rates and fractions of youths living with their parents in both 1971 and 1994. However, youths in the Mountain region moved from having among the lowest employment rates in 1971 to the highest in 1994. Another remarkable change is the school enrollment rate of youths in Quebec, which moved from the lowest in Canada in 1971 to the second highest in 1994.

4.2.3 Estimation Results

Our goal is to estimate the effects of changes in youth wages and local labor demand conditions on four youth outcomes: the probability of employment, the probability of living with one's parents, the probability of being enrolled in school, and the probability of receiving welfare payments. To analyze these outcomes we first compute the proportion P_{ijt} of youths of a given age ($i = 16, 17, \ldots, 24$) and a given region (j) and time period (t) who are employed, living with their parents, enrolled, or receiving welfare.[24] We then estimate "grouped linear probability models" of the form

$$(1) \qquad P_{ijt} = \sum A_i\gamma_i + \sum R_j\alpha_j + \sum Y_t\delta_t + \beta_1 W_{jt} + \beta_2 D_{jt} + \varepsilon_{ijt},$$

where A_i is a set of age dummies, R_j is a set of region dummies, Y_t is a set of year dummies, W_{jt} is an index of youth wages in region j and year t,

22. One possible explanation for the high employment-population ratios and the low fraction living with parents in high-growth regions like Alberta is the internal migration of young workers. It would be interesting to analyze the role of migration as another form of adjustment to changing economic circumstances.

23. Note that the 1971 enrollment data for Canada are defined as enrollment at any time over the nine months prior to the census, as compared to a "point in time" enrollment rate in the United States and for the 1994 Canadian data.

24. Note that employment status, living arrangements, and enrollment are all measured as of the survey dates of the CPS, census, or SCF, whereas welfare recipiency is measured for the previous year.

and D_{jt} is a measure of local labor demand in region j and year t. Note that for each region-year observation we have nine age-specific observations on the fraction who exhibit the behavior in question. Since the key covariates—the wage index and the labor demand index—are the same for all age groups, and since the error terms for different age groups in the same region-year may have a shared component of variance, conventional standard errors reported for OLS estimates of equation (1) are likely to be biased (Moulton 1986). We therefore report corrected standard errors, which allow for an unrestricted covariance structure between observations for different age groups in the same region-year.

As an index for local labor market conditions we use the employment-population rate of 25–45-year-old adults of the same gender (estimated from the same sources as the dependent variables.[25] The derivation of an appropriate wage index is more difficult. For the later U.S. data (1981, 1991, and 1994), it is possible to use reported annual earnings, reported weeks of work, and reported hours per week over the previous calendar year to construct a measure of average hourly earnings of employed youth. However, neither the 1971 CPS nor the Canadian census files contain direct measures of hours per week in the previous year, and both the 1971 CPS and the 1971 and 1981 Canadian census files include only a categorical measure of weeks worked in the previous year. Thus a direct measure of the hourly wage cannot be computed from these data sets. For each year and each gender, we therefore computed a regional wage index for youth by running a regression of log annual earnings on a standard set of demographic variables, a set of controls for weeks worked last year and hours worked in the survey week, and a set of region dummies.[26] Our regional wage index is simply the coefficient on the corresponding region dummy from this regression.

In appendix figure 4B.1, we plot the values of the wage index in each region for young men and young women. In this figure, the wage index is expressed in terms of deviations from the annual mean for each gender in each country. One noticeable pattern is how the real price of oil (which increased sharply in the 1970s and then declined in the 1980s) drives rela-

25. After some experimentation, we found that the employment-population rate of 25–45-year-old women was a better proxy for local labor market conditions of young women than the employment-population rate of 25–45-year-old men.

26. The control variables are a set of age dummies, years of education, and years of education interacted with age. The weeks and hours variables for Canada are a set of five dummies for categories of "weeks worked last year" fully interacted with a dummy for part-time vs. full-time status last year and a set of eight dummies for categories of "hours worked last week." These hours variables are used because they are the broadest set that can be constructed on a comparable basis across years. A similar approach is used with the U.S. data. Note that the wage regressions are estimated using observations on youth (aged 16–24 in the survey month) who reported positive earnings and positive weeks of work in the previous calendar year. (Individuals who worked last year but not during the survey week are used in the estimation.)

tive youth wages in the oil-rich regions of Canada (Alberta) and the United States (West South Central). One can also see how the "Massachusetts miracle" pushed up youth wages in New England in the 1980s after these wages had declined sharply in the 1970s.

