NBER WORKING PAPER SERIES

GENDER AND YOUTH EMPLOYMENT OUTCOMES: THE US AND WEST GERMANY, 1984-91

Francine D. Blau
Lawrence M. Kahn

Working Paper 6078

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
June 1997

This work was partially supported by a grant from the Rockefeller Foundation to the NBER. Earlier versions of this paper were presented at the NBER-Universität Konstanz Conference on Youth Unemployment and Employment in Advanced Countries, Winston-Salem, North Carolina, December 1996 and the preconference held at Konstanz, Germany, May 17-18, 1996; as well as at the American Economics Association/Industrial Relations Research Association meetings in New Orleans, January 1997; the Sloan Conference on "The Growth in Labor Market Inequality" in Madison, Wisconsin, February 1997; and workshops at Cornell University, University of Toronto, and University of Rochester. We are indebted to Brian Levine, Deborah Anderson and Wen-Jui Han for excellent research assistance and to Katherine Abraham, Danny Blanchflower, Richard Freeman, Robert Hutchens, Stephen Nickell, Jörn-Steffen Pischke, Jane Waldfogel and participants at the above conferences and workshops for helpful comments and suggestions. This paper is part of NBER's research programs in Children and Labor Studies. Any opinions expressed are those of the authors and not those of the National Bureau of Economic Research.

Gender and Youth Employment Outcomes:
The US and West Germany, 1984-91
Francine D. Blau and Lawrence M. Kahn
NBER Working Paper No. 6078
June 1997
JEL Nos. J31
Children and Labor Studies

ABSTRACT

This paper examines gender differences in labor market outcomes for hard-to-employ youth in the US and West Germany during the 1984-91 period. We find that young, less educated American men and especially women are far less likely to be employed than their German counterparts. Moreover, less educated young women and men in the United States have lower earnings relative to more highly educated youth in their own country, and also fare much worse than less educated German youth in absolute terms, correcting for purchasing power. The relatively high employment rates of less educated German youth combined with their relatively high wages raise the question of how they are successfully absorbed into the labor market. We present evidence that the large public sector in Germany in effect functions as an employer of last resort, absorbing some otherwise unemployable low skilled youth. Our findings also suggest that the US welfare system accounts for very little of the US-German difference in employment rates.

Francine D. Blau
Cornell University
265 Ives Hall
Ithaca, NY 14850
and NBER
fdb4@Cornell.edu

Lawrence M. Kahn
Cornell University
264 Ives Hall
Ithaca, NY 14850
lmk12@Cornell.edu

I. Introduction

During the last 15 years, the labor market prospects facing less-educated young workers in the United States have seriously deteriorated as part of a dramatic trend towards widening wage inequality. For example, Katz and Murphy (1992) found that real wages *fell* by 15.8% for young men with less than a high school education from 1979 to 1987, and a recent study by Burtless (1994) similarly documents the deteriorating wage prospects of young women with limited education. Perhaps as a result of their falling real wages, young, less educated men and women have also experienced decreasing labor market attachment relative to their more highly educated counterparts.[1]

In contrast to the poor and declining prospects of many, especially less educated US youth, young workers in Germany appear to be well-prepared for the labor market and to have better labor market outcomes. German youth typically have lower relative unemployment rates than those in the US. For example, in 1989, at a time when the overall unemployment rate in Germany was 8.0%, it was 8.1% among 15-20 year olds and 7.4% among 20-30 year olds. In contrast, in the US where the overall rate was 5.3% in that year, it was 15% for 16-19 year olds, 8.6% for 20-24 year olds and 5.7% for 25-29 year olds.[2] Further, the low-skilled in Germany were spared the declining relative and absolute real wages that afflicted those in the US and several other OECD countries in the 1980s: wage inequality in Germany was stable to declining, and real wages of the low-skilled, in particular, rose. The relative earnings of young workers were also stable to rising over the 1980s (OECD, 1993a; Abraham and Houseman, 1995). Thus young workers and the low skilled in general in Germany had better labor market outcomes over the 1980s than those in the US. This difference in labor market performance suggests that the US may have much to learn from Germany's relative success.

---

[1] For other discussions of these trends, see Bound and Johnson (1992); Juhn, Murphy and Pierce (1993); Juhn (1992); Blau (1997); and Blau and Kahn (1997).

[2] See Abraham and Houseman (1995), p. 400; ILO (1993), p. 653; and USBLS (1990), p. 162.

In this paper, we examine differences between the US and W. Germany in employment outcomes of young workers over the 1984-91 period. In light of the employment problems of less-educated youth in the US, we place special emphasis on how those with relatively low education levels fared in the labor market. We especially focus on less educated young women. Given recent US welfare reform legislation, this group will be increasingly dependent on their own employment and earnings prospects. We use nationally-representative data bases for each country which allow us to measure young workers' employment outcomes and also permit comparisons across age groups: principally the German Socioeconomic Panel (GSOEP) for Germany and the Current Population Survey (CPS) for the US.

There are several ways in which German society is structured to ensure relatively good outcomes for those at the bottom. For example, the vast majority of youth participate in Germany's vocational training system, although women do not participate to the same extent as men. In the US, there is no corresponding training system on a large scale that imparts skills to workers at the lower end of the educational distribution. However, not everyone in Germany completes an apprenticeship. In this paper, we emphasize a comparison of German youth who are left out of that system with a group in the US that is also left out—high school dropouts.

Even for the group of Germans who drop out of the apprentice training system, institutions exist to improve labor market outcomes. First, the German educational system appears to provide better basic skills than the American system at the bottom of the distribution of academic achievement. Second, German wage-setting institutions disproportionately raise the wages of the low skilled. The US labor market is largely nonunion, while wages in Germany are set in industry-wide contracts that are extended by law to (or in almost all cases imitated by) the nonunion sector. In addition, the US minimum wage is low by international standards and has generally been declining in real terms since the late 1970s (*EIRR*, 1992). Thus, we expect German wage-setting institutions to disproportionately raise the pay of young, less-educated workers. However, there may be negative employment effects of this system and we will attempt to determine if this is the case. If such effects exist, they should be strongest for unskilled youth in general and young women in particular, since they are the ones most likely to be affected by wage floors. Third, Germany has a larger public sector than the US, and government employment can be a mechanism

for reducing potential adverse employment effects of administered wages.[3] We will investigate this possibility as well.

For women, while wage floors are expected to have demand-side effects on relative employment, public policy toward the support of children and maternity and parental leave may have supply-side effects.[4] For example, maternity and parental leave policies in Germany are considerably more generous than those in the US, and became even more so over the late 1980s. While relatively short leaves are likely to increase women's labor force attachment, extended leaves may arguably do the opposite. And German schools do not provide lunch for students, forcing families to provide lunch at home; this feature of German society is also likely to reduce women's labor force attachment, since mothers are usually the ones responsible for arranging lunch for children. In earlier work we indeed found higher labor force participation rates for US than German women (Blau and Kahn, 1995). On the other hand, the US welfare system places a particularly strong penalty on work for low income, single mothers, implying possible negative employment effects for low skilled women. We will attempt to shed light on the impact of the US welfare system on young, hard to employ women.

We find that less educated youth do indeed fare considerably better in Germany, experiencing both higher employment rates and higher relative earnings than is the case in the US. Both these differences are particularly pronounced for women. While welfare may play a role, our findings suggest that it accounts for very little of the US-German difference in employment rates. It is also the case that German women's employment advantage exists despite its more generous maternity and parental leave policies which our results suggest do negatively affect German women's employment rates, especially their full-time employment rates, all else equal. This suggests that low and declining real wages are likely an important explanation for the lower labor force attachment of both young men and women in the US. The relatively high employment rates of less educated German youth combined with their relatively high wages raise the question of how

[3] See Edin and Topel (1994); Björklund and Freeman (1994); Kahn (1996).

[4] Of course, high wage floors can attract potential workers into the labor force in search of good jobs. In contrast, low and freely falling real wages for the less skilled may have led many US workers to leave the labor force. See Mincer (1976) and Juhn (1992).

they are successfully absorbed into the labor market. Our findings suggest that the public sector in Germany in effect functioned as an employer of last resort during this period, absorbing some otherwise unemployable low skilled youth.

II. Overview of W. German and US Labor Market Conditions and Institutions in the 1980s

A. Training and Wage-Setting Institutions

In designing policies to help young workers in the U.S., analysts have looked increasingly to several aspects of the German education system and its labor market institutions for guidance, including its basic formal secondary schooling system, its apprentice training programs, and its wage-setting mechanisms. First, its basic educational system has been found to produce a superior level of learning, particularly for those at the bottom of the ability distribution (Nickell and Bell, 1996). For example, in international mathematics tests for 13 year old students, young Germans outscored young Americans at both the top and the bottom of the distribution. Thus, in particular for those at the bottom of the distribution of math ability, Germany produces a more highly trained potential labor force.

Second, Germany's apprenticeship training system, which many believe greatly facilitates the school to work transition there, is often held up as an example for the U.S. to emulate (Buechtemann, Schupp and Soloff, 1993). Following secondary education in Germany, students typically locate themselves in one of two tracks: i) higher education--universities and four-year technical colleges; or ii) 1-4 year full time vocational schools and the "dual system" consisting of apprentice training and part-time attendance at vocational schools coordinated with firm-based training.[5] This arrangement is a partnership among government, training schools and firms in which the transition from post-secondary education (vocational schools) to employment is enhanced. These programs have been credited with reducing youth unemployment, and, as we

[5] This description of Germany's training institutions is based on Buechtemann, Schupp and Soloff (1993), Soskice (1994), and Steedman (1993).

have seen, relative unemployment rates of German youth are indeed lower than those of U.S. youth (see also Buechtemann, Schupp and Soloff, 1993).

Finally, Germany's system of centrally-determined industry wage bargains with contract extensions to nonunion workers has been shown to disproportionately raise the pay of low-skill workers (Blau and Kahn, 1996a). It is possible that German wage-setting institutions allowed its wage distribution to resist the effects of changing supply and demand conditions in the 1980s and to remain stable, unlike the widening US distribution.[6]

These latter two aspects of the German labor market--its elaborate system of apprenticeship training and its union-negotiated industry-wide wage minima--resemble the kinds of policies advocated by Robert Reich, former U.S. Secretary of Labor who in 1995 called for an expansion of investment in education and skills, a rise in the Federal minimum wage, and changes in U.S. labor law to make it easier for unions to achieve recognition (*Daily Labor Report*, May 24, 1995 and June 5, 1995).

While participation in some form of post-secondary education or training is near universal in Germany, about 21% of German youth had not attained a training certificate or post-secondary education degree twelve years after leaving secondary school (Buechtemann, Schupp and Soloff, 1993, p. 8). It is these youth whom we categorize as "hard to employ" and who comprise the focus of this paper. A potential drawback to the German labor market setup, particularly for hard-to-employ youth, concerns the possible disemployment effects of administered wages. While in the U.S., minimum wages have generally been found to have small or no employment effects,[7] several studies have found evidence consistent with the existence of disemployment effects of high wage floors in Europe, although this finding is not unanimous.[8]

---

[6] However, Abraham and Houseman (1995) find that while the growth in the supply of highly educated workers decelerated in the 1980s in the US, in Germany, this growth rate appeared stable. Thus, it is possible that some of the stability in the German wage distribution in the 1980s reflects more stable growth in the supply of highly trained workers there.

[7] Card and Krueger (1995) found that minimum wages did not have negative employment effects for teenagers, while Neumark and Wascher (1992) found relatively small negative effects. Larger negative effects have been obtained by Deere, Murphy and Welch (1995).

[8] These include Edin and Topel (1994), Katz, Loveman and Blanchflower (1995), Abowd, Kramarz, Lemieux, and Margolis (1995), Blau and Kahn (1996a), and Kahn (1996). However, Card, Kramarz and Lemieux (1994) found no evidence that inflexible relative wages in France over the 1982-89 period led to larger employment losses among low

While we expect wage floors to reduce the relative employment of the low skilled, an alternative response is for the government to act as employer of last resort, as argued by Björklund and Freeman (1994) for the case of Sweden. They show that the share of all unskilled workers who are employed by the government rose during a period of severe wage compression induced by Sweden's solidarity wage policy. Others have also found evidence of such government employment responses, including Edin and Topel (1994) for Sweden and Kahn (1996) for Norway. In light of possible public employment responses, we also examine this outcome below. Note that such employment responses by the government need not reflect explicit policies. Rather, the pattern of government employment may be such that, for whatever reason, it has the effect of absorbing otherwise unemployable youth. It is the latter possibility that we examine here.

B. Gender and Labor Market Success: Germany vs. the US

The gender wage gap among employed workers was lower in W. Germany than in the US in 1979 when American women's wages were 60% of men's compared to 71% in W. Germany. But by 1991, the gender ratio was virtually the same, about 74%, in both countries, and, by 1994, the ratio was actually somewhat higher in the US (76.4%) than in W. Germany (74.2%).[9] American women have considerably higher labor force participation rates than German women, especially among married women, and are more likely to work full time. They are also less occupationally segregated and outearn a larger percentage of men than their German counterparts, implying that US women have higher relative qualifications and/or enjoy more favorable treatment by employers than German women (Blau and Kahn, 1995).

It is possible that Germany's more generous maternity and parental leave policies play a role in producing these differences in women's labor market attachment. Provisions for parental leave in W. Germany, according to the 1979 amendments to the Maternity Protection Act, call for

---

wage workers there than in the US. And Machin and Manning (1994) found that minimum wages in the United Kingdom did not have disemployment effects in the 1980s.

[9] See Blau and Kahn (1995); ILO (1993 and 1995) and USBLS (1992 and 1995). Figures for 1991 and 1994 are for average hourly earnings of nonagricultural employees in W. Germany, and for median weekly earnings of full-time wage and salary workers in the US.

14 weeks of fully paid maternity leave, of which two months are mandatory; and protection of job security during pregnancy and through the end of the 4th month after childbirth. Beginning in January 1986, a twelve month parental leave with a paid allowance was additionally mandated (ILO, 1988; Demleitner, 1992). In 1990, the German parental leave provision was expanded to 18 months and, in 1992 which is outside our sample period, it was increased even further to three years. Moreover, German parental leave is paid as long as the parent taking the leave works no more than 19 hours per week, a provision encouraging part-time work. This is almost always the mother, as roughly 99% of people taking parental leave as of 1992 were women (Demleitner, 1992).[10] In contrast, there was no mandated parental leave policy in the US prior to the passage of the Family and Medical Leave Act in 1993 which requires up to 12 weeks of unpaid parental leave for women or men. However, prior to the passage of the Act it was (and continues to be) required that pregnancy be treated the same as any other medical disability by the firm. Thus, leave for the physical aspects of childbearing must be covered under a firm's medical disability plan, if it has one. And, in the late 1980s, roughly 40% of employees of large and medium size establishments worked at firms which voluntarily granted some kind of parental leave beyond this, 92% of them unpaid (Hyland, 1990). While there was some provision for parental leave in the US prior to the 1993 legislation, it is clear that parental leave policies were considerably more generous in Germany.

