

The Deteriorating Labor Market Fortunes of America's Teens, 2000-2012, the Decline in Our International Position, and the Consequences for Future Young Adult Employment in Our Nation

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“The most serious of the evils that afflict the world today are youth unemployment and the loneliness of the old. The young need work and hope but get neither one nor the other”.
Pope Francis (2013), LifeSiteNews.com

“The disconnection of youth from jobs and school has led to declines in the marriage rate, household formation, and homeownership. This is an American Tragedy and its dimensions are growing”.
Jeff Madrick, “The Real Lost Generation”, [Harpers](http://Harpers.com), 2013.

“Employers frequently note that many young workers are unprepared. But it’s impossible for anyone to be prepared for a career if they can’t obtain their first jobs”.
Dan Geltbuch and Lew Finfer, Youth Jobs Coalition, [Boston Globe](http://BostonGlobe.com) (2013).

Introduction

The past decade in the United States (2000-2010) has been referred to by a number of economists and other social scientists as a “lost decade”.¹ The total number of wage and salary payroll jobs in the private and public sectors combined in the nation in 2010 was lower than it was in 2000. This compares to gains of 19 million and 22 million jobs, respectively, in the prior two decades. Both median real household and family income in the nation failed to register any increase over the decade and income inequality tended to worsen.

Employment opportunities for working-age Americans (16 and older) varied considerably across age groups over this time period. This phenomenon has been referred to by the authors in several previous papers as the Great Age Twist in Employment Rates.² It is a truly unique historical labor market phenomenon for the United States. Over the 1999-2000 to 2010-2011 time period, the employment rates of working age Americans in each single age group under 57 years of age declined while those of adults 57 and older increased. The percentage point sizes of these reductions in employment rates tended to rise as the age of the potential

¹ See: (i) Menzie Chin and Jeffrey Frieden, [Lost Decade: The Making of America’s Debt Crisis and the Long Recovery](#), W.W.Norton and Company,2011; (ii) Carl Van Horn et al, [Working Scared or Not Working at All: The Lost Decade, Great Recession , and Restoring the American Dream](#), Rowman and Little, New York, 2012.

² For earlier findings on this Great Age Twist, see: (i) Andrew Sum and Ishwar Khatiwada with Sheila Palma, “ The Age Twist in Employment Rates 2000-2004” [Challenge](#), July-August 2005,pp.51-68; (ii) Andrew Sum, Ishwar Khatiwada and Mykhaylo Trubskyy, [The Changing Labor Market Fortunes of Teens and Young Adults in the Nation’s 100 Largest Metropolitan Areas in the Lost Decade of 2000-2010](#), Report Prepared for the Brookings Institution, Washington D.C., 2013.

worker declined, being highest by far for teens(16-19) and then young adults 20-24 years of age. This paper is devoted to an analysis of changes in the employment rates of U.S. teens (16-19) over the 2000-2012 time period. The paper also will examine variations in these teen employment rates across age, gender, race-ethnic and family income groups. Findings on teen employment rates in the US over the 2000-2012 time period will be compared to those of their counterparts in 30 other OECD countries. Results will be provided for all teens and for men and women separately. Changes in the U.S. rankings of teen employment rates across these OECD countries over the 2000-2012 period also will be presented.

A following section of this paper is devoted to changes in the employment rates of young adults (20-24) in the U.S. and these other OECD countries over the same 2000-2012 time period. Findings again will be displayed for all young adults in the U.S. and for men and women separately. To illustrate the importance of early teen employment, findings of a multiple regression analysis of the 2012 employment rates of young adults in 34 OECD countries and those of Russia and South Africa will be presented. The predictor variables in this model of young adult employment include their teen employment rate five years earlier (2007) and the aggregate rate of unemployment in their nation in 2012.

Defining and Measuring Employment/Population Ratios of Teens

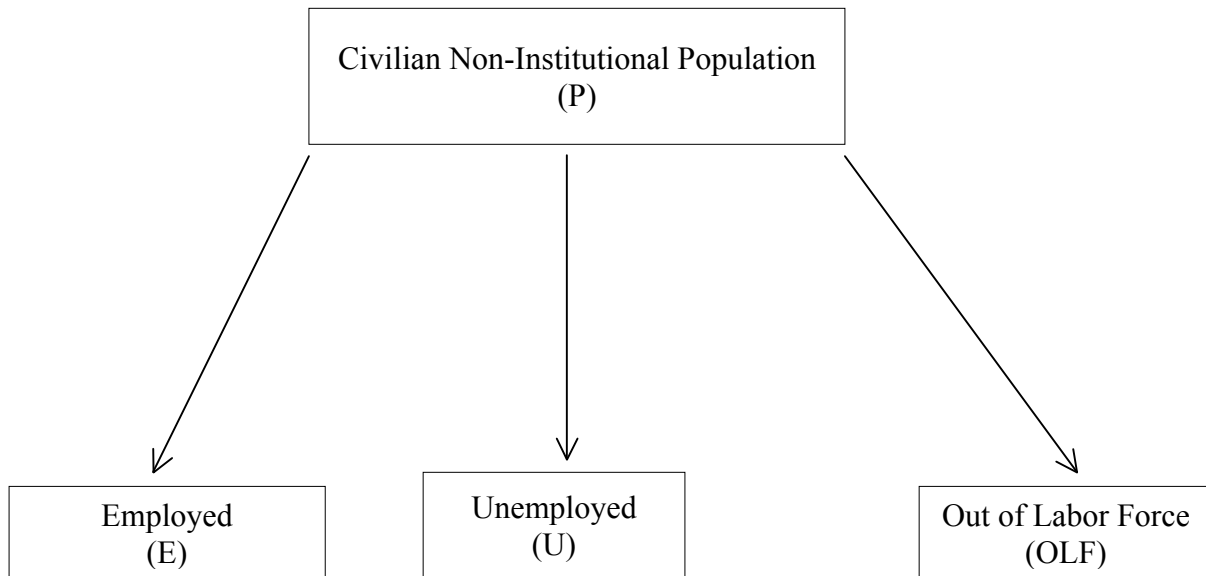
The measure of the employment status of teens in the U.S. and other OECD nations appearing in this report is the employment/population ratio often referred to in the labor market literature as the E/P ratio.³ The system used by the U.S. Bureau of Labor Statistics to classify the labor force activity status of individuals in the working age population (16 and older) is displayed in Chart 1 below. The labor force survey is focused on members of the civilian, non-institutional, working age population (P). The universe excludes those individuals serving in the nation's armed forces, those residing in institutions such as jails, prisons, nursing homes, and long stay hospitals, and the homeless including those living in temporary shelters.