A final issue concerns the functional form of equation (1). As written, this equation implies that changes in the key covariates—the wage index and the local demand index—exert the same effects on the probabilities of a given outcome for all nine individual age groups. Since younger individuals have very high enrollment rates and very high rates of living with their parents (close to 100 percent for 16-year-olds) this specification is clearly inappropriate. One possibility would be to use the log odds of different outcomes as the dependent variables. As an alternative, we actually estimated an interacted version of equation (1), including both the levels of the wage and local demand indexes and their interactions with the age of the specific subgroup. This specification allows the effects of higher adult employment rates, for example, to exert a systematically larger effect on the enrollment rates of older individuals than on the rates of younger people.

Estimation results for this interacted version of equation (1) are reported in table 4.9. For simplicity, we report the effects of the two key covariates on 20-year-olds. The first part of the table shows results for men, and the second part shows results for women. For both genders, we report three sets of estimates: estimates for U.S. data alone, estimates for Canadian data alone, and estimates from a pooled U.S.-Canadian sample. In the latter case, we include country-specific year dummies, as well as region dummies for each of the 15 regions in the combined two-country sample. The estimates are derived from a weighted OLS procedure, using as a weight for each region-year-age observation the estimated population of individuals of that age in the region in that year.[27]

The results in the first part of table 4.9 indicate that, as expected, a rise in the employment-population rate of prime-age males has a strong positive effect on the employment rate of young men in the same region. The estimated coefficient in both the United States and Canada is larger than one, indicating that the employment rate of young men is more cyclical than the employment rate of prime-age males. Improving local demand conditions also tend to lower both the probability of living with parents and the probability of attending school among young men in the two countries. The cyclical effect on "living with parents" is larger in Canada while the cyclical effect on "attending school" is larger in the United States. The estimated effects of improving cyclical conditions on the probability of welfare receipt vary by country, although in the pooled model

27. In the pooled models, we multiply the weighted number of individuals in Canada by 10 to give a similar weights to the two countries in the regressions.

Table 4.9 **OLS Estimates of Impact of Wages and Cyclical Factors on Youth Outcomes**

Variable	Dependent Variable: Proportion of Youths			
	Living with Parents (1)	Working (2)	Attending School (3)	Receiving Welfare (4)
	Men			
United States				
Average log wage of men aged 16–24	−.127	.002	−.087	−.010
	(.057)	(.084)	(.042)	(.011)
Employment-population rate of men aged 25–45	−.378	1.326	−.722	−.064
	(.190)	(.252)	(.171)	(.032)
Canada				
Average log wage of men aged 16–24	−.190	.008	−.102	−.289
	(.071)	(.055)	(.044)	(.084)
Employment-population rate of men aged 25–45	−.472	1.173	−.105	.614
	(.238)	(.290)	(.229)	(.227)
United States and Canada				
Average log wage of men aged 16–24	−.163	.004	−.090	−.030
	(.049)	(.048)	(.032)	(.015)
Employment-population rate of men aged 25–45	−.434	1.232	−.368	−.032
	(.157)	(.204)	(.175)	(.053)
	Women			
United States				
Average log wage of women aged 16–24	−.110	−.041	−.088	−.039
	(.060)	(.095)	(.036)	(.031)
Employment-population rate of women aged 25–45	−.159	.687	.193	−.208
	(.134)	(.189)	(.089)	(.072)
Canada				
Average log wage of women aged 16–24	−.291	.095	−.131	.045
	(.054)	(.087)	(.087)	(.125)
Employment-population rate of women aged 25–45	−1.479	.861	.197	−.472
	(.262)	(.318)	(.344)	(.285)
United States and Canada				
Average log wage of women aged 16–24	−.102	.045	−.114	−.033
	(.048)	(.056)	(.059)	(.031)
Employment-population rate of women aged 25–45	−.688	.732	.198	−.234
	(.193)	(.166)	(.151)	(.071)

Note: Sample consists of age-region-year cells: all models also include unrestricted age, region, and year effects, as well as interactions between age and the wage and adult employment-population rate variables. The reported wage and employment-population rate effects are for youths aged 20.