The impact of parental leave on women's labor force attachment is unclear *a priori.* On the one hand, by guaranteeing women's right to return to their jobs after pregnancy, parental leave may strengthen their labor force attachment. On the other hand, such policies, particularly if they are generously paid and of long duration, could increase the incidence or duration of workforce withdrawals associated with pregnancy. By 1991, it is possible that Germany's relatively generous parental leave policies--18 months of partially paid parental leave after 14 weeks of fully paid maternity leave--encouraged labor force withdrawals among mothers of young children relative to the US. In addition, the 19 hour provision unambiguously encouraged part-time work among

[10] In fact, fathers had to get special permission to take family leave. Since firms bear some of the direct costs of the paid leave, it has been argued that they have an incentive to discriminate against women in hiring (Demleitner, 1992). The 19 hour provision was part of the original legislation that went into effect in January 1986 (ILO, 1988, pp. 103-104).

employed women. Moreover, throughout our period, it was legal in Germany for employers to deny a job offer to pregnant women (Demleitner, 1992, p. 246). Finally, as noted earlier children are sent home for lunch in Germany, making the family (usually the mother) responsible for arranging this meal (OECD, 1988, p. 142). Each of these special features of the German labor market may be expected to discourage labor force attachment by women, and, most particularly, full-time employment.

In addition to parental and maternity leave policies that likely reduce the incidence of employment or full-time employment among women, Germany maintains a system of child allowances. This is a universal system with increasing benefits paid to families with larger numbers of children. While the child allowance is less generous for high income families, it is available regardless of whether or not one works (Social Security Administration, 1995). In contrast, in the US, there are direct cash benefits paid only to low income families with children, through the Aid to Families with Dependent Children (AFDC) program. This program pays benefits almost exclusively to female-headed, low income families and greatly penalizes work among recipients by reducing benefits virtually dollar-for-dollar as earnings rise. Welfare has been found to have only moderate effects on labor supply in the US (Moffitt, 1992), but, to the extent that it does have a negative effect, we would predict that it would disproportionately impact low skilled, unmarried women with children in the US.[11]

III. Data

Our data sources for examining gender differences in young workers' labor market outcomes are principally the German Socioeconomic Panel (GSOEP) and the March Current Population Surveys (CPS).[12] The CPS has the advantages of large sample size and, like the

[11] In addition, the US income tax system in effect rewards larger families through the personal exemption, which allows the family to exclude from taxable income a given amount of money ($2550 as of 1996) per person in the family. This system is similar to the German universal system (at least among US taxpayers), but the AFDC program for the US with its work disincentives for low income individuals is significantly different from the German system.

[12] See Burkhauser (1991) for a detailed description of the GSOEP and Katz and Murphy (1992) for a discussion of the CPS.

GSOEP, coverage of all individuals. However, unlike the GSOEP, the CPS does not have information on actual labor market experience, a factor that has been found to be important in explaining the gender pay gap (Mincer and Polachek, 1974; O'Neill and Polachek, 1993; Blau and Kahn, 1997). Because of this omission, we also perform some examination of actual experience using the Michigan Panel Study of Income Dynamics (PSID).[13] However, the PSID contains labor market information only on household heads and spouses, thus excluding those who are living in the home of their parents or of other relatives. This is of particular concern in a study of youth. Moreover, as discussed below, actual experience is not available for new members of the GSOEP after 1984. Thus, we focus on analyses comparing the CPS and the GSOEP.

We use the 1984 wave of the GSOEP because it has the largest sample size, is not affected by attrition, and is the only one for which we can compute actual labor market experience for all respondents. It is a nationally representative sample of the population living in West Germany, including West Berlin, in that year. In our main analyses, we use data only on Germans from the GSOEP, since education and training information is less detailed for immigrants.[14] However, we also present some findings for immigrants that suggest focusing on Germans gives an accurate picture of the labor market for less skilled youth in this country. We define "young" as age 18-29, a relatively inclusive definition. We do this in part for reasons of sample size and in part because, in Germany, schooling and formal training usually continue into the middle to late twenties (Buechtemann, Schupp and Soloff, 1993). By extending our age cutoff to 29, we thus increase the chances of observing the school-to-work transition.

In view of the important changes in the labor market in the US and other countries in the 1980s, and because we wish to observe what happens to young workers as they mature, we also

[13] The PSID is a nationally-representative survey and is structured very similarly to the GSOEP; see Blau and Kahn (1997) for a description. In addition to the nationally-representative portion of the sample, the PSID collected data on an oversample of those living in high-poverty areas. We used these data as well in order to have larger samples of hard-to-employ youth and applied the PSID's sampling weights in our analyses of these data to correct for the oversampling.

[14] In particular, the GSOEP does not include detailed information on basic schooling obtained outside Germany for immigrants. The survey asks whether respondents earned a "degree," but it doesn't specify what kind of degree. There is better information on whether immigrants completed post-secondary training outside (or inside) Germany and whether they earned German basic school degrees, information we use below.

examine the 1991 GSOEP and CPS. In examining what happens to young individuals as they age, we rely primarily on "synthetic cohorts." That is, we compare a random sample of 18-29 year olds in 1984 to a random sample of 25-36 year olds in 1991 to make inferences about what happened to people as they aged over the 1984-91 period. While it is possible to construct panels of individuals in the GSOEP (and of course the PSID), and we do so in a supplementary analysis, one loses about 45% of the GSOEP panel due to attrition and the sample sizes become too small for meaningful analysis. Similarly, while it is possible to construct a 1991 sample with information on actual experience by following the original 1984 sample members, the small sample size problem precludes this.

A final data issue relates to employment. We use two measures of employment: the probability of being employed and the probability of being employed full-time (both relative to the population). The measure of employment refers to current (survey week) employment status. Full-time employment corresponds to usual weekly hours for the currently employed of 35 or more in the preceding year (US) or on the current job (Germany). We examine both variables because the latter gives additional information regarding the extent of labor force attachment.

Some data issues arise in defining "employment" in the presence of parental leaves. Neither the CPS nor the 1984 GSOEP separately identify such individuals. In the CPS, individuals on parental leave are considered employed ("with a job but not at work").[15] The same likely applies to the 1984 GSOEP. Only the 1991 German data give the option of separately identifying individuals on "maternity leave." One question this raises is what is meant by "maternity leave." Since we found that a relatively high proportion of young women fell into this category, we assumed that this meant both maternity and parental leave.[16] A second question relates to how this category should be treated. Since our interest is in actual work, we chose to exclude individuals on maternity leave from the employed category. This raises some compatibility issues with the CPS, as well as the 1984 GSOEP. However, it may be recalled that only 14 weeks of maternity leave

[15] See Klerman and Leibowitz (1997).

[16] The following proportions of young women (age 18-29) were in this category: .037 (low education group); .089 (middle education group); and .087 (high education group). See the next section for definitions of the educational categories.

were mandated in Germany in 1984 and there were no mandates in place in the US at this time. Thus the inclusion of women who were on leave as employed is likely to have had relatively little effect compared to the situation in Germany in 1991 when an additional 18 months of parental leave had become available. In terms of possible effects on our results, had we included women out on maternity leave in 1991 as employed, the German employment advantage which we find for less-educated German women would have been increased still further. On the other hand, the larger negative effect on employment of children which we estimate for German women in 1991 compared to 1984 would have been reduced.

IV. US-German Differences in Labor Market Preparedness and Outcomes of Youth

A. Education

Our major focus is on gender differences in the labor market for young, hard-to-employ youth in W. Germany and the US. Since, in each country, the less-educated are the hardest to employ, comparing the two countries requires a standardized definition of education. For the US, a measure of years of formal schooling completed is readily available in the CPS and PSID data sets. However, since classroom, vocationally-related training is far more important in Germany than in the US, it would be desirable to take into account both academic and vocational schooling in creating a comparable years of schooling measure for Germany. Krueger and Pischke (1995) have created a mapping from the GSOEP's education and training measures into a years of school variable, and we use their scheme here.

Based on the German and US measures of years of schooling, we create three education groups for each country that comprise roughly the same proportions of the nonenrolled population and thus account for differences between the two countries in average years of schooling completed: Edlow, Edmid, and Edhigh, respectively referring to low, middle and high education groups. For the US, the groups are: Edlow: less than 12 years; Edmid: 12-15 years; and Edhigh: 16 or more years. For Germany, the groups are: Edlow: 9-10 years; Edmid: 11-12 years; Edhigh:

over 12 years.[17]

We chose education groups according to categories instead of, say, quartiles of the distribution of educational attainment, for several reasons. First, we believe that for both countries, the Edlow category corresponds to an identifiable group who comprise the hard to employ. In W. Germany, individuals in that category had completed at most only basic secondary education and had no formal degrees from a high school (gymnasium), university, college, or any vocational school. This group is outside the system of formal certification. In the US, those in the Edlow category had less than a high school education, which surely places them at great risk of severe difficulties in the labor market. Second, because the distribution of years of schooling is lumpy, it is not possible to construct categories that correspond exactly to particular percentiles of the population, such as the middle two quartiles. For example, among American men age 18-29 who were not in school, 48% had exactly 12 years of schooling in 1984 (CPS tabulation). Third, looking ahead to Table 2, we see that among those not currently in school, the percentages of the 18-29 year old population in the three education categories as we have defined them are quite similar for the US and Germany. Thus, for our target group, the educational categories we have created in fact correspond roughly to a breakdown by distribution percentiles.

Tables 1 and 2 provide evidence on educational participation and attainment by age-gender group. Several findings emerge that provide a picture of the relative labor market preparedness of men and women in each country. In Table 1, we focus on current school attendance. The German data allow people with jobs to also report that they are in school, while the CPS asks respondents to state their "major activity." Thus, in the CPS, only those say their major activity is school are reported as being in school. In contrast, in the US Census of Population, people are asked if they are in high school or college (or neither), whether or not employment is their major activity. Since it is possible for one to be employed and in school at the same time, we also report in Table 1 US figures for school attendance using the 1990 Census of Population (PUMS) information.

[17] For Germany, we include those with an Arbitur degree only (i.e., with no post-secondary schooling) in the middle education group even though Krueger and Pischke (1995) coded an Arbitur as requiring 13 years of schooling. Our decision was based on our impression that these people, who comprised only about 1% of the sample, were more similar in their employment experience to the middle than the high education group. Because the group is so small, this coding did not affect our results.

Using either the CPS or the PUMS definition, among both 18-29 and 25-36 year olds, German men are more likely than American men to be in school.[18] The differences are substantial. For example, in the younger group, the most likely to be in school, over two-fifths of German men were in school in each year, compared to 29% of American men in 1990 (PUMS). For women in the Census data—i.e., using a comparable definition of being in school to that in Germany—18-29 year olds are slightly less likely than Germans to be in school (29% in the US for 1990, and 32% in Germany in 1991). However, among the 25-36 year olds, American women are more likely than Germans to be in school (11.1% vs. 6.5%).

Among young men and women, age 18-29, gender differences in years of schooling completed are small in both countries in each year. However, using either the CPS or the PUMS as the American comparison group, women are about equally likely as men to currently be in school in the US but substantially less likely than men to be currently in school in Germany. The German gender gap in current school attendance implies that educational attainment differentials will increase as a cohort ages and finishes its schooling. This effect can be seen in Table 1 by noting that among 25-36 year olds in Germany in 1991, the gender gap in years of schooling was 0.46, while among 18-29 year olds in 1984 (i.e., the same cohort seven years earlier), it was only 0.04 years. In contrast, in the US, there was a negligible gender difference in years of school completed for young men and women aged 18-29 in 1984, and this remained the true as the cohort aged.

Table 2 explores educational attainment in more detail focusing on those currently not in school. This population is the focus of our subsequent analyses. We again note that, in both Germany and the US, gender differences in years of school among 18-29 year olds are small. However, in Germany, they widen with age and, in the full population (age 18-65), women are considerably more likely than men to be in the low education group and considerably less likely to be in the high education group. Gender differences in educational attainment are small in all age groups in the US., with the major difference in the full population being women's lesser likelihood of being in the high education group and their greater likelihood of being in the middle group.

There is some evidence of an increase in women's relative educational attainment among

[18] The longer period of German than American schooling has been noted by Buechtemann, Schupp and Soloff (1993).

recent cohorts in both countries. As may be seen in Table 2, the gender gap in years of school completed for 25-36 year olds and 18-65 years olds in Germany was slightly smaller in 1991 than 1984. And the gender gap in the incidence of Edlow among 18-65 year olds fell from about 23 percentage points in 1984 to 16 percentage points in 1991.[19] However, among 18-29 year olds in Germany, the gender gap in current school attendance was about the same in 1991 as 1984; and the gender gap in school attendance among 25-36 year olds in Germany was actually a bit larger in 1991 than in 1984 (Table 1). These differences in school enrollment suggest that there will continue to be a gender gap in completed schooling among mature adults in Germany in the future. In the US, the gender gap in schooling completed was never large and appears to be even smaller for newer cohorts (actually favoring women among 18-29 year olds). Particularly notable is the rise in women's relative incidence of college graduation.[20] An implication of these findings is that the target group of this study, less-educated youth, is one in which German, but not American, women are over-represented.

B. Employment

Our goal in this paper is to compare how well less-educated youth fare in the German and American labor markets and to attempt to provide some explanations for differences across the two countries. To do this we examine the employment and earnings of workers by age, education and gender, beginning with the incidence of employment. The most striking pattern evident in the raw comparisons shown in Table 3 and Figure 1 is the relatively low employment rate of young, less educated Americans, particularly women, in comparison to their German counterparts.[21] In 1984, the employment rate of 18-29 year old women in the Edlow group was only 35% in the US, and

[19] In Table 2, the incidence of Edlow in Germany among 18-29 year old men not in school actually rose between 1984 and 1991, from .122 to .185, while that for women fell from .209 to .187. These changes may reflect an improvement in the job market for young men over the 1980s. As noted above, male youth unemployment in Germany declined both absolutely and relatively over the 1980s (Abraham and Houseman, 1995, p. 400).

[20] In addition, relative female enrollment in marketable degree programs in law, business and medicine has increased in the US in the 1970s and 1980s (Blau and Kahn, 1997).