Each working age respondent is asked a series of questions on their recent employment experiences, their job-seeking activity, and their availability for work if actively looking.

³ See: U.S. Department of Labor's Bureau of Labor Statistics, The Employment Situation: October 2013, Washington, D.C., November 2013 or see the discussion of labor definitions on the BLS Website at www.bls.gov

Employed persons are those individuals who worked for one hour or more for pay or profit in the reference week, or were temporarily absent from a job due to illness, vacation or the weather, or held an unpaid job for 15 or more hours in a family owned firm. The unemployed are those who were not employed in the reference week, had actively looked for a job in the previous four weeks, and were available to take a job if one were offered to them. Those respondents who could not meet the criteria for being employed or unemployed are classified as out of the labor force. A subset of these individuals do indicate to the survey interviewer that they did wish to be working at that time.

Chart 1:
The Labor Force Classification System in the U.S.



$$\text{Employment/Population Ratio} = \frac{E}{P}$$

The value of the employment/population ratio for any given population group is calculated by dividing the number of employed persons (E) by the number of such persons in the civilian, non-institutional population (P). For example, in 2012, the number of teens 16-19 years old in the civilian non-institutional population of the U.S. was estimated to be 16.984 million of whom about 4.4 million were employed, yielding an employment/population ratio of 26.1%. This finding implies that 26 of every 100 US teens were employed during an average month in 2012. As will be noted below, this was the lowest teen employment rate in the post-World War

Two history of the United States. Declines in teen employment rates over the 2000-2012 period have taken place among most OECD countries, but the magnitude of these reductions was considerably higher in the United States than in the average OECD nation.

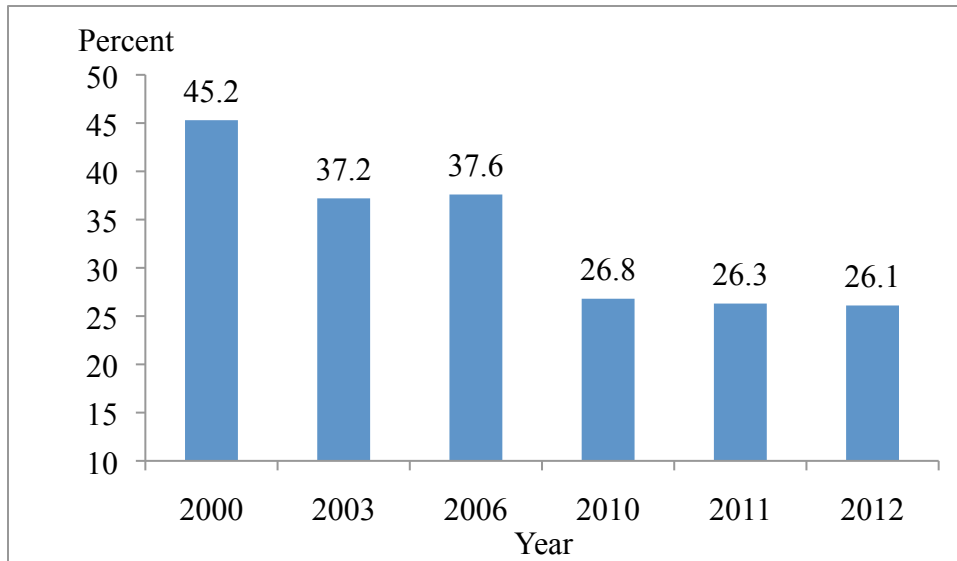
Time Trends in U.S. Teen Employment Rates, 2000-2012, and Their Variations Across Age, Gender, and Race-Ethnic Group

The employment/population ratios of the nation's teens have historically been quite cyclically sensitive, rising at above average rates during periods of strong job growth and declining aggregate unemployment (such as 1983-1989, 1992-2000) and dropping at above average rates during recessions and periods of largely jobless recovery (2001 November- August 2003).⁴ The nation's teen employment rate rose fairly strongly during the labor market boom from 1993 to 2000. At the near end of that economic growth cycle, the employment rate of teens hit 45.2%.⁵ (see Chart 2). During the recession of 2001 and the jobless recovery through most of 2002 and 2003, the teen E/P ratio dropped sharply to 37.2% in the latter year, an 8 percentage point drop in just three years.

Chart 2:
Trends in the Employment/Population Ratios of Teens, Selected Years, 2000-2012 (in %)

⁴ The term "jobless recovery" did not exist until the early 1990s when payroll job growth following the end of the 1990-91 recession tended to lag behind the output recovery. Similar developments occurred in the recovery from the 2001 national recession that ended in November 2001. Payroll job growth did not begin to rise steadily until the late summer of 2003.

⁵ According to the findings of the National Bureau of Economic Research, the nation's business cycle dating organization, the 2001 recession began in March of that year.