There are six provinces/regions in Canada and nine regions in the United States (see table 4.8). Years are 1970, 1980, 1990, and 1993. The models are thus estimated using 234 age-region-year cells for the United States and 216 cells for Canada, except for the Canadian welfare models, in which only the years 1990 and 1993 are available.

Pooled U.S.-Canadian models include country-year effects.

Standard errors (in parentheses) are adjusted for arbitrary forms of heteroscedasticity and for residual correlation among age groups within each year-region cell.

(as in the United States) better local demand leads to a modest fall in welfare recipiency among young men. The positive and significant effect of local demand on welfare recipiency of Canadian men is an anomaly. It should be noted, however, that because of data limitations, comparable welfare recipiency rates are only available for the last two years of our sample period for Canada. Thus the welfare recipiency model for Canada is fit with only 12 observations on the underlying regional data.

The estimated effects of the wage index in the first part of table 4.9 are quite interesting. In the employment models in column (2), wages exert essentially no effect. It should be noted that these estimated wage coefficients may be upward biased by unobserved region-specific factors that lead to higher employment demand for youths and at the same time exert upward pressure on youth wages. We attempted to instrument the youth wage using the fraction of youths in the regional population (a "supply shift" variable) but as noted earlier this variable has an insignificant (and "wrong signed") effect on wage levels in the first-stage equation. In future work it would be interesting to evaluate the performance of other potential instruments, such as a minimum wage measure.

In contrast to the negligible effect of the wage index on employment, the estimates in table 4.9 suggest that higher wages exert a more systematic effect on the living arrangements and enrollment behavior of young men. In particular, rising wages are associated with a lower probability of living with one's parents and a lower probability of enrollment. Both effects are marginally significant in the country-specific models and in the pooled model.

Overall, the results in table 4.9 suggest that external labor market conditions exert a fairly strong effect on a wide range of behaviors among young men. In regions with stronger local demand conditions and higher wages, young men are more likely to work, more likely to strike out on their own and move away from their parents' homes, and less likely to go to school. In regions with depressed local demand conditions and lower wages, young men adapt by continuing to live with their parents and by attending school. The latter mechanism leads to an interesting paradox: a depressed labor market may lead to greater human capital accumulation and (presumably) to enhanced long-run growth.

In comparison to the results for men, the results for women in the second part of table 4.9 are more variable across countries. The employment models in column (2) show that young women's employment is less responsive to changes in the prime-age adult employment rate (the employment rate of adult women in this case) than the employment of young men. There is no indication that higher wages lower young women's employment. Better cyclical conditions (as measured by the employment rate of prime-age women) exert a strong negative effect on the probability of living with parents among Canadian women but only show a weak negative

effect among U.S. women. Perhaps surprisingly, the estimated cyclical effects on enrollment are positive (but only significant in the United States) for the two countries.

As in the case of men, the estimates suggest that higher wages exert a systematic effect on the living arrangements and enrollment behavior of young women. In particular, rising wages are associated with a lower probability of living with one's parents and a lower probability of enrollment. Both effects are statistically significant in the country-specific models and in the pooled model.

The cyclical effects on welfare recipiency in the United States are relatively strong but for Canada are again "wrong signed," perhaps as a consequence of the limited amount of data used in the Canadian welfare model. On the other hand, the wage has a negative and significant impact on welfare recipiency in Canada, as expected.

Overall, the estimation results are fairly similar for young men and young women. Looking at the pooled models for outcomes other than welfare recipiency, the only systematic difference between men and women is that the employment-population rate of prime-age adults has a negative and significant effect on the probability of attending school for young men, but a positive and insignificant effect for young women. All the other estimated effects conform to our expectations, except perhaps for the effect of the wage on employment, which should be negative when wages move employment along a fixed demand curve.

4.2.4 Are U.S.-Canadian Differences in Youth Outcomes Driven by Regional Labor Markets?

The results presented in table 4.9 suggest that the state of the regional labor market has an important influence on youth decisions to live with parents, work, or enroll in school. We now turn to the question of whether changing regional labor market performance can account for differential U.S.-Canadian trends in these outcomes over the past 25 years.