[21] This pattern was also found in the PSID (results available upon request).

their full-time employment rate (i.e., percent of the out of school population with full-time jobs) only 21%, in comparison to rates of 55% and 43%, respectively, in Germany. This difference continued to hold in 1991 when the employment and full-time rates for this group were 38% and 23% in the US compared to 57% and 42% in Germany. Young, less educated American men were also less likely to be employed or employed full-time than Germans, particularly in 1991 but also in 1984. Similar, although smaller differences prevail for men in the middle education group.

The differences between the US and Germany for young, less educated women are particularly noteworthy, since among the other education groups, young Americans tend to be at least as employable and often more so than Germans. And among the less educated population as a whole (Edlow for 18-65 year olds), Americans fared much better than among youth.. For example, in Table 3, we see that among the full low education group (age 18-65), American women are about equally likely as Germans to be employed and actually more likely to be employed full-time, in a major contrast to the 18-29 year olds. And, while less-educated German men age 18-65 had higher employment rates than Americans, the German-US differences were generally smaller than for youth. Thus in an absolute and a relative sense, the low employment rates of less educated young people in the US compared to Germany are particularly notable.

Table 4 provides some evidence on the progress of the 18-29 year old cohort over the 1984-91 period.[22] Focusing on the less educated, the table shows that employment-to-population ratios rose for men and women in both countries with age, with the largest increases for German men. Significantly, however, by the time its members reached their late twenties and early thirties (ages 25-36), the 1984 German youth cohort of less-educated men and women remained considerably more likely to be employed than those in the US. The same conclusions for full-time jobs hold for men. However, in all education groups, including the least educated, German women's full-time attachment fell dramatically as they aged. By 1991, less educated German women were no more likely than Americans to have full time jobs. In the other education groups, American women either caught up to and surpassed German women or added to their 1984 lead in employment incidence and especially in their full time employment rates. In contrast, American men in the

[22] Note that in this synthetic cohort analysis, the members of, say, the low education group in 1984 are compared with those who remained in that education category in 1991.

middle and high education groups fell behind Germans in employment (but not as far the Edlow group did) and had a mixed set of outcomes for full time employment.

Overall, the synthetic cohort analysis shows that, at least during the 1984-91 period, the employment disadvantage faced by less educated young men and women in America compared to Germany was not reversed with age. The one exception was that, due to a strong general pattern of declining full-time employment rates with age among German women in all educational categories, the less educated American women's full-time rate equaled that of the German women by 1991. This equality, however, stands in marked contrast to the considerably higher rates of full-time employment for American compared to German women in the middle- and high-education categories, and thus still indicates considerable relative disadvantage for less educated American women.

The stronger association of education (particularly Edlow) with employment or full-time employment for American youth than German youth shown in Tables 3 and 4 holds up in probit analyses when we control for age, age squared, marital status, presence of children, and, for the US, a race indicator. The point estimates and asymptotic standard errors are presented in Tables A1 and A2. Table A3 calculates the estimated effects of education based on these results, both as partial derivatives of the employment probability with respect to education, and as semi-elasticities (the derivative divided by the mean). Both absolutely and relative to the mean, we find that education differences play a stronger role in leading to differences in employment opportunities or willingness to work in the US than is the case in Germany.

So far we have analyzed labor market attachment solely by examining whether or not one is currently employed or employed full-time. Table 5 takes a closer look at work force attachment of young workers by considering patterns of actual experience for panels of workers for which experience during the 1984-91 period was observable. Recall that in the GSOEP, experience is collected only as of 1984. For the original panel members who remain, experience after 1984 can be computed. However we cannot observe experience for those who join the GSOEP after 1984. For comparability, we construct a similar panel of individuals from the PSID. Table 5 shows experience and full-time experience as of 1984 and 1991. It should also be noted that since experience is measured from age 15 in the GSOEP and from age 18 in the PSID, the raw levels of

experience are not directly comparable across countries. We can, however, compare relative levels of experience for education groups.

The results are quite consistent with what would be expected based on the employment rates. For both men and women, Americans with low levels of schooling have lower relative experience levels (compared to those with middle or high levels of education) than those in Germany. The differences in amounts of experience across education levels are particularly dramatic for young American women where less-educated women had only 40% of the total or full-time experience of middle-educated women in 1984, while less-educated German women had 11% to 18% more experience than middle-educated women. These US-German differences continue to be observed as the 18-29 year old cohort aged into 1991, although the cross-country difference declines somewhat. Among men, the low-education group in the US has about 90% of the total or full-time experience of the middle educated in each year, while, in Germany, the less-educated men's advantage ranges from 2% to 20% depending on the year and measure. Overall the data on experience levels reinforce our conclusion that less-educated young men and women in America have relatively low labor market attachment compared to their German counterparts.

C. Earnings

In this section we consider the earnings of youth. Earnings are of course important in and of themselves as an indicator of economic well-being. In addition, an analysis of earnings may provide some evidence regarding the reasons for the lower labor market attachment of young, less educated American youth detailed above. For example, if these workers have particularly poor labor market opportunities (i.e., low wages), then movements along a supply curve would be a possible explanation for their low attachment to the labor force.

To analyze wages, we focus on those who are not currently self-employed and who did not have any self-employment income during the previous year. In both the GSOEP and the CPS, it is possible to compute average monthly wage and salary income over the previous year, including wages and salaries, as well as bonuses. Thus, earnings for the 1984 and 1991 samples refer to 1983 and 1990. Unfortunately, it is not possible in the GSOEP to calculate hourly earnings since we lack

information on weeks worked. However, there is information on hours worked per week in both data sets. We use this information to simulate hours-corrected earnings as follows. Suppose that for each country and year we can express log monthly earnings of person i:

$$(1) \qquad \ln Y_i = a_1 PART_i + a_2 HRPART_i + a_3 HRFULL_i + B' X_i + u_i,$$

where Y is monthly labor income in 1983 US dollars for both countries,[23] PART is a dummy variable for part-time workers (defined as working less than 35 hours per week), HRPART and HRFULL are interactions of work hours with part-time and full-time employment, X is a vector of explanatory variables, and u is a disturbance term. The following variables are included in X: age and its square, marital status (Mar), presence of children (Childyes), the educational dummies (Edlow and Edmid), and, for the US, a race dummy variable for whites (White). For the reasons discussed above, we are forced to use age rather than actual experience in equation (1). We include controls for marital status and especially children to pick up some of the effects of workforce interruptions for women associated with these events (e.g., Waldfogel, forthcoming). Equation (1) is estimated separately for men and women in each age group.

We then simulate full-time earnings for each individual as follows:

$$(2) \qquad \ln YFULL_i = \ln Y_i - a_1 PART_i - a_2 HRPART_i - a_3 (HRFULL_i - 40).$$

Equation (2) estimates what a worker's monthly earnings would have been had he or she worked 40 hours per week.[24]

Table 6 presents log real hours corrected monthly earnings in 1983 US dollars for both countries, by age-gender-education group for 1984 and 1991; figure 2 highlights the results for young workers. We see the same pattern among both men and women: German youth with low

[23] This is obtained using the OECD's (1996) index of purchasing power parity (German marks per US dollar) for 1983 and 1990, and the US consumer price index as deflator.

[24] In earlier work on international differences on the gender gap in pay, we used a similar procedure since we lacked data on hourly earnings there as well; see Blau and Kahn (1995 and 1996b).

education levels outearned Americans. In 1984, the German advantage was 11 to 15% and grew to 27 to 35% by 1991 (compare the first and second columns of Table 6).[25] In American purchasing power, real wages of less educated German youth rose 9-12% between 1984 and 1991, while they fell by 7-8% for American youth over this period. Thus, by 1991, German less educated youth outearned their American counterparts by 27 to 35%. Although American youth with middle levels of education also lost ground to inflation and relative to Germans, they remained closer to the German level of purchasing power in 1991 than American less educated workers. Finally, among highly-educated youth, Americans started with a small advantage over Germans (1 to 5%) in 1984 that widened to 20 to 22% by 1991. The changes in relative wages by education group for the labor force as a whole (ages 18-65) were similar to those for 18-29 year olds but less dramatic. The changes in the relative purchasing power of high and low education groups illustrate the considerably greater widening of the American wage distribution in the 1980s compared to Germany (Abraham and Houseman, 1995).

Table 7 shows the progress in real wages within the cohort of 18-29 year olds as it aged during the 1984-91 period. Real hours corrected earnings rose for all gender-education groups in this cohort within Germany and the US; however by 1991, less educated Germans outearned Americans by 15 to.22%. American men's real wages rose substantially less quickly than German men's among the low education group, while American less educated young women maintained their position at roughly 15% lower purchasing power corrected wages than Germans. In contrast, young, highly educated Americans experienced very large gains relative to the Germans. As was the case for employment, less educated American workers did not close the gap with Germans as they aged, but rather continued to do substantially worse than their German counterparts.

The general findings suggested by the tabulations in Tables 6 and 7 are confirmed by the education effects obtained in regression analyses controlling for age, age squared, marital status, presence of children, and, for the US, race, in addition to the hours variables. These results which are shown in Table 8 indicate the greater importance of education in determining American than German wages and the increased importance of education in the US relative to Germany over the

[25] The percentage differences cited in the text are approximations based on the differences in the logs.

1984-91 period. The rising returns to education in the US occur both across cohorts over time and within the youth cohort as it ages from 18-29 in 1984 to 25-36 in 1991.

The gender gap in pay is explored in Table 9, which shows male-female differences in the log of hours-corrected earnings by age-education group. Among the youth cohort overall, the gender pay gap was slightly lower (by .024 to .041 log points) in the US than Germany in both years and fell by similar amounts in both countries. However, for the low education group, the American gender pay gap was higher than the German gap, by .039 to .080 log points, reflecting the especially poor labor market position of less-educated, young American women.[26] As expected based on published data and previous studies, for the labor force as a whole (Age 18-65, "All"), the gender pay gap was larger in the US than in Germany in 1984 (by .041 log points) but, by 1991, the German gap was a bit greater (by .019 log points). Interestingly, *within* each education group, the American pay gap for all workers (age 18-64) was higher than the German pay gap in 1991, possibly reflecting a more egalitarian German wage structure. The fact that, not controlling for education, the overall gender pay gap was lower in the US than in Germany reflects the superior relative educational qualifications of American women.

D. Patterns for Immigrants in Germany

As we noted earlier, the basic analyses for Germany in this paper are performed for German natives only, due to the lower quality of schooling information on immigrants. However, the GSOEP does provide some evidence on immigrants' education, as well as on their family status and labor market outcomes. In this section, we explore the schooling, employment and earnings of young immigrants in Germany, with a special focus on those without German technical school, high school, or post-secondary degrees. We conclude that even if one were to include immigrants in what we have termed the low skill group, young people without formal credentials living in Germany would still have far superior employment and wage outcomes to those of low skilled young Americans.

[26] However, within the cohort that was 18-29 years old in 1984, the US-German gender gap difference fell between 1984 and 1991 (from 0.039 to -0.075) for the less educated but rose for the other education groups.

Appendix Table A4 contains schooling, employment and wage information for young immigrants in Germany for 1984 and 1991. Panels A and B show that in comparison to natives, immigrants are less likely to be in school and less likely to have postsecondary training or German technical or high school degrees (compare with Tables 1 and 2 above). Thus, overall, immigrants tend to be a relatively low skilled group. Panel B examines employment and hours-corrected earnings for all young immigrants who are not in school. Overall, men are about as likely to be employed as German natives in the low education group, while women are somewhat less likely to be employed than German natives; however, immigrant women are much likely than low skill Americans to be employed. And German immigrants' wages are about the same as those of German natives with low levels of education.

If we treat all immigrants, regardless of their training, as competing with low skill native workers, then according to the GSOEP's weights, immigrants would comprise only about 16% of the low skill population among individuals in Germany for 1984.[27] Under this assumption, we still conclude that young people with low skill levels (immigrants and natives aggregated) in Germany have much better employment and wage outcomes than Americans. However, Panel B of Table A4 indicates that a considerable portion of the immigrant population had German schooling that would place them in the middle or high education group by our definition. A sharper comparison between immigrants and natives might be drawn by examining lower-skilled immigrants, as we now do.

To focus on immigrants without formal German formal skills, we present labor market information on young immigrants without German technical, high school, or postsecondary degrees in Panel C of Table A4. In Panel D, we additionally exclude immigrants who have received vocational or University degrees from other countries. Our conclusions are the same in either case. We find the levels of male employment and wages to be quite similar to those for German low skill workers. However, while low skill immigrant women's wages are about the same as their native German counterparts, their employment rates are considerably lower than those of natives. Young

[27] The GSOEP immigrant files comprise an oversample of that population. While the GSOEP version we used had sampling weights for 1984, it did not include sampling weights for 1991, so we cannot produce a similar figure for that year. But according to the OECD (1993b), foreign individuals comprised 7.4% of the population in West Germany in 1984 and 8.2% in 1990 (falling to 7.3% for eastern and western Germany combined for 1991). Thus our conclusions about the small relative size of the immigrant population in the youth labor market are likely to hold for 1991 as well.

low-skilled immigrant women in Germany are only a little more likely to be employed than low skill American young women in 1984, and equally likely to be employed in 1991; full-time employment rates are somewhat higher for low skill immigrant women in Germany than for low skill Americans. Nonetheless, since for 1984, immigrants without German formal skills were only 11-13% of all young Germans without formal skills, our basic finding that young, low skilled individuals in Germany have much more labor market attachment than those in the US would not be affected were we to include immigrants.

The finding that the hours corrected earnings of low skill immigrants of both sexes are virtually identical to German natives is quite consistent with our high administered wages in Germany. The fact that employment rates of less educated male immigrants are similar to natives suggests that they too do not pay a price in terms of employment for these relatively high wages. While the lower employment rates of less educated immigrant women could indicate an employment cost of high wages for them, we strongly suspect much of the immigrant-native employment difference for women in Germany reflects cultural factors operating on the supply side. A substantial proportion of young immigrant women come from countries with relatively low female labor force participation rates, including 45 % from Turkey and an additional 38% from Italy, Greece and Spain.[28]

V. Explanations for the Low Labor Market Attachment of Less-Educated American Youth

As we have seen, real wages are lower for less-educated youth in America than in Germany, both absolutely and relative to their more highly educated counterparts. Our wage findings are consistent with the operation of high wage floors in Germany from which less-educated employed youth disproportionately benefit. The low labor market attachment of Americans may reflect movements along a supply curve in response to these lower wages, and below, we use existing estimates of American labor supply elasticities to simulate the effect of raising American wages to

[28] All of these countries had a lower female/male labor force participation rate ratio than West Germany during the 1985-88 period (Blau and Ferber, 1992, pp. 300-304). While 12% of young immigrant women came from Yugoslavia which had a female/male labor force participation rate ratio that was slightly higher than that in West Germany for the 1985-88 period, this group is far outweighed by those from the countries for which the ratio favors Germany.