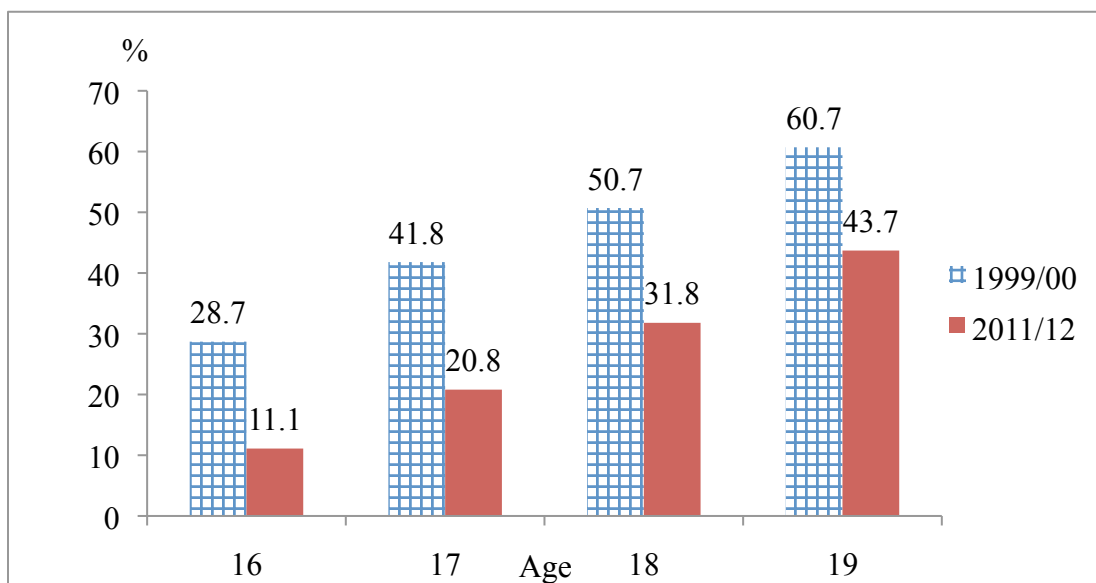


During the strong job growth years of 2003-2007, the teen E/P ratio barely budged, peaking at 37.6% in 2006, a year before the economy reached its cyclical peak at the end of 2007. Over the next four years (2006-2010), the national teen employment rate would again plummet, dropping by more than 10 percentage points to 26.8% in 2010, a new post-World War Two historical low. Their employment rate would continue to fall modestly over the next two years, dropping to 26% in 2012, another new all-time low. This employment rate was nearly 20 full percentage points below its value in 2000. Through the end of calendar year 2012, teens had not yet captured any of the net increase in total civilian employment that had been taking place since the fourth quarter of 2009. By the first quarter of 2013, aggregate civilian employment (persons 16+) was 5 million above its level in 2009 IV. Yet, teen employment in that same quarter of 2013 was 42,000 or 1% below its level in the fourth quarter of 2009. Teens were the only age group in the U.S. to have failed to experience any net new increase in their employment levels through the first three and one half years of jobs recovery.

The great age twist in employment in the U.S. over the past 12 years has dramatically reduced the employment rates of every single age group of teen workers. (see Chart 3). The entire age gradient of teen employment rates from 16 to 19 was pushed downward to a substantial degree from 1999-2000 to 2011-2012. Each single age group of teens saw their employment rates drop in absolute terms from 17 to 21 percentage points. In relative terms, the declines were highest for the youngest age groups. The nation's 16 year olds experienced a 60% drop in their E/P ratio, 17 year olds encountered a decline of 50%, and 19 year olds had a near

30% drop. The magnitude of these declines were well beyond those of all other age groups under age 57 while older workers obtained increases in their employment rates over this same time period. Given the strong path dependency in teen and young adult employment rates, these steep declines in cumulative work experience during the teen years will have adverse effects on their employability and earnings in their early to mid-20s. These employment and earnings losses tend to be most severe for those youth who were both out of school and out of work in their late teens and early 20s.⁶

Chart 3:
Teen Employment Rates by Single Age Group in 1999-2000 and 2011-2012



The declines in teen employment rates in the U.S. over the 2000-2012 time period were widespread across each gender and race-ethnic group. (Table 1). In calendar year 2000, the employment rates of teen men and women in the U.S. were basically identical at 45.2% and 45.0%, respectively. Over the next twelve years, the employment rates of both gender groups declined considerably, with male teens experiencing an above average decline. As was true for most years following 2000, female teens in 2012 were more likely to be employed than their male counterparts (27.3% vs. 24.9%). The steep declines in many blue collar jobs during the

⁶See: Douglas J. Besharov (Editor), Disconnected Youth: Toward A Preventive Strategy, American Enterprise Institute Press, Washington, D.C., 1999; (ii) Clive R. Belfield, Henry M. Levin, and Rachel Rosen, The Economic Value of Opportunity Youth, Report Prepared for the Corporation for National and Community Service and the White House Council for Community Solutions, Washington, D.C., 2012.

Great Recession of 2007-09 and its early aftermath had a more adverse effect on male teens than their female counterparts, sharply restricting their opportunities to be employed in such occupations (production, transportation, crafts, and laborers). Both Black and White male teens were less likely than their female peers to be working in 2012.