Table 4.10 shows the changes in the U.S.-Canadian gaps in each "outcome" from 1971 to 1991 and from 1991 to 1994, along with the changes in each outcome predicted by our model as a consequence of changing regional labor market conditions and the "residual" component.[28] To measure the total changes and predicted changes in each outcome we fit pooled models for the six Canadian provinces/regions and nine U.S. regions using a full set of country-specific year effects. In the first specification we excluded the regional labor market variables (the wage index and the adult employment rate), while in the second specification these

28. Note that our regional wage indexes have the same mean in every year. By construction, then, the average changes in the wage index variable over time are zero for both countries, and this variable cannot "explain" any relative trends between the two countries.

Table 4.10 **Effect of Labor Market Conditions on U.S.-Canadian Differences in Fraction of Youths Living with Parents, Working, and Enrolled in School**

A. 1971–91

	Men			Women		
Change	Living with Parents	Working	Enrolled	Living with Parents	Working	Enrolled
Total change[a]	1.1	−.3	9.1	2.0	2.1	10.0
Changes explained by labor market conditions[b]	−1.4	.9	−.9	−3.6	3.7	−1.5
Unexplained change	2.5	−1.2	10.0	5.6	−1.6	8.5

B. 1991–94

	Men			Women		
Change	Living with Parents	Working[c]	Enrolled[d]	Living with Parents	Working[c]	Enrolled[d]
Total change[a]	2.7	−3.9	1.0	3.5	−2.9	.4
Changes explained by labor market conditions[b]	3.8	−5.6	2.7	2.7	−2.4	−.4
Unexplained change	−1.1	1.7	−1.7	.8	.5	.8

[a]Calculated from the estimated coefficients (translated into percentage points) on the full set of interactions between country and year effects when the labor market variables (adult employment-population rate and wage index) are not included in the pooled U.S.-Canadian model (see table 4.9).

[b]Indicates how the estimated coefficient changes when the labor market variables are included in the regression models.

[c]The change in the fraction of youth working has been adjusted to account for changes in the definition of employment in the Canadian data (work in the reference week in June in the 1991 census vs. work in the reference week in April in the 1994 SCF). The adjustment factor of 5.4 percentage ponits was obtained by comparing the fractions of youths working in the 1991 census and in the 1991 SCF.

[d]The change in the fraction of youth enrolled in school has been adjusted to account for changes in the definition of school enrollment in the Canadian data (enrolled at any time in the nine months before June in the 1991 census vs. enrolled in the reference week in April in the 1994 SCF). The adjustment factor of 7.1 percentage points was obtained by comparing the fractions of youths in school in the 1991 census and in the 1991 SCF.

variables were included. The total changes are measured by the differences in the differences of the U.S. and Canadian year effects between the base year and the end year (e.g., 1971 and 1991) in the model that excludes the labor market variables. The unexplained changes are measured by the differences in the differences between the base year and the end year in the model that includes the labor market variables. Finally, the explained changes are measured by the differences between the total and unexplained changes.

The first part of table 4.10 indicates that for both men and women, the proportion of youths living with their parents and the proportion of youths working evolved similarly in the two countries between 1971 and 1991. By contrast, the proportion of youths attending school increased much faster (10 percentage points more) in Canada than in the United States. In the case of men, the slightly better labor market conditions in Canada account for a small increase in the probability of working and a small decrease in the probability of living with parents. Note that these effects are substantially larger for women. This is due to the fact—not shown in the tables—that the employment rate of adult women increased substantially more in Canada than in the United States during this period.

Note also that labor market conditions do not account for any of the relative growth in the fraction of young Canadians enrolled in school. If anything, slightly better labor market conditions should have reduced this proportion in Canada relative to the United States. Overall, none of the relative changes in aggregate youth outcomes between the United States and Canada between 1971 and 1991 are explained by our labor market variables.

By contrast, the second part of the table shows that the poor performance of the Canadian labor market between 1991 and 1994 fully explains the "move back home" of young Canadians. For both men and women, the proportion of youths living with their parents increased by about 3 percentage points more in Canada than in the United States, which corresponds to the change predicted by the relative deterioration of the Canadian labor market. Similarly, the sharp drop in the relative employment rate of young Canadians is explained by the poor labor market conditions in Canada.[29] If anything, in fact, the employment rate of young men in Canada should have dropped slightly more than it actually did. The proportion of young Canadian men attending school also increased less than predicted between 1991 and 1994. Changing labor market conditions

29. In Canada, there is a spurious negative trend in the proportion of youths working or attending school because of changes in the definitions of these variables between 1991 (census) and 1994 (SCF). The numbers reported in the second part of table 4.10 have been adjusted using an adjustment factor computed by comparing the employment rate and enrollment rate in the 1991 SCF and those in the 1991 census. The adjustment factor is 5.4 percentage points for employment and 7.1 percentage points for school enrollment.

should have pushed up the enrollment rate by 2.7 percentage points more in Canada than in the United States, while the actual rate only increased by 1 percentage point. In the case of women, there was no substantial change (actual or predicted) in enrollment rates in Canada relative to the United States.