German levels. However, to the extent that the higher relative wages of less-educated German youth reflect high administered industry minimum wages, we would expect to observe demand-induced employment reductions in Germany. Yet we find that employment rates of less-educated youth are higher in Germany. This pattern is particularly striking among young women where the Americans lag behind the Germans substantially in both wages and employment. At least two features of German and American government policy may help to explain Germany's relatively high youth employment rates which occur despite its system of relatively high, administered wages.

First, Germany has a larger public sector which may potentially absorb those who would otherwise be out of work. Second, for women, the US welfare system, for which the less educated are most likely to qualify, strongly penalizes market work. We attempt to shed light on these possible explanations for German-US differences in employment outcomes below. In addition, it is of interest that the lower employment rates of less-educated US women occur in the face of a countervailing factor which would work to reduce labor market attachment among Germans women: Germany's system of maternity and parental leave which is considerably more generous than that in the US and was expanded between 1984 and 1991. This could mean either that German family leave does not have the expected negative effect, or that other factors are sufficiently strong to outweigh its impact among less-educated women. We also investigate this question below.

A. Government Employment

As several authors have argued, public employment can be an outlet for the labor supply induced by high wages. The descriptive results in Table 10a, showing the fraction of workers in each gender-age-education group who are government workers in each country, are consistent with this argument. Public employment is more extensive in Germany. While in both countries it is disproportionately taken by the highly educated, the less educated in Germany appear to have greater relative representation in the public sector than in the US.

Table 10b subjects these impressions to greater scrutiny by comparing differences between the two countries in the incidence of public employment by age-education group. For government

employment to explain the higher employment rates of less educated German youth, we expect to find that low education is less of a barrier to public employment in Germany than in the US. Further, we might expect this effect to be particularly strong for young workers, who are potentially the most affected by wage floors, and to be strongest for young women, who are the lowest wage group. These expectations are at least partly borne out by the data.

Most significantly, the results in Table 10b strongly suggest that low education is less of a barrier to public employment among less educated youth in Germany than in the US: for each comparison (Edlow vs. Edmid and Edlow vs. Edhigh) and each year, the German-US difference is positive indicating that the relative treatment of less educated youth is relatively more favorable in Germany than in the US. However, this favorable effect does not tend to be larger for young women than for young men. Among males, our additional expectation that low education is more of a barrier to public employment among older than among young workers within Germany is confirmed as well: the Edlow-Edmid and Edlow-Edhigh differences by age group [(Age 18-29) - (Age 30-65)] are larger for Germany than for the US in all cases. This finding is consistent with a larger private sector disemployment effect of high wage floors on young male workers which provide a stronger impetus for government employment. Our additional expectations are not, however, consistently borne out among women. Less-educated younger workers face lower barriers than older workers to obtaining government employment only in the Edlow vs. Edhigh comparisons. In addition, in only one case: the 1991 Edlow vs. Edhigh comparison is the relative advantage of younger women larger in Germany than in the US. It may be that, older, less educated German women are also minimum wage constrained so that they may seek government employment. In any case, the data in Table 10b support the notion that, in Germany, the government potentially plays an important role in providing jobs for less educated, young workers even if in the case of women this effect is not necessarily greater than for older less educated women.[29] We may note that we are not arguing that this reflects an explicit government policy to function as an employer of last resort. It may simply be that, given the large size of the government

[29] These findings are largely confirmed when we estimate the probability of government employment as a function of education group, age, age squared, marital status, presence of children and, for the US, a race indicator. The results are shown in Table A5.

sector and the composition of employment in it, these groups are more readily absorbed than in the US.

To assess the potential size of the effect of government employment in causing young, less educated Germans' greater labor market attachment, we present Table 10c showing the fraction of the *population* of less-educated youth having government jobs. Among both young men and women, a much larger share of this population has government jobs in Germany than in the US. Further, the percentage point gap between the two countries in this share (9 to 15 points for men and 11 to 14 points for women) is large compared to the German-US differences in employment-to-population ratios shown in Table 3. These latter differences are about 20 percentage points for women and range from 6 to 20 points for men. Of course, each government job may not add a total of one net new job for the population, but the large differences between the two countries shown in the table imply that government employment has a potentially important effect in increasing the employment rates of young, less-educated Germans compared to their counterparts in the United States.

As noted above, we found that young German men with low education especially improved their relative economic status over the late 1980s. Their employment increased both absolutely and relative to young, low skilled Americans, while their real earnings increased relative to less-educated youth in the US and more highly educated German youth. Our results suggest that public sector employment played a role in this improvement. Table 10c shows a sharp increase in the fraction of the population of young, less educated German men with government jobs (from 12% in 1984 to 17% in 1991). It is true that the Edlow vs. Edmid and Edlow vs. Edhigh comparisons for young German men in Table 10b indicate that there was no relative increase in the government employment incidence of the less educated between 1984 and 1991. That is less educated German young men appear to have benefited from a general increase in the incidence of government employment for young males in all education groups. However, for the Edlow vs. Edmid comparison, the German-US difference did increase in absolute value. This suggests that low education had an increasingly important effect in the US relative to Germany in keeping young men out of government jobs over the 1984-91 period. Thus, in this relative sense, we can say that government played a role in raising young less educated German men's employment compared to

that in the US.

The sharply higher real wages, labor market attachment and incidence of government employment among young less skilled Germans than Americans are consistent with the following scenario. German unions negotiate high wage floors, having a relatively large positive effect on wages of the low skilled. Government in effect functions as an employer of last resort and provides jobs for the additional workers looking for employment as a result of the higher wages, although this may not reflect an explicit government policy. The additional workers finding government jobs include those disemployed by the wage floors and those brought into the labor market by the prospect of high wages. An important question in interpreting our US-German comparisons is the degree to which this scenario can account for the employment attachment differences of less educated youth in the two countries. In particular, given American labor supply elasticities, could German-level real wages, coupled with government jobs for those not able to find private sector work, entice enough Americans into the labor force to bring the employment to population ratio to the German level?

In order to answer this question, we need estimates of the wage elasticity of labor force participation for young, low skill workers in the US. The labor supply literature typically estimates the supply elasticity for total work hours (Killingsworth 1983); however, we have found some studies of the participation elasticity that would allow us to simulate the effects of raising the Americans' real wages. For women, Schultz (1980) found for white married women in 1967 an elasticity of 1.5 for ages 14-24 and 1.0 for ages 25-34. A second study by Kimmel (1996) obtained a participation elasticity of 1.5 for single mothers age 18-55 in 1987. While these samples are not identical to our low skill group, 1.5 seems a reasonable estimate for the female elasticity for simulation purposes. For men, Juhn (1992) estimated the derivative of the employment probability with respect to wages as a step function that depended on one's position in the wage distribution. For white men in the bottom 20% in 1970, a group comparable in relative size to our low skill group, she found a derivative of .288. While Juhn (1992) did not report an elasticity for this group, we can approximate one by using as a base the employment to population ratio for white high school dropouts. When we do this, we obtain an employment to population ratio elasticity of 0.3 for low skill men.

For young, low skill women, Table 6 shows that American real wages were lower than those for Germany by .15 log points in 1984 and .36 in 1991. Applying the 1.5 elasticity to wage increases of this magnitude implies increases in the labor force participation rate of .079 in 1984 and .201 in 1991. These movements along women's supply curve comprise about 40% of the German-US employment rate gap in 1984 and 103% in 1991. However, these studies relate to labor force participation rather than employment. While the GSOEP did not collect unemployment information in 1991, it is available for 1984, allowing us to calculate labor force participation rates for the earlier year. We find that the labor force participation gap between the US and Germany is slightly smaller than the gap for the employment-to-population ratios so, at least for that year, the proportion explained would be roughly the same were we to focus participation.

For low skill young men, the US-German real wage differences were .11 log points in 1984 and .27 in 1991. According to Juhn's (1992) estimates, these wage increases would raise the American employment to population ratio by .023 in 1984 and .057 in 1991, or about 37% of the German-US employment gap in 1984 and 28% in 1991.[30]

These simulations of the effects of equalizing German and US real wages among young workers with low education levels imply that the high wage-public employment demand response scenario could account for all of the German-US difference in employment rates for low skill young women in 1991. But, for young women in 1984 and young men in both years, something more is needed to explain German low skill youth's higher employment rates.

One possible explanation for the remaining differences for young males and for young females in 1984 is that German youth have lower unemployment rates than young Americans, and it is likely that labor force participation depends on unemployment as well as wages. As just noted, the GSOEP allows us to compare US and German unemployment rates for 1984, and we find that less educated young men and women both have higher unemployment rates in the US. For women, the unemployment rate was 11.8% in the US and 10.0% in Germany, while for men it was 19.8% in the US and 18.4% in Germany. What are the labor supply implications of these unemployment rate gaps between the US and Germany? If the American unemployment rate were lowered to the

[30] Since Juhn's (1992) estimates were for employment (rather than for labor force participation), applying elasticities based on her results to our employment to population ratios is appropriate.

German level for these workers and if the labor supply elasticity of the employment-to-population ratio with respect to the unemployment rate were .76 for men and 1.91 for women, then labor supply responses to unemployment rate and wage differences could together account for all of the employment-to-population ratio gap between young less skilled Germans and Americans in 1984.[31] And the higher incidence of public employment in Germany would allow the greater labor supply there to result in actual employment.

B. Welfare

While we have seen that higher government employment provides a plausible explanation for a substantial portion of the US-German differences in the employment rates of the low skilled, it is also possible that the US welfare system plays a role. As we see in Table 11, single motherhood in the US is highly negatively correlated with education. In 1984, for example, 33% of young US women with low levels of education were single mothers, compared to 20% in the middle education group and only 6 percent in the high education group.[32] The US also has a much higher incidence of single motherhood among women with low education levels than is the case for Germany. In 1984, the German rate of single motherhood was about 10 percentage points lower than the US rate in the low and middle education groups and about the same in the high education group. Moreover, between 1984 and 1991, the incidence of single motherhood in the US increased by a bit more (4 percentage points) in the Edlow group than in the Edmid group (3 points) while actually declining slightly for women in the high education group. In Germany, if anything, single motherhood appears to have diminished. The difference between the US and Germany in female

[31] These implied elasticities were computed as follows. Taking the case of men for illustrative purposes, we note that wage differences between Germans and Americans account for 2.3 percentage points of the 6.3 percentage point differential in the employment to population ratio. Thus, unemployment rate differences would have to account for the remaining 4.0, which would imply a 5.8% increase on the US base employment to population ratio of 68.7%. The American unemployment rate in 1984 for young, low skill men was 7.6% higher than that for Germans (i.e., .198/.184). Thus, the required American elasticity of the employment to population ratio with respect to the unemployment rate is 5.8/7.6 or .76. An analogous computation leads to a required elasticity for women of 1.91.

[32] The heavy concentration of single motherhood among less educated women in the US is particularly emphasized by Blau (1997).

headship may itself be due in part to AFDC in the United States, although research generally does not indicate a strong welfare effect on fertility or marital status within the US (Ellwood and Bane, 1985; Moffitt, 1992).

In addition to possibly affecting family formation decisions (we attempt to assess the employment consequences of family structure below), the welfare system could also of course reduce labor market attachment among recipients. Tables 12a and b shed light on this issue by examining the employment rates of young women in each country by family composition and education. If the welfare system is important in reducing employment, we expect this impact to be primarily confined to those who are eligible for AFDC. By and large, this group is limited to unmarried women with children, although in a very small number of cases, married couples with children can also qualify. Moreover, among this group of single mothers, the less educated are far more likely to qualify for welfare benefits and to find welfare an attractive option. These considerations suggest several possible comparisons that can yield evidence on the importance of welfare.

First, among nonmarried women, one can compare the employment rates of those with and without children. In the US, the former can conceivably qualify for AFDC, while the latter cannot. Further, employment differences between these two groups can be contrasted for the less educated and those with middle or high education levels, since less-educated single mothers are the most likely welfare recipients. And both these comparisons can be contrasted for Germany and the US, since only the US welfare system has strong work disincentives built in. Second, among women with children, one can compare the employment rates of married and nonmarried women. In Germany, neither group has an AFDC-like program available, while in the US, again, single mothers can qualify. In either comparison, if less-educated, single mothers in the US stand out with especially low relative employment levels, then this would provide some evidence that welfare may have a role to play in explaining the lower employment rates of at least some American women.

The levels of the relevant variables are shown in Table 12a. We focus on Table 12b which provides the type of comparisons discussed above. We focus on the employment-to-population ratio rather than work hours, since AFDC taxes away virtually all earnings except for a small exemption (Ehrenberg and Smith, 1997). First, looking at nonmarried American women, we see

that, for each education group, those with children are less likely to be employed than those without children. Further, the largest differences either in absolute value or relative to the mean of the education group are for the less educated American women. This is the case in both 1984 and 1991. In contrast, in Germany, among less educated nonmarried women in 1984, those with children actually are more likely to be employed than those without children, while the reverse is true among those with middle levels of education. In 1991, mothers are less likely to work among both low and middle educated women in Germany, but the relative employment advantage of middle educated women is smaller than in the US. This comparison between the German and the US experience implies that welfare may play a role in lowering American women's employment. This does not mean, however, that welfare necessarily explains a substantial portion of the US-German difference. We attempt to shed light on the potential size of the effects of welfare below.

Second, among those with children, the nonmarried in the US are as likely or more likely than married women to be employed. Although it is the case that as education rises, nonmarried women's relative employment levels compared to those who are married also rise, we find a similar result for Germany (when data are available). Thus, this contrast between education groups is not strong evidence for a welfare effect. Finally, we note that among less educated women with children, the nonmarried are much more likely to work than married women (by 23.3-32.8 percentage points) in Germany, while in the US the married are about as likely to work as the nonmarried. However, the German employment advantage for nonmarried women with children is even larger among the middle education group, so this comparison again does not provide evidence for a welfare effect.

While Tables 11 and 12 provide some suggestive (although mixed) evidence that the US welfare system plays a role in explaining US-German differences in labor market attachment among the less-educated, how large an effect can it have? This issue is addressed in Table 13 which examines the impact of family structure. It shows what the employment and full-time employment rates among less-educated young American women would be if they had the same population shares for marital status-presence of children groups as German women (i.e. married with children, married without children, nonmarried with children, and nonmarried without children). The table shows that the German-US difference in labor market attachment would be

almost as large in each year under this simulation as it actually is. Specifically, 81-86% of the German advantage in employment rates would remain. (Similar results are obtained for full-time employment.) Thus, family structure is not an important factor in producing the German employment advantage, at least not in an accounting sense. Thus, even if the welfare system were responsible for the entire US-German difference in family structure, its effects would be small.