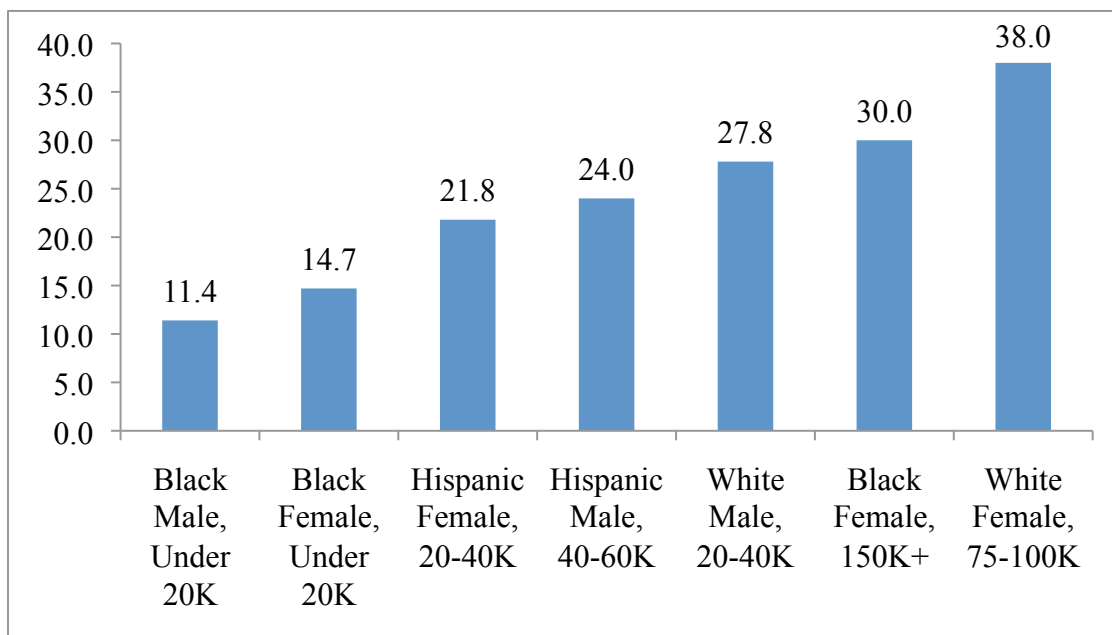
Table 1:
Trends in U.S. Teen Youth Employment Rates by Gender and Selected Race-Ethnic Groups,
2000 to 2012 (in %)

Group	2000	2012	Percentage Points Change
Men	45.2	24.9	-20.3
Women	45.0	27.3	-17.7
Asian	30.8	16.2	-14.6
Black ⁽¹⁾	29.8	16.6	-13.2
Hispanic	38.6	22.1	-16.5
White ⁽¹⁾	49.1	29.0	-20.1

Note: ⁽¹⁾ Both Black and White groups will include Hispanics who identify with this race.

The employment rates of teens also varied widely across family income groups in 2012, rising steadily with income until those youth living in very affluent families with income over \$150,000 were reached. To identify variations in teen employment rates across gender/race-ethnic/and family income groups, we estimated such employment rates for 60 such demographic/income subgroups in 2012. Selected findings for such subgroups of teens from the bottom to the top of the distribution are displayed in Chart 4.

Chart 4:
Employment-Population Ratio of 16-to-19 Year Olds in Selected Gender, Race-Ethnic, and
Family Income Groups, 2012 (Annual Averages in %)



These teen employment rates varied to an extraordinarily high degree. At the bottom of the distribution were the employment rates of Black male teens and female teens from low income families (income under \$20,000). Only 11% of such Black males and nearly 15% of Black females were working in 2012. Among Hispanic women and men from lower middle to middle income families (\$20,000-\$60,000), the employment rates ranged from 22 to 24 percent.

At the top of the distribution were the 30% employment rate of Black women from the most affluent group of families (\$150,000) and White women from upper middle income families (38%). The employment rate of this last group of teens was 3.3 times as high as that of the employment rate of the group with the lowest employment rate (low income Black males).

Trends in Teen Employment Rates in Individual OECD Countries Between 2000 and 2012

To place the findings on teen employment developments in the U.S. in comparative perspective, we examined teen employment rates in 31 Organization for Economic Cooperation and Development (OECD) nations over the 2000-2012 time period.⁷ These 31 countries were located in North and South America, Europe, Asia (Japan, South Korea), Australia, and New Zealand). Data for teens in all OECD countries together also are also presented.

In calendar year 2000, teen employment rates in these 31 OECD nations varied quite widely, ranging from lows of 6 to 7 percent in Belgium, Poland, and the Slovak Republic to highs of 51 to 56 percent in Iceland, Switzerland, and the United Kingdom. The teen employment rate for all OECD countries combined was 30.2%. (Table 2).

⁷ We excluded three countries that that recently joined the OECD organization in 2010. They were Estonia, Israel, and Slovakia. There was no teen employment data available for Slovenia in 2010, and the 2012 data for Israel were marked by an extraordinary large blip upward. For evidence on the problems of youth employment in OECD countries, see: (i) Sarah D. Lorenzo, "EU Warns About Jobless Young", *Boston Globe*, May 29, 2013, p.B-8; (ii) "Generation Jobless: Work and the Young", *The Economist*, April 27-May 3, 2013, p. 12; (iii) Juergen Baetz, "Obama Warns EU Over High Youth Unemployment", *San Jose Mercury News*, June 20, 2013; (iv) Stephen Faris, "Greece's Unemployed Young: A Great Depression Steals the Nation's Future", www.businessweek.com, 7/8/2013; (v) Josh Sanburn, "Fewest Young Adults in 60 Years Have Jobs", *businesstime.com*, February 2012; (vi) Jeff Madrick, "The Anti-Economist: the Real Lost Generation", *Harper's*, December 2013, pp. 13-15..

Table 2:
Trends in the E/P Ratios of Teens in Individual OECD Countries 2000-2012
(in %)

Country	2000	2012	Percentage Point Change	Rank 2012
Australia	49.7	45.7	-4.0	5
Austria	37.6	38.7	+1.1	7
Belgium	7.4	6.0	-1.4	23
Canada	43.3	39.6	-3.7	6
Chile	10.2	15.0	+4.8	17
Czech Republic	9.9	3.5	-6.4	28
Denmark	59.0	46.3	-12.7	4
Finland	26.8	24.7	-2.1	14
France	10.4	9.7	-0.7	19
Germany	30.5	25.9	-4.6	13
Greece	9.1	2.8	-6.3	29
Hungary	8.2	1.8	-6.4	31
Iceland	56.4	58.9	+2.5	1
Ireland	29.0	9.2	-19.8	20
Italy	11.8	4.6	-7.2	26
Japan	15.4	13.5	-1.9	18
Korea	10.3	7.0	-3.3	22
Luxembourg	9.7	7.1	-2.6	21
Mexico	40.4	31.5	-8.9	11
Netherlands	55.0	53.4	-1.6	2
New Zealand	44.0	32.9	-11.1	10
Norway	43.9	37.8	-6.1	8