Overall, our findings suggest that young Canadians have adjusted to the poor conditions in the Canadian labor market during the 1990s by staying with their parents longer (and working less). By contrast, labor market conditions explain little of the sharp increase in enrollment rates in Canada relative to the United States between 1971 and 1991. The explanation for this increase has to be found elsewhere. One conjecture is that Canadian youths were simply catching up to American youths through the 1970s and 1980s. Lower tuition costs in Canada may also explain some of the change.

4.3 Conclusions

In this paper we take advantage of the rich microdata sets available for the United States and Canada to study the responses of young people to the external labor market forces that have affected the two countries over the past 25 years. Our key hypothesis is that young people adjust to changes in labor market opportunities through a variety of mechanisms, including changes in living arrangements, changes in school enrollment, and changes in work effort.

In the case of young men, the results support this hypothesis. In regions with stronger local demand conditions and higher wages, young men are more likely to work, more likely to strike out on their own and move away from their parents' homes, and less likely to go to school. In regions with depressed local demand conditions and lower wages, young men adapt by continuing to live with their parents and by attending school. The results for young women are similar except that local demand conditions (the employment-population rate of adult women) have no significant effect on school enrollment.

In fact, poor labor market conditions in Canada explain why the fraction of youths living with their parents has increased in Canada relative to the United States recently. Paradoxically, this move back home also explains why the relative position of Canadian youths in the distribution of family income did not deteriorate as fast as in the United States. Other factors like the relatively high rate of single-headed households in the United States also have a negative impact on the relative income position of U.S. youths. However, unlike the move back home in Canada, which is a recent phenomenon, the high incidence of single-headed households in the United States relative to Canada has persisted throughout the period considered here (1970–94). Short-run factors like the state of the labor

market cannot account for the permanent difference in the fraction of youths who live in single-headed households in Canada and the United States.

The descriptive analysis presented in this paper raises a number of other interesting issues for future research. For example, enrollment rates were traditionally higher in the United States than in Canada but the situation has been reversed in the early 1990s. It would be interesting to know whether differences in college and university tuition levels and student loan programs can explain this reversal of historic trends. It would also be interesting to explore what analytical models of family behavior are consistent with our empirical observation that the family acts as a "safety net" for young people during difficult economic times.

Appendix A

Determination of Living Arrangements

U.S. Data

We used the household and family relationship variables in the Current Population Survey (CPS) to distinguish between three living arrangements: living with one's parents, living outside one's parent's home as a head (or wife) of one's own family, and living outside one's parent's home as a lone individual (with or without roommates). Individuals who head their own families but live with their parents (or parents-in-law) are considered to be living with their parents. In addition, individuals who live with some other relative (e.g., a grandmother or aunt) with or without their own families are classified as living with their "parents."

Individuals who head their own families but live with their parents (or parents-in-law) are classified as living in related subfamilies in the March CPS. For these individuals (and their children) we used the family information for the associated primary family to determine whether the parental family has dual heads, a single female head, or a single male head. For all other individuals we used the family information for their own family to determine whether the family has dual heads, a single female head, or a single male head.

Specific details for the various CPS years follow.

March 1971

We use "family relationship summary" (columns 43–44 of the person record) to determine living arrangements. This variable combines primary and related subfamilies. Individuals coded as children, grandchildren, or other relatives of the head (codes 3–9) are classified as living with their

parents. Individuals coded as not in a family (codes 10–11) are classified as living alone. Individuals coded as heads or wives (codes 1–2) are classified as heading their own families.