The results in Table 13 imply that the source of the US-German differences is located within marital status-children groups. This could still mean that welfare is important, but not necessarily. As may be seen in Table 12a, where data are available, German employment rates are higher than American rates even among two groups not eligible for welfare, married and nonmarried women without children, and, in 1984, this was also the case for married women with children.. If we restrict the German-US comparison entirely to the three groups that are not eligible for US welfare (i.e., married women with and without children and nonmarried women) and use the German shares for these groups (to focus on the within-group differences in employment rates), the average employment rates for Germany was .522 in 1984; in the US, this simulated rate was only .375. Thus, for welfare ineligible groups, using a fixed weight average for both countries, Germans were 14.7 percentage points more likely to be employed than Americans in 1984. This difference is almost as large as the 17.1 percentage point gap in the family composition-corrected employment rates for the entire population of young women with low education levels shown in Table 13. This means that, in 1984, the bulk of the employment rate gap between the US and Germany for less-educated young women occurred within groups that were not eligible for AFDC in the United States. While unfortunately the data do not permit a similar computation for 1991, the results for 1984 strongly suggest that welfare is not an important cause of the German women's greater attachment to the labor market.

C. Parental Leave

While low real wage offers, less access to public employment, and, to a considerably lesser extent, welfare may all reduce young, less-educated American women's labor market attachment

relative to German women's, a countervailing factor is Germany's parental and maternal leave policies. Throughout our period of observation (1984-91) Germany has had more generous maternity leave policies than is the case in the US. Moreover, in 1986 additional parental leave was mandated in Germany, reaching 18 months by 1990, and provisions were adopted to require paid parental leave for those working under 19 hours per week. As a test of the effect of this law, we compare the impact of children on young married mothers' labor market attachment in the US and Germany for 1984 (before the new law) and 1991.

The results of this comparison are shown in Table 14, which contrasts employment and full time employment by education group for young married women with and without children. In all cases, married women with children have lower employment rates than married women without children. Further, for each year and education group, this difference is considerably larger for Germany than the US, particularly for full-time employment. This pattern holds for both absolute differences and for differences relative to the mean for the relevant education group.

The larger difference in employment rates between married women with children and those without children for Germany than for the US likely reflects a variety of factors in addition to Germany's more generous maternity and parental leave policies, including cultural differences between the two countries, the need to supply lunches at home for school children in Germany, and the legality of employment discrimination against pregnant women. However, the parental leave system became steadily more generous between 1984 and 1991, whereas the need to provide lunch for school children and the legal situation of pregnant women did not change. We do not know what happened to attitudes towards mothers working, however, since female participation rates in general increased over this period, it is unlikely that these became *less* favorable. Thus, if the effect of children became more negative between 1984 and 1991, an adverse effect of the policy changes on German women's employment will be suggested.

The results in Table 14 indicate that the "effect" of children (i.e., the difference in employment rates between mothers and nonmothers) tended to rise for Germany, although this pattern is most consistent for the employment rate effects rather than for full-time employment. In

contrast these effects stayed the same or declined slightly in the US.[33] These results are largely confirmed in Table A6 which uses the probit analyses of Tables A1 and A2 to examine partial derivatives and semielasticities of employment and full-time employment with respect to marriage and children. Moreover, in these analyses which control for other factors (i.e., age, age squared, marital status, edlow, edmid, and race for the US), the rise in the absolute value of the effect of children (both the derivative and the semielasticity) in Germany is larger for full-time employment than for overall employment. The larger impact on full time work in Germany may well be due to the 19 hour provision enacted into the 1986 law, which strongly discourages full-time work. The results in Tables 14 and A6 thus provide some evidence in support of an impact of the German parental leave law.

These findings serve to highlight the strength of the factors raising the employment rates of young, less-educated German women relative to women in the US. Their higher wages and greater access to government employment were strong enough to outweigh the more generous German policies for maternity and parental leave which our results suggest did negatively affect German women's employment behavior in the 1980s, as well as other factors including the possibility of legal discrimination against pregnant women and the lack of school lunch programs in Germany.

VI. Conclusions

This paper has examined gender differences in labor market outcomes for hard-to-employ youth in the US and West Germany during the 1984-91 period. We find that young, less educated American men and especially women are far less likely to be employed than their German counterparts. Moreover, less educated young women and men in the United States have lower earnings relative to more highly educated youth in their own country, and also fare much worse than less educated German youth in absolute terms, correcting for purchasing power. At the same time, for those in the highest education group, Americans outearned Germans by a considerable margins.

[33] The declining relative effect of children on women's labor force participation in the US has been noted in other studies; see, e.g., Leibowitz and Klerman (1995).

The evidence that young, less educated American women are more weakly attached to the labor market than those in Germany is especially surprising in light of Germany's lower labor force participation rates for other groups of women and its considerably more generous family and maternity leave policies. We present evidence suggesting that, all else equal, these policies do negatively affect the labor force attachment of German women, particularly their full-time employment rates. While welfare may play a role, our findings suggest that it accounts for very little of the US-German difference in employment rates. Employment rates of less educated women are also substantially lower in the US than in Germany for categories of women who would not be eligible for welfare, in particular, for married and unmarried women without children. And most of the difference in labor market attachment between less-educated young German and American women is accounted for by groups that are not eligible for welfare in the US. This suggests that poor labor market opportunities are more important than our welfare system in explaining young American women's lower labor force attachment.

The relatively high employment rates of less educated German youth combined with their relatively high wages raise the question of how they are successfully absorbed into the labor market. One possibility is that less educated German youth have higher productivity than their American counterparts. We lack the data to examine this issue directly, however, other evidence suggests that less-educated German youth may well have higher skills (Nickell and Bell, 1996) and thus that productivity differences could play a role in explaining this pattern. We believe however that such differences are unlikely to account fully for the extremely large differences which we have documented between Germany and the US in the wages and employment of hard-to-employ youth.

An alternative explanation which we were able to explore is that the public sector in Germany in effect functions as an employer of last resort, absorbing some otherwise unemployable low skilled youth. Consistent with this idea, we find that while government employment is selective of the highly educated in both the US and Germany, low education has a much larger negative effect on government employment of young workers in the US. Moreover, among German males, the effect of low education on government employment is more negative for older than for younger workers, supporting the idea that public employment in Germany is particularly an

outlet for younger, less skilled workers. This makes sense in that they are more likely to be minimum wage constrained. While this pattern did not hold consistently among women, it may well be that older, less-educated German women are also minimum wage constrained. A simple accounting suggests that the effects of the public sector on youth employment in Germany could be large indeed. Public sector jobs may well allow the German labor market to absorb the additional workers attracted by high wages for the low skilled, relative to the United States labor market. This does not necessarily require that Germany explicitly pursue a policy of utilizing the government as employer of last resort. Rather, the large size of the government sector in Germany combined with the composition of employment in government jobs could well have this effect even in the absence of a conscious policy.

References

Abowd, John, Francis Kramarz and Thomas Lemieux, "Minimum Wages and Youth Unemployment in France and the US," paper presented at the NBER Summer Institute, July 1995.

Abraham, Katherine and Susan Houseman, "Earnings Inequality in Germany," in Richard B. Freeman and Lawrence F. Katz, eds., *Differences and Changes in Wage Structures* (Chicago: University of Chicago Press, 1995), pp. 371-403.

Björklund, Anders and Richard B. Freeman, "Generating Equality and Eliminating Poverty, the Swedish Way," National Bureau of Economic Research (NBER), Working Paper 4945, December 1994.

Blau, Francine D., "Trends in the Well-being of American Women, 1970-1995," unpublished working paper, March 1997.

Blau, Francine D. and Marianne A. Ferber, *The Economics of Women, Men, and Work*, 2nd ed. (Englewood Cliffs, NJ: Prentice-Hall, 1992).

Blau, Francine D. and Lawrence M. Kahn, "The Gender Earnings Gap: Some International Evidence," in Richard B. Freeman and Lawrence F. Katz, eds., *Differences and Changes in Wage Structures* (Chicago: University of Chicago Press, 1995), pp. 105-143.

Blau, Francine D. and Lawrence M. Kahn, "International Differences in Male Wage Inequality: Institutions versus Market Forces," *Journal of Political Economy* 104 (August 1996a): 791-837.

Blau, Francine D. and Lawrence M. Kahn, "Wage Structure and Gender Earnings Differentials: An International Comparison" *Economica,* 63 (May 1996b Supplement): S29-S62.

Blau, Francine D. and Lawrence M. Kahn, "Swimming Upstream: Trends in the Gender Wage Differential in the 1980s," *Journal of Labor Economics* 15 (January 1997, part 1): 1-42.

Blau, Francine D. and Lawrence M. Kahn, "Apprentice Training, Administered Wages, and Employment Outcomes in West Germany," in progress.

Borjas, George and Valerie Ramey, "Foreign Competition, Market Power, and Wage Inequality," *Quarterly Journal of Economics* 110 (November 1995): 1075-1109.

Bound, John and Richard B. Freeman, "What Went Wrong? The Erosion of Relative Earnings and Employment among Young Black Men in the 1980's," *Quarterly Journal of Economics* 107 (February 1992): 201-232.

Bound, John, and George Johnson, "Changes in the Structure of Wages in the 1980's: An Evaluation of Alternative Explanations," *American Economic Review* 82 (June 1992): 371-392.

Buechtemann, Christoph, Juergen Schupp, and Dana Soloff, "Roads to Work: School-to-Work Transition Patterns in Germany and the United States," *Industrial Relations Journal* 24 (1993): 97-111.

Bureau of National Affairs, *Daily Labor Report* May 24, 1995 (No. 100) and June 7, 1995 (No. 107).

Burkhauser, Richard V., "An Introduction to the German Socio-Economic Panel for English Speaking Researchers," Syracuse University, September 1991.

Burtless, Gary, "The Employment Prospects of Welfare Recipients." Working Paper, The Brookings Institution, August 1994.

Card, David, "The Effect of Unions on the Structure of Wages: A Longitudinal Analysis," *Econometrica* 64 (July 1996): 957-979.

Card, David, Francis Kramarz and Thomas Lemieux, "Changes in the Relative Structure of Wages and Employment: A Comparison of the United States, Canada, and France," working paper, Princeton University, December 1994.

Card, David and Alan B. Krueger, *Myth and Measurement: The New Economics of the Minimum Wage* (Princeton, N.J.: Princeton University Press, 1995).

Deere, Donald, Kevin M. Murphy and Finis Welch, "Employment and the 1990-1991 Minimum-Wage Hike," *American Economic Review* 85 (May 1995): 232-237.

Demleitner, Nora V., "Maternity Leave Policies of the United States and Germany: A Comparative Study," *New York Law School Journal of International and Comparative Law* 13 , 1(1992): 229-255.

DiNardo, John, Nicole M. Fortin and Thomas Lemieux, "Labor Market Institutions and the Distribution of Wages, 1973-1992: A Semiparametric Approach," *Econometrica*, 64 (September 1996): 1001-1044.

Edin, Per-Anders and Robert Topel, "Wage Policy and Restructuring: The Swedish Labor Market Since 1960," mimeo, December 1994.

Ehrenberg, Ronald and Robert Smith, *Modern Labor Economics,* 6th ed. (New York: HarperCollins, 1997).

Ellwood, David and Mary Jo Bane, "The Impact of AFDC on Family Structure and Living Arrangements," in Ronald Ehrenberg, ed., *Research in Labor Economics* (Greenwich, Conn.: JAI Press, 1985), pp. 137-207.

European Industrial Relations Review, (*EIRR*), "Minimum Pay in 18 Countries," No. 225 (October 1992): 14-21.

European Industrial Relations Review, (*EIRR*), "Minimum Pay Setting: Germany," No. 226 (November 1992): 14-16.

Freeman, Richard, "How Much Has De-Unionization Contributed to the Rise in Male Earnings Inequality?" In S. Danziger and P. Gottschalk, eds., *Uneven Tides: Rising Inequality in the America* (New York: Russell Sage, 1993), pp. 133-63.

Hunt, Jennifer, "The Effect of Unemployment Compensation on Unemployment Duration in Germany," *Journal of Labor Economics* 13 (January 1995): 88-120.

Hyland, Stephanie L., "Helping Employees with Family Care," *Monthly Labor Review* 113 (September 1990): 22-26.

ILO, *Conditions of Work Digest*, Vol. 7., no. 2 (February 1988).

ILO, *Yearbook of Labour Statistics,* various issues (Geneva: ILO).

Juhn, Chinhui, "Decline of Male Labor Market Participation: The Role of Declining Market Opportunities," *Quarterly Journal of Economics* 107 (February 1992): 79-121.

Juhn, Chinhui, Kevin Murphy, and Brooks Pierce, "Wage Inequality and the Rise in Returns to Skill," *Journal of Political Economy* 101 (June 1993): 410-442.

Kahn, Lawrence M., "Against the Wind: Bargaining Recentralization and Wage Inequality in Norway, 1987-91," Cornell University Working Paper, April 1996.

Katz, Lawrence F., Gary W. Loveman and David Blanchflower, "A Comparison of Changes in the Structure of Wages in Four OECD Countries," in Richard Freeman and Lawrence Katz, eds., *Differences and Changes in Wage Structures*, (Chicago, IL: University of Chicago Press, 1995), pp. 25-65.

Katz, Lawrence F. and Kevin M. Murphy, "Changes in Relative Wages, 1963-1987: Supply and Demand Factors," *Quarterly Journal of Economics* 107 (February 1992): 35-78.

Killingsworth, Mark, Labor Supply (Cambridge, England: Cambridge University Press, 1983).

Kimmel, Jean, "Reducing the Welfare Dependence of Single-Mother Families," Upjohn Institute Staff Working Paper 96-43, March 1996.

Klerman, Jacob Alex and Arleen Leibowitz. "Labor Supply Effects of State Maternity Leave Legislation," in Francine D. Blau and Ronald G. Ehrenberg, eds., *Gender and Family Issues in the Workplace* (New York: Russell Sage Foundation, 1997).

Krueger, Alan B. and Jörn-Steffen Pischke, "A Comparative Analysis of East and West German Labor Markets: Before and After Unification," in Richard Freeman and Lawrence Katz, eds., *Differences and Changes in Wage Structures*, (Chicago, IL: University of Chicago Press, 1995), pp. 405-445.

Lazear, Edward, "Schooling as a Wage Depressant," *Journal of Human Resources* 12 (Spring 1977): 164-176.

Leibowitz, Arleen and Jacob Alex Klerman, "Explaining Changes in Married Mothers' Employment Over Time," *Demography* 32 (August, 1995): 365-378.

Machin, Stephen, "The Effects of Minimum Wages on Wage Dispersion and Employment: Evidence from the U.K. Wage Councils," *Industrial & Labor Relations Review* 47 (January 1994): 319-329.