Poland	6.6	4.5	-2.1	27
Portugal	22.0	5.6	-16.4	24
Slovak Republic	6.6	2.5	-4.1	30
Spain	18.6	4.8	-13.8	25
Sweden	29.3	19.5	-9.8	16
Switzerland	51.3	50.4	-0.9	3
Turkey	31.7	21.6	-10.1	15
United Kingdom	53.1	34.1	-19.0	9
United States	45.2	26.1	-19.1	12
OECD countries	30.2	22.6	-7.6	
U.S – OECD	15.0	2.6	-12.4	

In 2000, slightly over 45% of 16-19 year old teens in the U.S. were working. The U.S. teen employment rate exceeded the OECD average by 15 percentage points or 50% in relative terms, and the U.S. ranked 7th highest among these 31 countries, outpacing larger nations, such as France, Germany, Italy, Japan, and Spain by huge margins.⁸ While not ranking at the very top of the distribution, the U.S. would still have been considered a national leader in providing its teens with jobs in 2000.

Over the next twelve years (2000-2012), teen employment rates fell in the vast majority of OECD countries, with double digit declines taking place in 7 of these countries, including the U.S. Only 3 of these 31 countries (Austria, Chile, and Iceland) experienced a modest gain in their teen employment rates while declines took place in the other 28 countries. The magnitude of these declines ranged from lows of less than 1 percentage point in France and Switzerland to highs of 19 to 20 percentage points in Ireland, the United Kingdom, and the United States. The U.S. had the second highest percentage point drop in its teen employment rate, with the gap between its employment rate and that of the entire OECD network falling from 15 percentage points in 2000 to less than 3 percentage points in 2012. (see Table 3 and Chart 5). The U.S. rank dropped from 7th highest to only 12th highest in 2012. (Chart 6). The U.S. teen employment performance in 2012 could best be classified as mediocre. It was no longer an international leader.

Chart 5:
Comparisons of the Gaps Between the E/P Ratios of Teens in the U.S. and the Entire OECD Region, 2000 and 2012, All and by Gender (In Percentage Points)

⁸ If Estonia and Israel had been included, the U.S. would have ranked 7th highest out of 33.

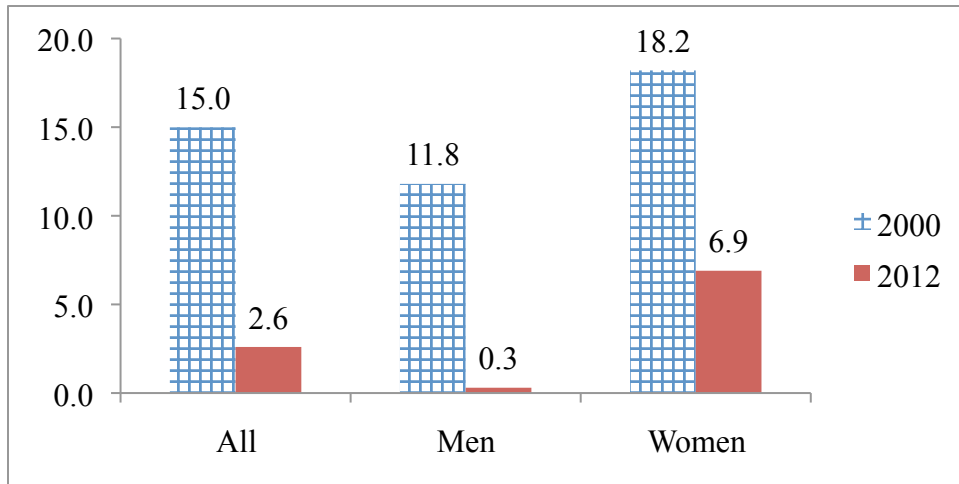
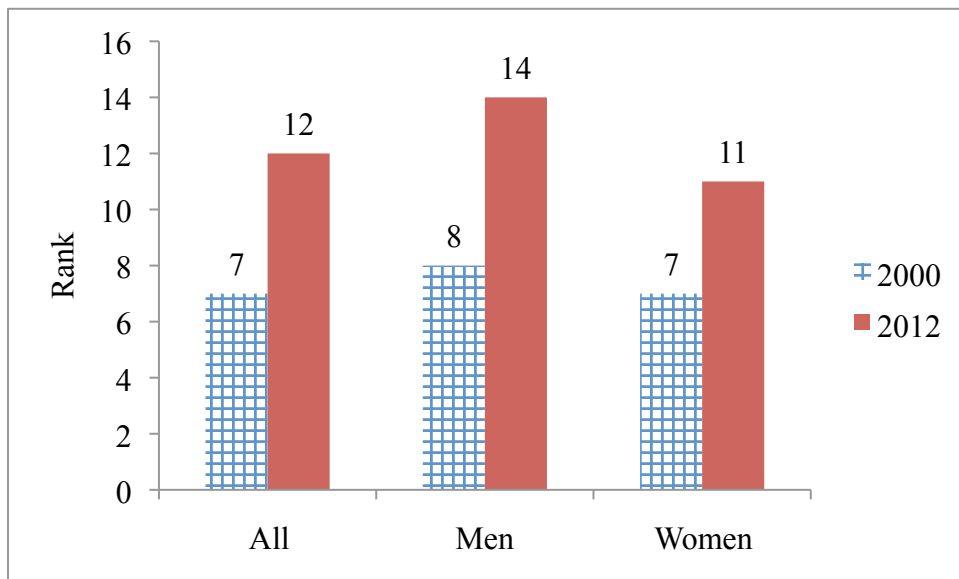


Chart 6:
Comparisons of the Rankings of the U.S. on Teen E/P Ratios Compared to the Entire OECD Region, 2000 and 2012, All and by Gender