March 1981

We use "relationship to householder" (column 103 of the person record) plus "subfamily relationship" (column 106 of the person record) to determine living arrangements. Individuals whose relationship to the householder is child or other relative (column 103 = 4–5) plus individuals who are unrelated subfamily members (column 103 = 6) and whose subfamily relationship is child or other relative (column 106 = 3–4) are classified as living with their parents. Individuals who are nonfamily householders or unrelated individuals (column 103 = 2, 7) are classified as living alone. Individuals whose relationship to the householder is householder or spouse (column 103 = 1, 3) plus individuals who are unrelated subfamily members (column 103 = 6) and whose subfamily relationship is reference person or spouse (column 106 = 1, 3) are classified as heading their own families.

March 1991 and March 1994

We use "family type" (column 31 of the person record) plus "family relationship" (column 32 of the person record) to determine living arrangements. Individuals whose family type is primary family or unrelated subfamily (column 31 = 1, 4) and whose family relationship is child or other relative (column 32 = 3–4) plus individuals whose family type is related subfamily (column 31 = 3) are classified as living with their parents. Individuals whose family type is nonfamily householder or secondary individual (column 31 = 2, 5) are classified as living alone. Individuals whose family type is primary family or unrelated subfamily (column 31 = 1, 4) and whose family relationship is reference person or spouse (column 32 = 1–2) are classified as heading their own families.

Canadian Data

1971, 1981, and 1991 Census

In the Canadian census (1971, 1981, and 1991), we use the variables "census family status" and "relationship with the head of household" to determine the same type of family arrangements as in the U.S. data. We classify as "living with parents" all individuals whose census family status is "child." By definition, these individuals live with their parents, have never been married, and have no children. We also classify as "living with parents" some individuals whose relationship with the head of household is "child" or "child-in-law" but who are not themselves children in a cen-

sus family. Most of these individuals are either "heads" (husband or single parent) or "wives" of their own census families who happen to live with their parents or in-laws. We also classify as "living with parents" those individuals whose relationship with the head of household is "child" or "child-in-law" but whose census family status is "non-census family member living with relatives." Examples of these cases would be a divorced daughter living with her parents or a widower living with his in-laws.

Among individuals who were not classified as "living with parents," we classify as "living outside one's parent's home as a head (or wife) of one's own family" those who are heads (or wives) of census families. All other individuals do not live in a census family and are classified as "living outside one's parent's home as a lone individual (with or without roommates)." In the 1981 and the 1991 census, "census family status" can also be used to find out whether a child in a census family lives in a single- or dual-headed family. Since no such information is available for other individuals classified as "living with parents," we assume that all these individuals live in dual-headed households. This assumption is innocuous since only about 2 percent of individuals classified as "living with parents" are not children in census families. The "census family status" variable can also be directly used to classify individuals who are the heads of their own families as "head of a dual-parent family" or "head of a single-parent family."

In the 1971 census, however, the "census family status" variable provides no information on whether a family is single or dual headed. This explains why the subcategories that refer to living with parents in a single- or dual-headed family are left blank in table 4.3 in 1971. On the other hand, we use the martial status variable to classify as "single parent" an individual who is the head of a census family and is not married.

1994 Survey of Consumer Finances

In the 1994 SCF, we used three variables—census family status, economic family status, and family type—to determine the living arrangements of individuals. We classify all individuals whose economic family status is "child or child-in-law" as "living with parents." We also classify as "living with parents" individuals who are neither head, spouse, nor child or child-in-law in an economic family (the residual category "other" in the SCF) and are also in the "other" category for census family status.[30] A son living with his mother and his grandfather (head of the economic family) would fall into this particular category.

30. There are four possible categories for the census status variable: "head," "spouse," "not in a census family or lone parent," and "other." Logically, all individuals in the "other" category should be children in a census family, but few of them (0.21 percent of the sample) are also classified as head of an economic family. We classified this latter group of individuals as "living alone."

Individuals not classified as "living with parents" are classified as heads or spouses of their own families when the census family status is "head" or "spouse." Individuals in the census family category "not in census family or lone parent" are classified as heads of their own (single-headed) families when the "family type" variable indicates that they live in a single-parent household. All other individuals are classified as "living alone." Finally, the "family type" variable is also used to determine whether individuals who live with their parents live in single- or dual-headed families.