Mincer, Jacob, "Unemployment Effects of Minimum Wage Laws," *Journal of Political Economy* 84 (August 1976): S87-S104.

Mincer, Jacob and Solomon Polachek, "Family Investments in Human Capital: Earnings of Women," *Journal of Political Economy* 82 (March/April): S76-S108.

Moffitt, Robert, "Incentive Effects of the U.S. Welfare System: A Review," *Journal of Economic Literature* 30 (March 1992): 1-61.

Neumark, David and William Wascher, "Employment Effects of Minimum and Subminimum Wages: Panel Data on State Minimum Wage Laws," *Industrial & Labor Relations Review* 46 (October 1992): 55-81.

Nickell, Stephen and Brian Bell, "Changes in the Distribution of Wages and Unemployment in OECD Countries," December 1995, paper presented at the American Economic Association Meetings January 1996.

OECD, *Employment Outlook: September 1988* (Paris: OECD, 1988).

OECD, *Employment Outlook: July 1993* (Paris: OECD, 1993a).

OECD, *Trends in International Migration*, Annual Report 1993 (Paris: OECD, 1993b).

OECD, *National Accounts: Main Aggregates, Volume 1, 1960-1994* (Paris: OECD, 1996).

O'Neill, June and Solomon Polachek, "Why the Gender Gap in Wages Narrowed in the 1980s," *Journal of Labor Economics* 11 (January 1993): 205-28.

Schultz, T. Paul, "Estimating Labor Supply Functions for Married Women," in James P. Smith, ed., *Female Labor Supply* (Princeton: Princeton University Press, 1980), pp. 25-89.

Social Security Administration, *Social Security Programs Throughout the World-1995* (Washington, D.C.: US Government Printing Office, 1995).

Soskice, David, "Reconciling Markets and Institutions: The German Apprenticeship System," in L. Lynch, ed., *Training and the Private Sector* (Chicago, Ill.: University of Chicago Press, 1994), pp. 25-60.

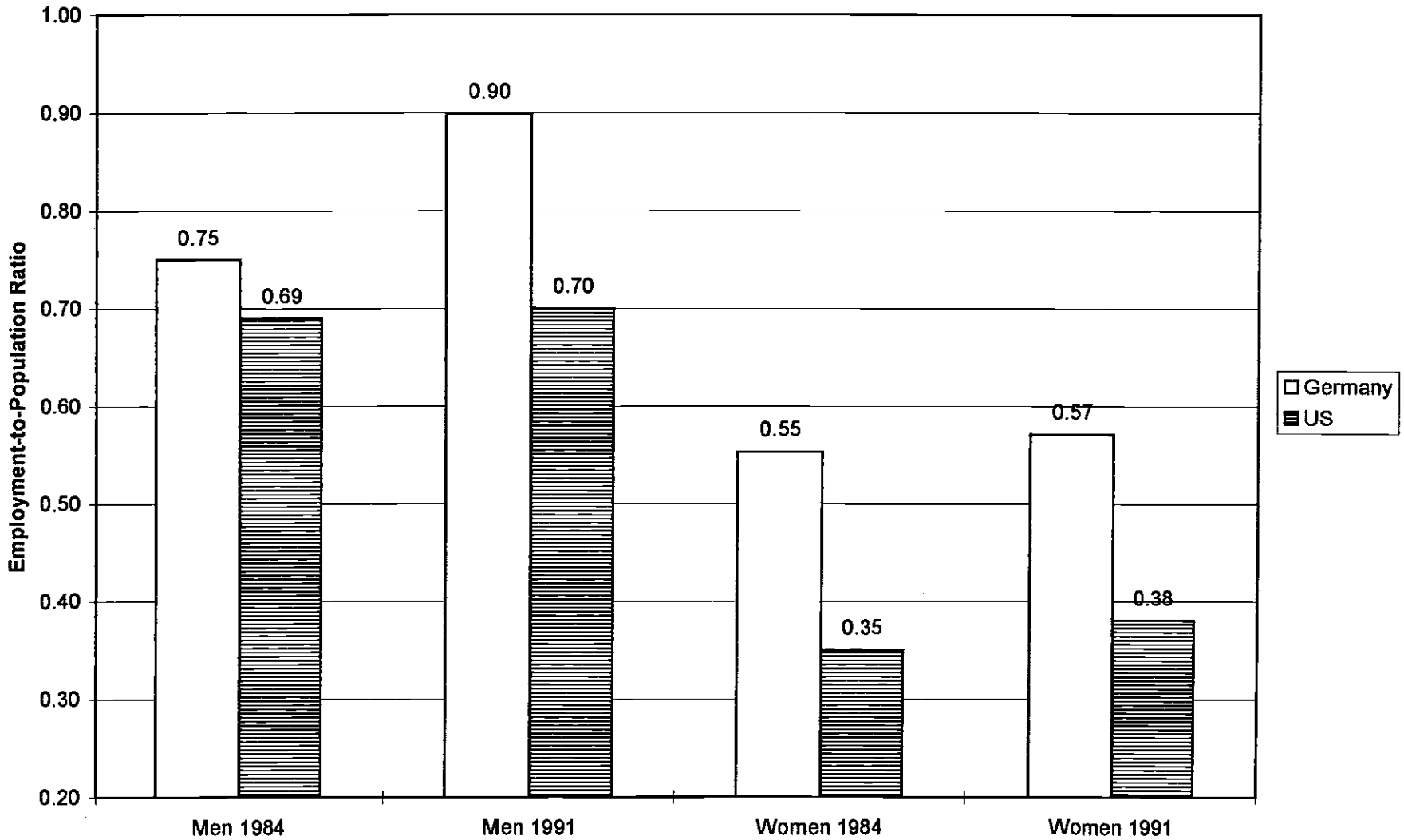
Steedman, Hilary, "The Economics of Youth Training in Germany," *Economic Journal* 103 (September 1993): 1279-1291.

Waldfogel, Jane. "The Family Gap for Young Women in the US and the UK: Can Maternity Leave Make a Difference? *Journal of Labor Economics* (forthcoming).

U.S: Bureau of Labor Statistics, *Employment and Earnings*, various issues.

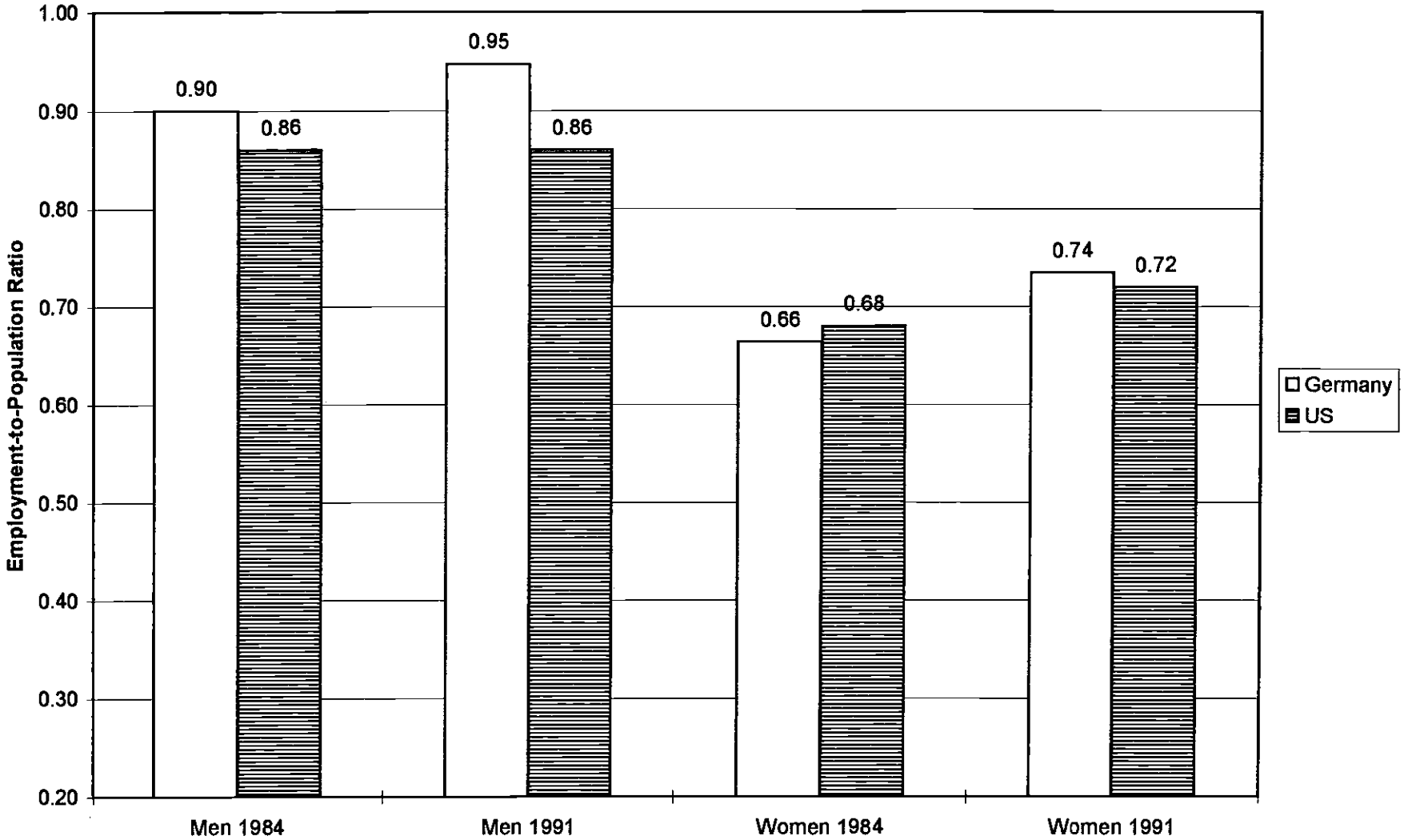
U.S. Department of Commerce, *Statistical Abstract of the United States 1995* (Washington, D.C.: US Government Printing Office, 1995).

Figure 1a: Employment Rates for the Low Education Group, Ages 18-29



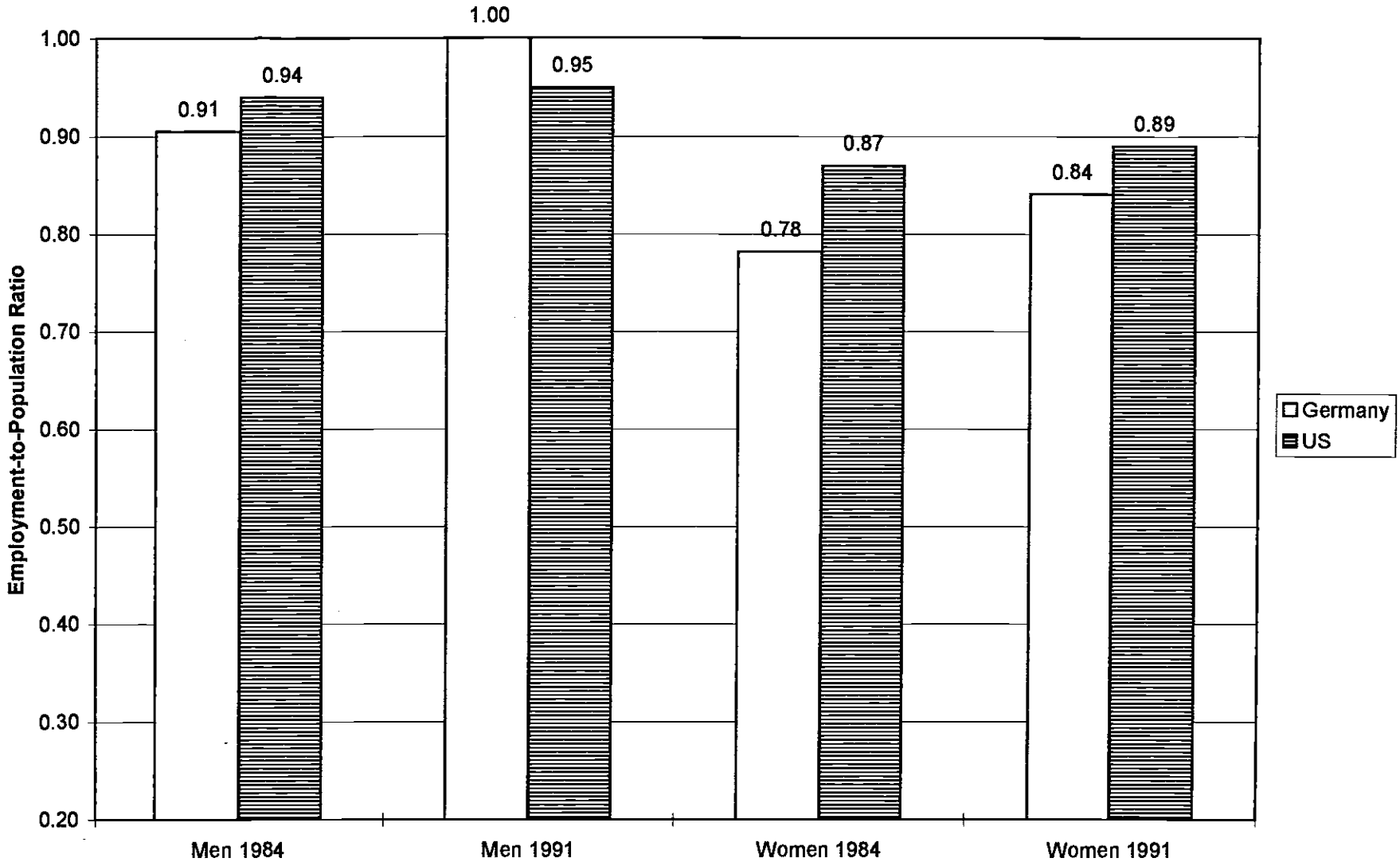
KONPRCPS1_597.xls Chart4 5/27/97 10:08 AM