The labor market fate of male teens in the vast majority of these 31 OECD nations also deteriorated over the 2000-2012 period. The overall male teen employment rate in the entire OECD bloc of nations fell from 33.6% to 24.6% over this 12 year period, a decline of 9 full percentage points. In only three of these nations (Austria, Iceland, and Switzerland) did male teens avoid a drop in their employment rate. In ten of these countries, double digit declines took place in teen employment rates with Ireland, the U.K., and the U.S. experiencing declines of 20 to 24 percentage points. The U.S. male teen employment decline was the third highest among these 31 nations. The gap between the male teen employment rate in the U.S. and the entire OECD region was nearly 12 percentage points in 2000 but had dropped to under one percentage

point by 2012. Our rank among the 31 OECD countries fell from 8th highest to 14th highest by 2012. Again, the U.S. shifted from being an international leader in male teen employment in 2000 to the middle of the pack in 2012. (Table 3).

Table 3:
Trends in the E/P Ratios of Male Teens in Individual OECD Countries 2000-2012 in %

Country	2000	2012	Percentage Point Change	Rank 2012
Australia	48.6	43.3	-5.3	6
Austria	43.4	43.9	+0.5	5
Belgium	8.8	7.1	-1.7	22
Canada	42.6	37.7	-4.9	8
Chile	13.8	18.0	+4.2	16
Czech Republic	11.1	4.2	-6.9	28
Denmark	60.6	44.0	-16.6	4
Finland	28.1	23.8	-4.3	15
France	13.9	11.8	-2.1	19
Germany	33.9	28.1	-5.8	13
Greece	11.9	4.0	-7.9	29
Hungary	8.4	2.2	-6.2	31
Iceland	50.3	52.4	+2.1	2
Ireland	32.4	8.8	-23.6	21
Italy	15.2	5.7	-9.5	24
Japan	15.8	13.5	-2.3	18
Korea	9.8	5.7	-4.1	25
Luxembourg	11.3	9.0	-2.3	20
Mexico	52.6	42.0	-10.6	7
Netherlands	55.8	52.3	-3.5	3
New Zealand	43.7	31.4	-12.3	11
Norway	44.0	34.7	-9.3	9
Poland	8.0	5.5	-2.5	26
Portugal	26.4	6.7	-19.7	23

Slovak Republic	5.3	2.8	-2.5	30
Spain	24.4	5.3	-19.1	27
Sweden	27.6	16.0	-11.6	17
Switzerland	53.3	53.6	+0.3	1
Turkey	40.6	29.4	-11.2	12
United Kingdom	52.9	32.1	-20.8	10
United States	45.4	24.9	-20.5	14
OECD countries	33.6	24.6	-9.0	
U.S. – OECD	11.8	0.3	-11.5	

Employment rates of female teens in individual OECD countries also varied widely in 2000 and 2012. (Table 4). Throughout the entire OECD bloc of nations, approximately 27 of every 100 female teens were working in 2000. These female employment rates ranged from lows of 5 to 7 percentage points in Belgium, Chile, France, Greece, and Poland to highs of 55 to 63 percent in Denmark, Iceland, the Netherlands, and the U.K. In the U.S., 45 of every 100 female teens were employed in 2000, an employment rate that was 18 percentage points above the OECD average in that year, and the nation ranked 7th highest among these 31 OECD nations.

Table 4:
Trends in the E/P Ratios of Female Teens in Individual OECD Countries,
2000-2012 (in %)

Country	2000	2012	Percentage Point Change	Rank 2012
Australia	50.9	48.3	-2.6	4
Austria	31.7	33.6	1.9	10
Belgium	6.0	4.8	-1.2	23
Canada	43.9	41.6	-2.3	6
Chile	6.3	11.3	5.0	18
Czech Republic	8.7	2.8	-5.9	28
Denmark	57.3	48.6	-8.7	3
Finland	25.5	25.6	0.1	12
France	6.8	7.5	0.7	21
Germany	27.0	23.6	-3.4	13
Greece	6.3	1.5	-4.8	30
Hungary	8.0	1.4	-6.6	31
Iceland	62.8	65.7	2.9	1
Ireland	25.3	9.6	-15.7	19

Italy	8.3	3.5	-4.8	26
Japan	15.0	13.6	-1.4	16
Korea	10.8	8.3	-2.5	20
Luxembourg	7.9	5.2	-2.7	22
Mexico	28.2	20.9	-7.3	15
Netherlands	54.2	54.4	0.2	2
New Zealand	44.3	34.3	-10.0	9
Norway	43.7	41	-2.7	7
Poland	5.1	3.4	-1.7	27
Portugal	17.4	4.4	-13.0	24
Slovak Republic	7.9	2.2	-5.7	29
Spain	12.5	4.2	-8.3	25
Sweden	31.1	23.2	-7.9	14
Switzerland	49.3	47.3	-2.0	5
Turkey	22.0	13.4	-8.6	17
United Kingdom	53.3	36.2	-17.1	8
United States	45.0	27.3	-17.7	11
OECD countries	26.8	20.4	-6.4	
U.S. – OECD	18.2	6.9	-11.3	

Over the 2000-2012 period, employment rates among female teens in the OECD bloc also declined sharply, but the drop was less precipitous than that taking place among their male counterparts. The combined OECD female teen employment rate fell from 26.8% in 2000 to 20.4% in 2012, a drop of more than 6 percentage points. In 6 of these OECD countries, including Austria, Chile, and France, female teens either maintained their 2000 employment rate or experienced a modest improvement. In the remaining 25 OECD countries, the female teen employment rate fell, with nine of these nations encountering a drop of more than 8 percentage points. The largest percentage point decline took place in the U.S., with the 2012 employment rate of female teens being nearly 18 percentage points below its 2000 level. The U.S. rank among the 31 nations fell from 7th highest in 2000 to 15th highest in 2012. The performance of the U.S. still remained modestly above average in 2012; however, the absolute size of the nation's female teen employment rate advantage fell fairly sharply from 18 percentage points in 2000 to only 7 percentage points in 2012.