Appendix B

Table 4B.1 **Estimated Regression Coefficients of Living Arrangement Status on Log Wages of Youths**

	Young Men		Young Women	
	All	Ages 20+	All	Ages 20+
United States				
1. 1970 Weekly earnings, controlling for hours in survey week				
Living alone	.06	.07	.15	.16
	(.04)	(.04)	(.03)	(.03)
Living as head of own family	.34	.34	.10	.11
	(.02)	(.02)	(.02)	(.02)
2. 1980 Weekly earnings, controlling for hours in survey week				
Living alone	.16	.16	.12	.11
	(.02)	(.02)	(.02)	(.02)
Living as head of own family	.27	.27	.12	.12
	(.02)	(.02)	(.02)	(.02)
3. 1980 Hourly earnings				
Living alone	.11	.13	.04	.06
	(.01)	(.02)	(.01)	(.02)
Living as head of own family	.22	.23	.06	.08
	(.01)	(.02)	(.01)	(.01)
4. 1990 Hourly earnings				
Living alone	.06	.07	.05	.07
	(.02)	(.02)	(.01)	(.02)
Living as head of own family	.11	.12	.02	.03
	(.02)	(.02)	(.02)	(.02)
5. 1993 Hourly earnings				
Living alone	.13	.14	.01	.02
	(.02)	(.02)	(.02)	(.02)
Living as head of own family	.16	.17	.00	.01
	(.02)	(.02)	(.02)	(.02)

(*continued*)

Table 4B.1 (continued)

	Young Men		Young Women	
	All	Ages 20+	All	Ages 20+
Canada				
1. 1980 Weekly earnings (census), controlling for hours in survey week				
Living alone	.10	.09	.08	.07
	(.01)	(.01)	(.01)	(.01)
Living as head of own family	.19	.19	.10	.10
	(.01)	(.01)	(.01)	(.01)
2. 1990 Weekly earnings (census), controlling for hours in survey week				
Living alone	.10	.08	.07	.05
	(.01)	(.01)	(.01)	(.01)
Living as head of own family	.20	.19	.10	.08
	(.01)	(.02)	(.01)	(.01)
3. 1990 Weekly earnings (SCF), controlling for hours in survey week				
Living alone	.22	.22	.10	.10
	(.03)	(.03)	(.03)	(.03)
Living as head of own family	.23	.24	.00	−.01
	(.04)	(.04)	(.03)	(.03)
4. 1993 Weekly earnings (SCF), controlling for hours in survey week				
Living alone	.16	.15	.03	.05
	(.04)	(.04)	(.04)	(.04)
Living as head of own family	.29	.31	.01	−.02
	(.05)	(.04)	(.04)	(.04)

Note: Table entries are estimated coefficients of living arrangement status (living alone, living as head of one's own family) in a linear regression model for log average weekly earnings or log average hourly earnings over the previous calendar year. The omitted status is living with one's parents. Other covariates are age dummies, education, a nonwhite dummy, and region dummies for the United States and age dummies, education, and province dummies for Canada. The models in rows 1 and 2 also include the log of reported hours in the survey week (set to zero for nonworkers) and an indicator for individuals who did not work in the survey week. Samples include individuals aged 16–24—in the March Current Population Survey for the United States and in the census (1980 and 1990) and the Survey of Consumer Finances (1990 and 1993) for Canada—who reported positive earnings and weeks of work in the previous year.

Table 4B.2 **Activity Rates and Living Arrangements of Youths Aged 20–24**

Activity	United States			Canada		
	All Youth (1)	Living with Parents (2)	Living Alone (3)	All Youth (4)	Living with Parents (5)	Living Alone (6)
			1971			
Men						
Inactivity	9.0	12.6	5.7	11.9	15.0	8.6
School only	16.4	26.1	7.7	11.2	17.0	5.2
Work and school	16.1	17.1	15.2	20.9	24.1	17.5
Work only	58.5	44.1	71.4	56.1	43.9	68.7
Fraction of all youth	100.0	47.3	52.7	100.0	51.0	49.0
Women						
Inactivity	36.8	19.0	44.7	34.9	19.6	41.7
School only	9.0	20.9	3.7	8.1	17.4	4.0
Work and school	8.3	13.8	5.9	10.9	17.3	8.2
Work only	45.9	46.3	45.7	46.0	45.7	46.2
Fraction of all youth	100.0	30.8	69.2	100.0	30.6	69.4
			1994			
Men						
Inactivity	15.2	16.8	12.9	19.1	17.3	22.2
School only	15.4	20.9	7.3	21.0	26.4	11.9
Work and school	16.0	17.7	13.5	13.4	16.7	7.8
Work only	53.4	44.5	66.2	46.5	39.6	58.2
Fraction of all youth	100.0	59.0	41.0	100.0	63.2	36.8
Women						
Inactivity	23.0	16.3	28.2	19.1	11.4	26.5
School only	13.8	21.0	8.3	21.7	29.1	14.5
Work and school	18.6	26.0	12.8	16.4	23.9	9.2
Work only	44.6	36.7	50.7	42.9	35.6	49.8
Fraction of all youth	100.0	43.6	56.4	100.0	49.0	51.0