Figure 1b: Employment Rates for the Middle Education Group, Ages 18-29



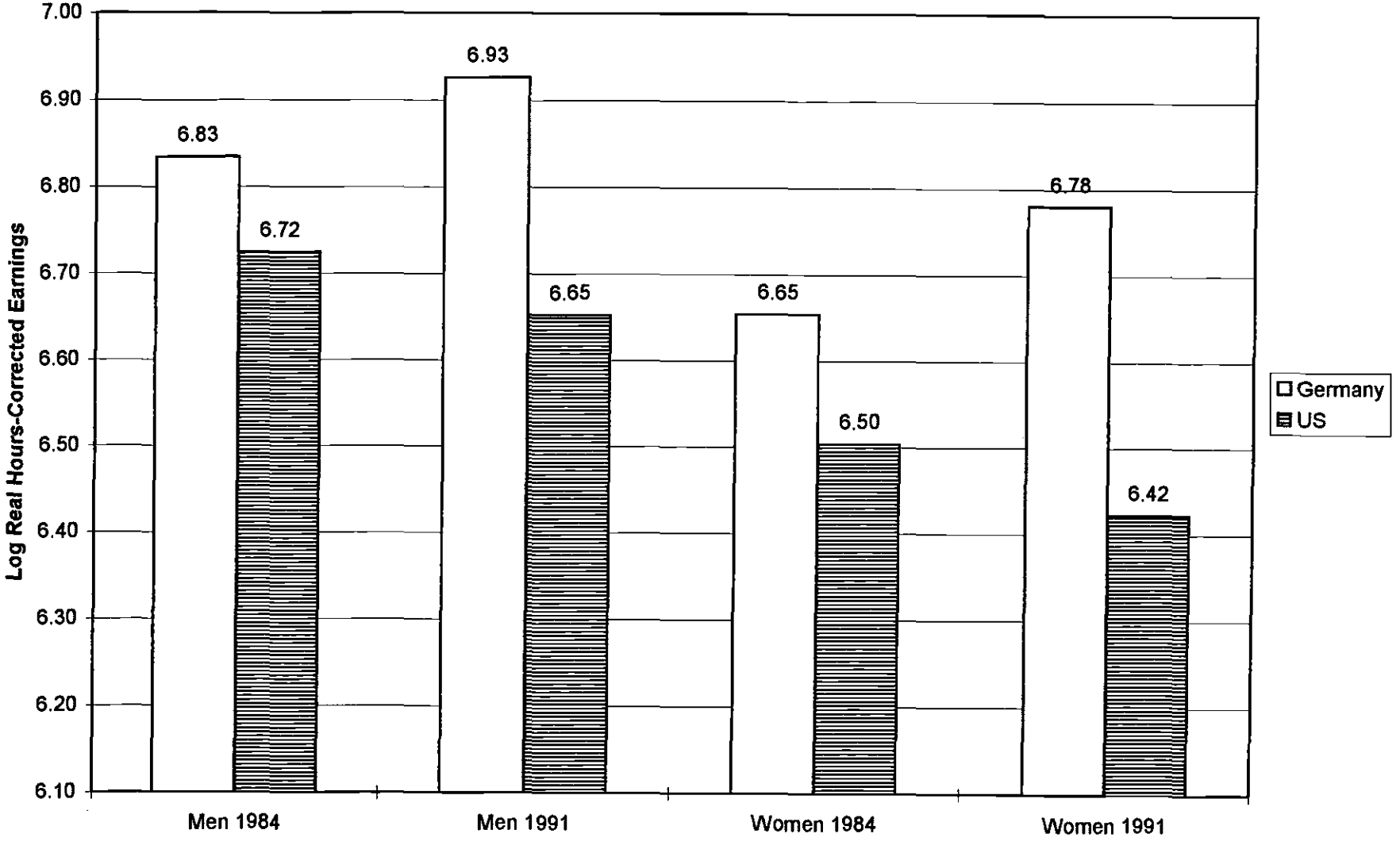
KONPRCPS1_597.xls Chart5 5/27/97 10:09 AM

Figure 1c: Employment Rates for the High Education Group, Ages 18-29



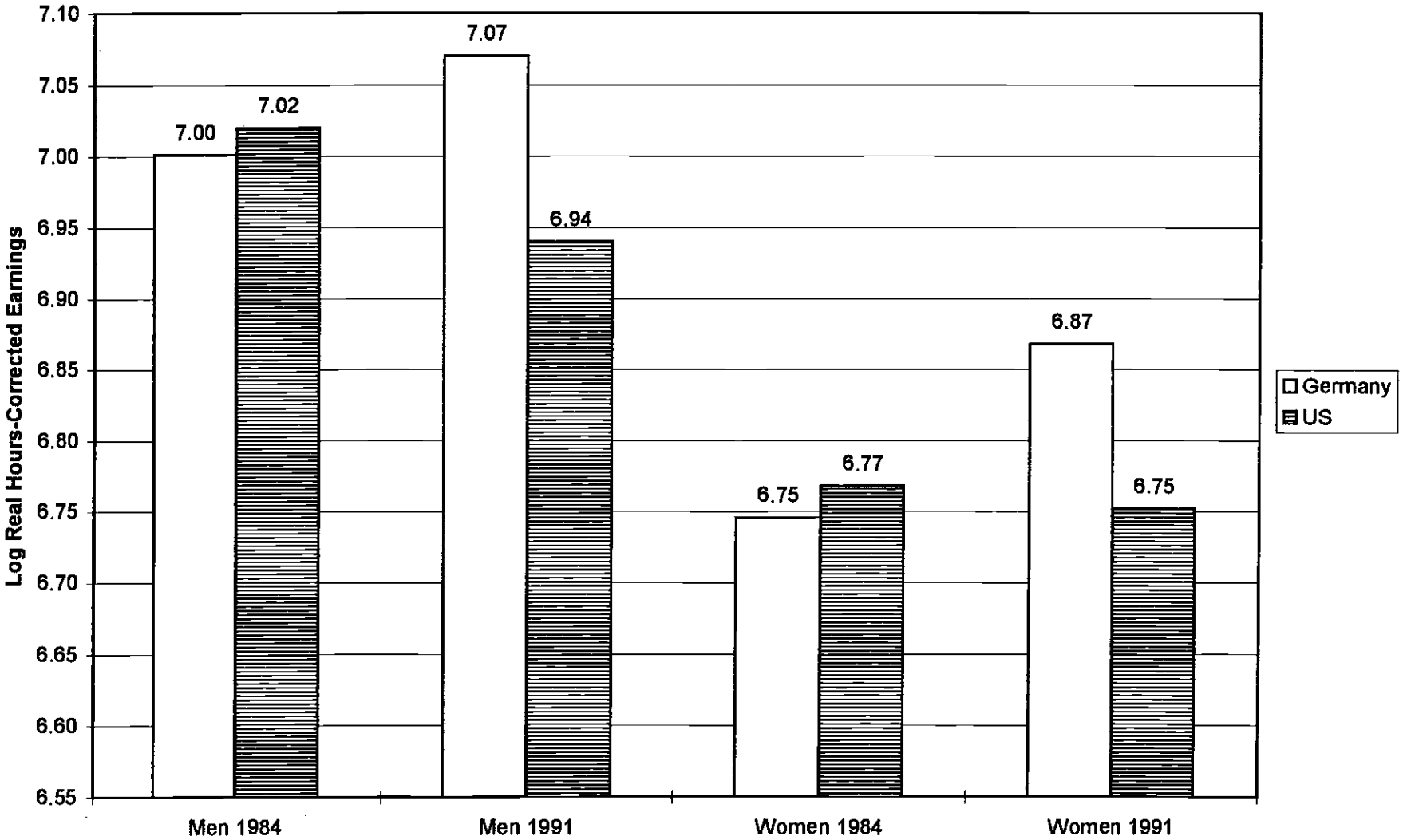
KONPRCPS1_597.xls Chart6 5/27/97 10:09 AM

Figure 2a: Log Real Hours-Corrected Earnings for the Low Education Group, Ages 18-29



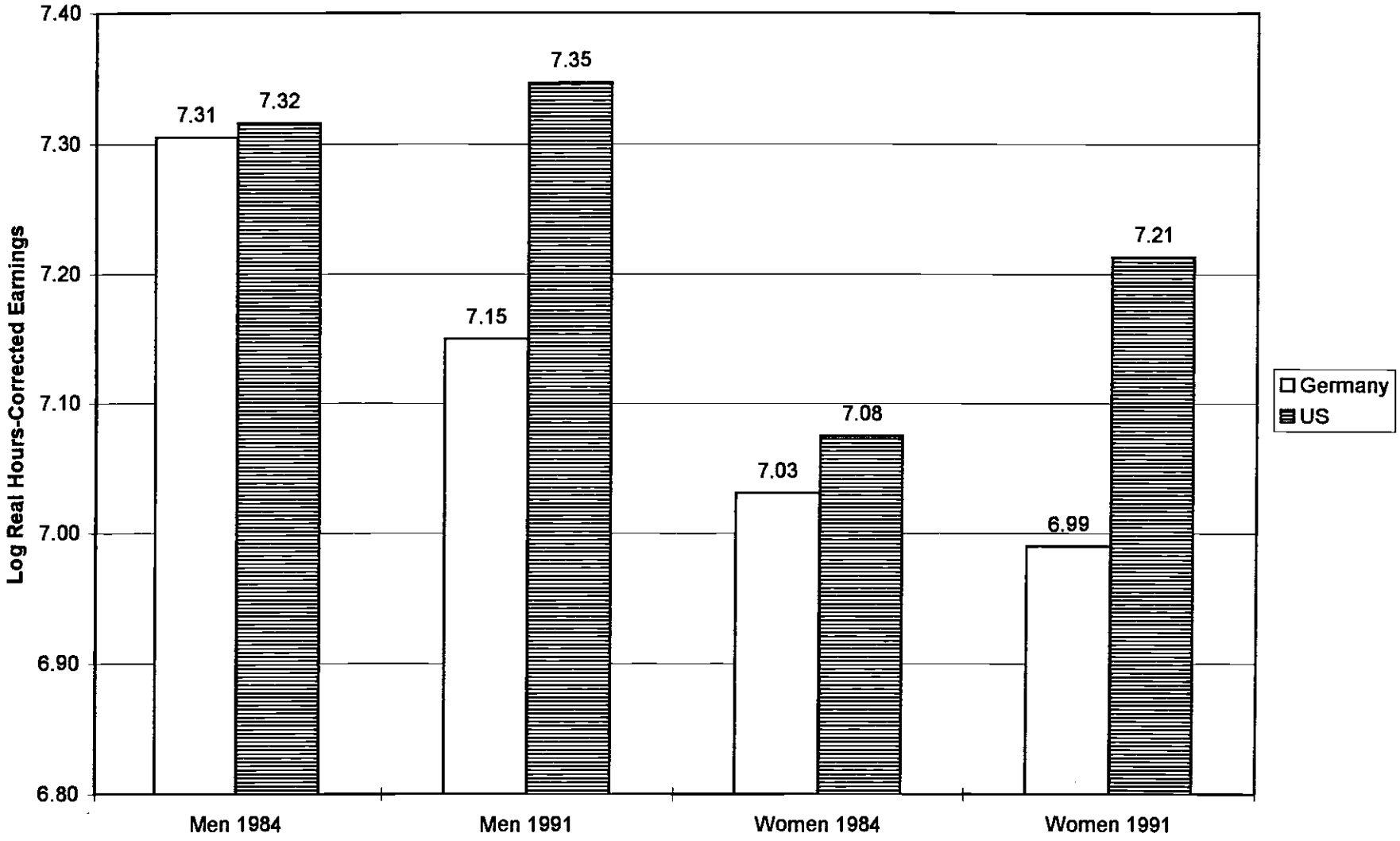
Konst_overheads_597.xls Chart1 5/27/97

Figure 2b: Log Real Hours-Corrected Earnings for the Middle Education Group, Ages 18-29



Konst_overheads_597.xls Chart2 5/27/97

Figure 2c: Log Real Hours-Corrected Earnings of the High Education Group, Ages 18-29



Konst_overheads_597.xls Chart3 5/27/97

Table 1: Educational Participation and Attainment, 18-29 and 25-36 Year Olds, 1984 and 1991

	In School	Years of School Completed	Sample Size	In School	Years of School Completed	Sample Size
	Age 18-29			Age 25-36		
Germany (GSOEP)						
1984						
Men	0.418	11.60	1069	0.157	12.59	973
Women	0.304	11.56	1028	0.063	11.95	958
1991						
Men	0.425	11.67	953	0.183	12.71	883
Women	0.320	11.52	894	0.065	12.25	857
United States (CPS)						
1984						
Men	0.175	12.46	16271	0.029	13.16	15801
Women	0.154	12.49	17062	0.023	12.91	16792
1991						
Men	0.175	12.45	13241	0.025	12.95	15153
Women	0.171	12.61	14381	0.031	12.99	16297
United States (PUMS)						
1990						
Men	0.287	----	----	0.101	----	----
Women	0.290	----	----	0.111	----	----

Note: PUMS is the Census of Population Public Use Microdata Sample 1/100 sample.

Table 2: Educational Attainment, Individuals Currently Not in School, 1984 and 1991

	Years of School Completed	Edlow	Edmid	Edhigh	Sample Size
			A. Age 18-29		
Germany (GSOEP)					
1984					
Men	11.69	0.122	0.743	0.135	622
Women	11.69	0.209	0.637	0.154	716
1991					
Men	11.77	0.185	0.622	0.193	482
Women	11.71	0.187	0.667	0.146	561
United States (CPS)					
1984					
Men	12.39	0.191	0.668	0.140	13421
Women	12.43	0.177	0.688	0.136	14441
1991					
Men	12.37	0.198	0.654	0.148	10926
Women	12.55	0.180	0.657	0.163	11924
			B. Age 25-36		
Germany (GSOEP)					
1984					
Men	12.37	0.090	0.638	0.272	820
Women	11.78	0.203	0.626	0.171	898
1991					
Men	12.59	0.108	0.574	0.318	721
Women	12.12	0.160	0.625	0.215	801
United States (CPS)					
1984					
Men	13.12	0.139	0.599	0.262	15343
Women	12.89	0.143	0.637	0.220	16400
1991					
Men	12.91	0.149	0.619	0.232	14772
Women	12.97	0.141	0.624	0.234	15796
			C. Age 18-65		
Germany (GSOEP)					
1984					
Men	12.15	0.112	0.632	0.256	2971
Women	11.10	0.344	0.540	0.115	3267
1991					
Men	12.36	0.117	0.599	0.285	2246
Women	11.50	0.274	0.578	0.148	2425
United States (CPS)					
1984					
Men	12.52	0.222	0.561	0.216	44531
Women	12.24	0.216	0.630	0.154	48427
1991					
Men	12.75	0.188	0.578	0.234	43645
Women	12.60	0.180	0.626	0.193	47177

Table 3: Employment Measures by Selected Age and Education Group, 1984 and 1991*

		Edlow		Edmid		Edhigh	
		Employed	Fulltime	Employed	Fulltime	Employed	Fulltime
		A. Age 18-29					
Germany (GSOEP)							
1984	Men	0.750	0.684	0.900	0.803	0.905	0.762
	Women	0.553	0.427	0.664	0.575	0.782	0.618
1991	Men	0.899	0.798	0.947	0.840	1.000	0.911
	Women	0.571	0.417	0.735	0.591	0.841	0.756
United States (CPS)							
1984	Men	0.687	0.545	0.855	0.686	0.936	0.806
	Women	0.353	0.210	0.678	0.472	0.867	0.704
1991	Men	0.696	0.564	0.861	0.742	0.950	0.856
	Women	0.375	0.232	0.720	0.520	0.888	0.745
United States/Germany							
1984	Men	0.916	0.797	0.950	0.854	1.034	1.058
	Women	0.638	0.492	1.021	0.821	1.109	1.139
1991	Men	0.774	0.707	0.909	0.883	0.950	0.940
	Women	0.657	0.556	0.980	0.880	1.056	0.985
		B. Age 25-36					
Germany (GSOEP)							
1984	Men	0.824	0.689	0.948	0.883	0.960	0.771
	Women	0.412	0.209	0.589	0.342	0.675	0.448
1991	Men	0.910	0.855	0.966	0.927	0.974	0.928
	Women	0.602	0.291	0.657	0.378	0.663	0.482
United States (CPS)							
1984	Men	0.743	0.652	0.890	0.803	0.961	0.888
	Women	0.388	0.262	0.655	0.478	0.802	0.645
1991	Men	0.743	0.674	0.886	0.841	0.958	0.914
	Women	0.419	0.290	0.710	0.543	0.838	0.693
United States/Germany							
1984	Men	0.902	0.946	0.939	0.909	1.001	1.152
	Women	0.942	1.254	1.112	1.398	1.188	1.440
1991	Men	0.816	0.788	0.917	0.907	0.984	0.985
	Women	0.696	0.997	1.081	1.437	1.264	1.438

* Includes only those out of school.