The differential rates of change in the employment rates of teens by gender over the last twelve years in many OECD countries, including the U.S., have led to an increase in the number

of countries in which the female teen employment rate exceeded that of men in 2012. In the U.S. and other OECD countries, teen males were more adversely affected by the decline in goods-producing employment, which reduced blue collar job opportunities for male teens. In 2000, the female teen employment rate was higher than that of men in 8 OECD countries.⁹ By 2012, the number of OECD countries in which the gender gap favored women had risen to 13 (see Table 5). The size of these gender gaps ranged from slightly under one percentage point in Ireland to 6 to 13 percentage points in Norway, Sweden, and Iceland. The deterioration in male teen employment has had adverse effects on their employment rates as young adults (20-24) and their ability to form independent households and to marry.

Table 5:
Countries in Which the Female Teen E/P Rate is Above That of Men in 2012 (In %)

Country	(A) Women	(B) Men	(C) Women - Men
Australia	48.3	43.3	+5.0
Canada	41.6	37.7	+3.9
Denmark	48.6	44.0	+4.6
Finland	25.6	23.8	+1.8
Iceland	65.7	52.4	+13.3
Ireland	9.6	8.8	+0.8
South Korea	8.3	5.7	+2.6
New Zealand	34.3	31.4	+2.9
Netherlands	54.4	52.3	+2.1
Norway	41.0	34.7	+6.3
Sweden	23.2	16.0	+7.2
United Kingdom	36.2	32.1	+4.1
United States	27.3	24.9	+2.4

⁹ See: Andrew Sum, Joseph McLaughlin, and Ishwar Khatiwada, The Demise of the Teen Labor Market and the Industrial Restructuring of Teen Employment Opportunities in the U.S. and the Industrial Midwest, Report Prepared for the Mott Foundation, Flint, Michigan, 2009.

The Impacts of Declining Teen Employment and Rising Overall Unemployment on the Employment Rates of Young Adults (20-24) in OECD Nations in 2012

Given the strong links (path dependency) between employment in the teen years and one's employment experiences as a young adult, one would expect that the employment rates of 20-24 year olds in the U.S. and most other OECD countries would have deteriorated over the past 12 years. Unfortunately, the evidence clearly indicates that this is the case. In the U.S., the employment rate of 20-24 year olds plummeted from 72% in 2000 to 61% in 2012, a decline of nearly 11 percentage points. (see Tables 6 and 7). The U.S. ranking among 34 OECD countries fell from 5th highest in 2000 to only 13th highest by 2012, a mid-level performer. (Table 6).

Table 6:
Trends in the Employment Rates of 20-24 Year Olds in the U.S., 2000-2012, and Their Rank among 34 OECD Countries, All and by Gender (in %)

Group	(A) <u>2000</u>		(B) <u>2012</u>		(C)
	(1) Rate	(2) Rank	(1) Rate	(2) Rank	Percentage Point Change, 2000-2012
All	72.2	5 th	61.5	13 th	-10.7
Men	76.6	7 th	63.8	13 th	-12.8
Women	67.9	6 th	59.2	19 th	-8.7

Source: OECD, Labor Force Statistics, stats.oecd.org, tabulations by authors

Table 7:
Trends in the Employment/Population Ratios of 20-24 Year Olds in 33 OECD Countries
Between 2000 and 2012 (in %)

Country	(A) 2000	(B) 2012	(C) Percentage Point Change, 2000-2012
Netherlands	77.5	72.8	-4.7
Australia	74.8	72.3	-2.5
Switzerland	78.9	71.8	-7.1
Iceland	80.5	71.7	-8.8
Austria	68.6	69.5	+0.5
Canada	69.4	67.7	-1.7
Norway	69.1	67.5	-2.0
New Zealand	65.3	65.2	-0.1
Germany	65.3	64.1	-1.2
Denmark	73.9	63.7	-10.2
Israel	45.5	63.1	+17.6
Japan	66.5	62.5	-4.0
U.S.	72.1	61.5	-10.7
Finland	59.1	61.2	+2.2
United Kingdom	68.5	61.2	-7.3
Sweden	60.2	58.0	-2.2
Mexico	59.0	56.2	-2.8
Estonia	56.1	52.2	-3.9
Chile	44.2	47.3	+3.1
France	47.9	47.1	-0.8
Ireland	70.8	46.5	-24.3
South Korea	52.0	44.5	-7.5
Belgium	52.6	42.9	-9.7

Turkey	42.6	42.9	+ .3
Slovenia	-	42.3	-
Czech Republic	60.7	42.2	-18.5
Poland	41.7	41.8	+ .1
Portugal	59.1	40.2	-18.9
Slovak Republic	50.2	34.9	-15.3
Hungary	52.5	33.4	-19.1
Italy	41.1	32.2	-8.9
Spain	47.9	31.0	-16.9
Greece	44.9	23.7	-21.2

The employment rates of young adult men and women in the U.S. declined sharply from 2000 to 2012, with men experiencing a larger percentage point decline than their female peers (13 vs 9 percentage points). The comparative ranking of males fell from 5th highest in 2000 to 13th highest in 2012. While young adult women experienced a lower percentage point decline than men in their employment rate over this time period, their ranking fell more precipitously from 6th highest in 2000 to only 19th highest in 2012. Again, we find that American young adults went from being an international leader in their employment rates in 2000 to a mediocre performer in 2012.

The employment rates of young adults in 33 OECD countries in 2000 and 2012 are displayed in Table 7. These countries were ranked by their employment rates in 2012. In that year, there were extraordinarily large variations in young adult employment rates, ranging from highs of 72 to 73 percent in Iceland, Switzerland, Australia, and the Netherlands to lows of 24 to 32 percent in Greece, Spain, and Italy.¹⁰ Of these 33 OECD countries, only 6 either held their 2000 employment rates or experienced a modest increase. (.1 to 3.0 percentage points, with the exception of Israel, whose 2012 data are statistically suspect).