Sources: U.S. data based on the Current Population Survey. Canadian data based on the census (1971) and the Survey of Consumer Finances (1994). In the SCF and the CPS, enrollment and work activities refer to the survey week (April in the SCF). In the Canadian census, enrollment refers to school attendance at any time over the nine-month period from September of the previous year to the "census week" (in June of the corresponding year), while work activity refers to the census week.

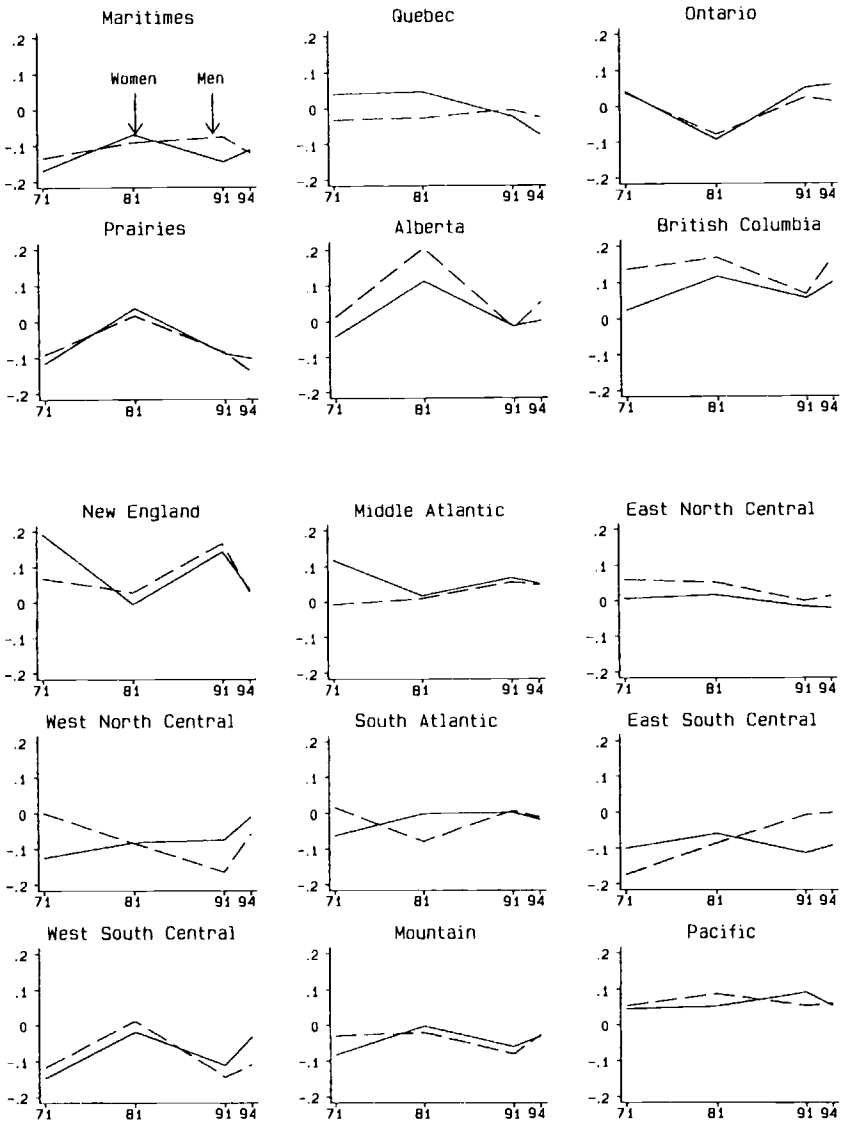

Fig. 4B.1 Regional variation in youth wages

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