¹⁰ For evidence of path dependency in the employment behavior of teens and young adults (20-24) in the U.S. and Massachusetts, See: (i) Andrew Sum, Ishwar Khatiwada, and Mykhaylo Trubskyy, The Labor Market Behaviors and Problems of Teens and Young Adults in the Nation's 100 Largest Metropolitan Areas During the Lost Decade of 2000-2010, Report Prepared for the Brookings Institution, Washington, D.C. 2013; (ii) Andrew Sum and Robert Taggart, The Employment Experiences of the Nation's Teens and the Path Dependency Effects of Teen Employment, Paper Prepared for the U.S. Conference of Mayors, Washington, D.C., 2009; (iii) Andrew Sum, Joseph McLaughlin, and Ishwar Khatiwada, The Labor Market and Social Status of Teens and Young Adults (16-24) in Massachusetts and their Implications for the State and Local Youth Development Systems, Report Prepared for the Commonwealth Corporation, Boston, 2009.

To understand the magnitude of the influence of teen employment in earlier years and aggregate unemployment rates on the employment rates of young adults in individual OECD countries in 2012, we estimated a multiple regression model of young adult employment rates across 36 countries in 2012, including two non-OECD countries (Russia and South Africa). The dependent variable in this model is the employment/population ratio of 20-24 year olds living in the country during calendar year 2012. The two explanatory variables are the employment/population ratio of teens (16-19) in that country five years earlier in 2007 and the aggregate unemployment rate of the nation in 2012. Persons who were 16-19 years old in 2007 would have been 21-24 years old in 2012. Our hypotheses are the following two: the existence of positive path dependency would imply that the coefficient on the teen employment rate variable would be positive and that higher aggregate unemployment rates would significantly lower young adult employment rates, implying a negative coefficient on this variable.

The findings of the regression model provide strong empirical support for both hypotheses (see Table 8). The coefficients for both variables had the hypothesized sign and were statistically significant at the .01 level.¹¹ The estimated value of the constant term was 51.0 and was significant at the .01 level. The coefficient on the teen employment rate variable was .50, implying that a one percentage point higher teen employment rate five years earlier would raise the expected young adult employment rate by .5 percentage points, evidence of a high positive employability effect of early teen employment. The coefficient on the aggregate unemployment rate was -1.25, implying that a one percentage point higher overall unemployment rate would reduce the young adult employment rate by 1.25 percentage points, a very large employment depressing effect that reflects the combined results of higher overall unemployment on lowering the labor force participation rate of young adults and increasing their own unemployment rate.

Table 8:
Findings of the Multiple Regression Analysis of the 2012 E/P Ratios of 20-24 Year Olds in the 34 OECD Nations and Russia / South Africa (N=36)

Variable	(A) Coefficient	(B) t-statistic	(C) Significance
Constant	51.0	19.44	.01

¹¹ In fact, both coefficients were statistically significant at the .001 level.

E/P Ratio of Teens in 2007	.50	9.14	.01
Unemployment Rate of Country in 2012	-1.25	6.94	.01
Model R ²	.864		
Degrees of Freedom	(2,33)		
F	104.8		
Significance of F	.001		

The regression model performs quite admirably in explaining the extraordinary variability in the employment rates of young adults in these 36 nations. The R² statistic had a value of .864, and the F-statistic was 104.8 which was statistically significant at the .001 level. The model's predictions were quite on target at both the low and high end of the employment rate distribution. For both Greece and Spain, two low performers, the gap between the actual and predicted employment rates was only .6 percentage points. For Switzerland and the Netherlands, two high performers, the gap between the actual and predicted young adult employment rates was only 1.0 and 2.0 percentage points, respectively. For the U.S., the actual young adult employment rate of 61.4% exceeded the predicted rate of 58.3% by slightly more than three percentage points (see Table 9).

Table 9:
Comparisons of the Predicted and Actual Employment Rates of 20-24 Year Olds in the U.S. and Selected Other Countries, 2012

Country	(A) Predicted E/P	(B) Actual E/P	(C) Actual - Predicted
U.S.	58.3	61.4	+3.1
Greece	24.3	23.7	-0.6
Spain	30.4	31.0	+0.6
Ireland	44.4	46.5	+2.1
Iceland	78.3	71.7	-6.6
Switzerland	70.8	71.8	+1.0
Netherlands	70.8	72.8	+2.0
Russia	49.7	51.5	+1.8

The results of the regression model do clearly illustrate the importance of exposure to work experience as a teen in promoting their employability in their young adult years. The costs of low employment in the teen years are not simply confined to the lost earnings as a teen but also include lower employability, wages, and annual earnings in the young adult years, especially from lost full time employment and training from employers.¹² These lost opportunities in work experience also contribute to a reduction in the soft skills of attendance, co-worker relationships, ability to work under supervision, and good customer relations.

¹² See: (i) Sarah Ayres, The High Cost of Youth Unemployment, Center for American Progress, Washington, D.C., April 2013; (ii) Marta Tienda, Avner Ahituv, et al., “Employment and Wage Prospects of Black, Hispanic, and White Women” in Human Resource Economics and Public Policy, Essays in Honor of Vernon Briggs, W.E. Upjohn Institute for Employment Research, Kalamazoo, 2010; (iii) Francine D. Blau and Lawrence M. Kahn, “The Feasibility and Importance of Adding Measures of Actual Experience to Cross-Sectional Data Collection,” Journal of Labor Economics, Volume 3, Number 2, Part 2, pp. S17-S58, April 2013; (iv) Josh Sanburn, “Fewest Young Adults in 60 Years Have Jobs”, businesstime.com, February 2012; (v) Jeff Madrick, “The Anti-Economist: the Real Lost Generation”, Harper’s, December 2013, pp. 13-15.
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