Table 3: Employment Measures by Selected Age and Education Group, 1984 and 1991 (Cont'd)

		Edlow		Edmid		Edhigh	
		Employed	Fulltime	Employed	Fulltime	Employed	Fulltime
		C. Age 18-65					
Germany (GSOEP)							
1984	Men	0.777	0.687	0.863	0.782	0.918	0.742
	Women	0.366	0.179	0.531	0.300	0.645	0.387
1991	Men	0.767	0.710	0.860	0.816	0.933	0.876
	Women	0.451	0.229	0.613	0.349	0.667	0.442
United States (CPS)							
1984	Men	0.675	0.586	0.846	0.747	0.934	0.870
	Women	0.382	0.253	0.630	0.446	0.773	0.604
1991	Men	0.659	0.580	0.844	0.781	0.923	0.877
	Women	0.402	0.276	0.678	0.505	0.813	0.655
United States/Germany							
1984	Men	0.869	0.853	0.980	0.955	1.017	1.173
	Women	1.044	1.413	1.186	1.487	1.198	1.561
1991	Men	0.859	0.817	0.981	0.957	0.989	1.001
	Women	0.891	1.205	1.106	1.447	1.219	1.482

Table 4: Employment Measures by Education Group, Synthetic Cohort Age 18-29 in 1984

		Edlow		Edmid		Edhigh	
		Employed	Fulltime	Employed	Fulltime	Employed	Fulltime
Germany (GSOEP)							
1984	Men	0.750	0.684	0.900	0.803	0.905	0.762
	Women	0.553	0.427	0.664	0.575	0.782	0.618
1991	Men	0.910	0.855	0.966	0.927	0.974	0.928
	Women	0.602	0.291	0.657	0.378	0.663	0.482
United States (CPS)							
1984	Men	0.687	0.545	0.855	0.686	0.936	0.806
	Women	0.353	0.210	0.678	0.472	0.867	0.704
1991	Men	0.743	0.674	0.886	0.841	0.958	0.914
	Women	0.419	0.290	0.710	0.543	0.838	0.693
United States/Germany							
1984	Men	0.916	0.797	0.950	0.854	1.034	1.058
	Women	0.638	0.492	1.021	0.821	1.109	1.139
1991	Men	0.816	0.788	0.917	0.907	0.984	0.985
	Women	0.696	0.997	1.081	1.437	1.264	1.438

Table 5: Years of Experience and Full-time Experience by Education Group, 1984 and 1991* (Individuals Aged 18-29 in 1984)

	Edlow as of 1984		Edmid as of 1984		Edhigh as of 1984	
	Germany	US	Germany	US	Germany	US
I. Total Experience						
1984						
Men	5.70	6.07	4.76	6.81	4.08	7.29
Women	5.19	1.68	4.39	4.24	2.93	6.06
1991						
Men	11.98	12.55	11.35	13.73	10.96	14.23
Women	9.43	6.01	9.33	9.93	7.92	12.06
II. Full-time Experience						
1984						
Men	5.44	5.58	4.74	6.00	3.82	3.99
Women	4.45	1.38	3.99	3.52	2.62	3.49
1991						
Men	11.54	11.14	11.27	12.37	10.56	10.62
Women	6.96	3.33	7.53	7.21	6.05	7.55

* Includes only those out of school as of 1984.

Source: Matched 1984-91 GSOEP and Michigan Panel Study of Income Dynamics (PSID) Panels.

Table 6: Log Real Hours-Corrected Earnings, by Age-Gender-Education Group, W. Germany and U.S., 1984 and 1991, in 1983 US Purchasing Power Equivalent Dollars

	Edlow		Edmid		Edhigh		All	
	1984	1991	1984	1991	1984	1991	1984	1991
				A. Age 18-29				
Men								
Germany (GSOEP)	6.834	6.926	7.002	7.067	7.305	7.148	7.019	7.059
United States (CPS)	6.724	6.652	7.020	6.940	7.316	7.347	7.020	6.963
US-German Difference	-0.110	-0.274	0.018	-0.127	0.011	0.199	0.001	-0.096
Women								
Germany (GSOEP)	6.653	6.777	6.745	6.867	7.029	6.989	6.776	6.875
United States (CPS)	6.504	6.423	6.768	6.752	7.075	7.213	6.801	6.820
US-German Difference	-0.149	-0.354	0.023	-0.115	0.046	0.224	0.025	-0.055
				B. Age 25-36				
Men								
Germany (GSOEP)	6.915	7.093	7.186	7.175	7.450	7.364	7.226	7.224
United States (CPS)	6.979	6.869	7.306	7.230	7.545	7.571	7.333	7.268
US-German Difference	0.064	-0.224	0.120	0.055	0.095	0.207	0.107	0.044
Women								
Germany (GSOEP)	6.805	6.709	6.955	6.978	7.195	7.223	6.978	6.993
United States (CPS)	6.663	6.560	6.967	6.943	7.272	7.391	7.027	7.039
US-German Difference	-0.142	-0.149	0.012	-0.035	0.077	0.168	0.049	0.046
				C. Age 18-65				
Men								
Germany (GSOEP)	7.022	7.057	7.198	7.235	7.577	7.566	7.269	7.313
United States (CPS)	7.047	6.938	7.301	7.266	7.668	7.709	7.339	7.326
US-German Difference	0.025	-0.119	0.103	0.031	0.091	0.143	0.070	0.013
Women								
Germany (GSOEP)	6.751	6.810	6.921	6.968	7.261	7.303	6.925	6.992
United States (CPS)	6.662	6.612	6.917	6.951	7.276	7.410	6.954	7.024
US-German Difference	-0.089	-0.198	-0.004	-0.017	0.015	0.107	0.029	0.032

Table 7: Log Real Hours-Corrected Earnings, by Education Group, Synthetic Cohort Age 18-29 in 1984, in 1983 US Purchasing Power Equivalent Dollars

	Edlow		Edmid		Edhigh		All	
	1984	1991	1984	1991	1984	1991	1984	1991
Men								
Germany (GSOEP)	6.834	7.093	7.002	7.175	7.305	7.364	7.019	7.224
United States (CPS)	6.724	6.869	7.020	7.230	7.316	7.571	7.020	7.268
US-German Difference	-0.110	-0.224	0.018	0.055	0.011	0.207	0.001	0.044
Women								
Germany (GSOEP)	6.653	6.709	6.745	6.978	7.029	7.223	6.776	6.993
United States (CPS)	6.504	6.560	6.768	6.943	7.075	7.391	6.801	7.039
US-German Difference	-0.149	-0.149	0.023	-0.035	0.046	0.168	0.025	0.046

Table 8: Ceteris Paribus Effects of Education on Log Earnings, by Gender

	1984		1991	
	Edlow	Edmid	Edlow	Edmid
	A. Age 18-29			
Germany (GSOEP)				
Men	-0.324	-0.185	-0.110	-0.016
	(0.070)	(0.053)	(0.077)	(0.059)
Women	-0.246	-0.188	-0.098	-0.050
	(0.083)	(0.065)	(0.076)	(0.056)
United States (CPS)				
Men	-0.423	-0.158	-0.565	-0.303
	(0.023)	(0.018)	(0.022)	(0.017)
Women	-0.424	-0.193	-0.634	-0.345
	(0.026)	(0.017)	(0.026)	(0.017)
	B. Age 25-36			
Germany (GSOEP)				
Men	-0.506	-0.253	-0.237	-0.180
	(0.057)	(0.034)	(0.060)	(0.037)
Women	-0.377	-0.225	-0.463	-0.199
	(0.083)	(0.063)	(0.089)	(0.066)
United States (CPS)				
Men	-0.558	-0.227	-0.698	-0.334
	(0.019)	(0.013)	(0.017)	(0.012)
Women	-0.584	-0.285	-0.803	-0.429
	(0.024)	(0.014)	(0.022)	(0.013)

Note: Other explanatory variables include: AGE, AGESQ,MAR,CHILDYES, PART, HRPART, HRFULL, and, for the U.S., WHITE.

Table 9: Gender Gap, Log Real Hours-Corrected Earnings, by Age-Education Group, 1984 and 1991

	Edlow		Edmid		Edhigh		All	
	1984	1991	1984	1991	1984	1991	1984	1991
				A. Age 18-29				
Germany (GSOEP)	0.181	0.149	0.257	0.200	0.276	0.159	0.243	0.184
United States (CPS)	0.220	0.229	0.252	0.188	0.241	0.134	0.219	0.143
US-German Difference	0.039	0.080	-0.005	-0.012	-0.035	-0.025	-0.024	-0.041
				B. Age 25-36				
Germany (GSOEP)	0.110	0.384	0.231	0.197	0.255	0.141	0.248	0.231
United States (CPS)	0.316	0.309	0.339	0.287	0.273	0.180	0.306	0.229
US-German Difference	0.206	-0.075	0.108	0.090	0.018	0.039	0.058	-0.002
				C. Age 18-65				
Germany (GSOEP)	0.271	0.247	0.277	0.267	0.316	0.263	0.344	0.321
United States (CPS)	0.385	0.326	0.384	0.315	0.392	0.299	0.385	0.302
US-German Difference	0.114	0.079	0.107	0.048	0.076	0.036	0.041	-0.019

Table 10a: Fraction of Employment in Government by Selected Age and Education Groups, 1984 and 1991 (Levels)

	Edlow		Edmid		Edhigh	
	Germany	US	Germany	US	Germany	US
A. Age 18-29						
1984						
Men	0.158	0.049	0.161	0.077	0.208	0.167
Women	0.218	0.043	0.229	0.107	0.442	0.276
1991						
Men	0.189	0.027	0.188	0.114	0.241	0.163
Women	0.267	0.036	0.256	0.096	0.304	0.208
B. Age 30-65						
1984						
Men	0.164	0.101	0.245	0.142	0.359	0.258
Women	0.236	0.104	0.235	0.184	0.561	0.453
1991						
Men	0.158	0.073	0.242	0.145	0.318	0.233
Women	0.274	0.093	0.260	0.170	0.503	0.384

Notes: Includes only those out of school.

Table 10b: Fraction of Employment in Government by Selected Age and Education Groups, 1984 and 1991* (Differences)

	Edlow vs. Edmid						Edlow vs. Edhigh					
	Germany		US		Germany - US		Germany		US		Germany - US	
	Absolute	Divided by Mean	Absolute	Divided by Mean	Absolute	Divided by Mean	Absolute	Divided by Mean	Absolute	Divided by Mean	Absolute	Divided by Mean
A. Age 18-29												
1984												
Men	-0.003	-0.018	-0.028	-0.322	0.025	0.304	-0.050	-0.299	-0.118	-1.311	0.068	1.012
Women	-0.011	-0.041	-0.064	-0.489	0.053	0.447	-0.224	-0.839	-0.233	-1.779	0.009	0.940
1991												
Men	0.001	0.005	-0.087	-0.806	0.088	0.811	-0.052	-0.260	-0.136	-1.259	0.084	0.999
Women	0.011	0.041	-0.060	-0.526	0.071	0.568	-0.037	-0.139	-0.172	-1.509	0.135	1.370
B. Age 30-65												
1984												
Men	-0.081	-0.340	-0.041	-0.246	-0.040	-0.095	-0.195	-0.819	-0.157	-0.940	-0.038	0.121
Women	0.001	0.003	-0.080	-0.611	0.081	0.614	-0.325	-1.042	-0.349	-2.664	0.024	1.622
1991												
Men	-0.084	-0.422	-0.072	-0.667	-0.012	0.245	-0.160	-0.804	-0.160	-1.481	0.000	0.677
Women	0.014	0.050	-0.077	-0.675	0.091	0.725	-0.229	-0.812	-0.291	-2.553	0.062	1.741
C. Difference by Age: (Age 18-29) - (Age 30-65)												
1984												
Men	0.078	0.322	0.013	-0.076	0.065	0.399	0.145	0.520	0.039	-0.371	0.106	0.891
Women	-0.012	-0.044	0.016	0.122	-0.028	-0.167	0.101	0.203	0.116	0.885	-0.015	-0.683
1991												
Men	0.085	0.427	-0.015	-0.139	0.100	0.566	0.108	0.544	0.024	0.222	0.084	0.322
Women	-0.003	-0.008	0.017	0.149	-0.020	-0.157	0.192	0.673	0.119	1.044	0.073	-0.371

*Notes: Includes only those out of school. "Mean" refers to the mean fraction employed by government for the relevant age-gender group.

Table 10c: Fraction of the Population with Government Jobs, Age 18-29 with Low Education Levels

	Germany	US
1984		
Men	0.119	0.034
Women	0.121	0.015
1991		
Men	0.170	0.019
Women	0.152	0.014

Notes: Includes only those out of school.

Table 11: Family Composition by Education, Women Age 18-29, 1984 and 1991

	Marital Status		Children Present			No Children Present		
	Married	Not Married	Total	Married	Not Married	Total	Married	Not Married
				A. United States (CPS)				
1984								
Edlow	0.510	0.490	0.761	0.436	0.325	0.239	0.073	0.166
Edmid	0.509	0.491	0.550	0.349	0.200	0.450	0.160	0.290
Edhigh	0.500	0.500	0.272	0.215	0.057	0.728	0.285	0.443
1991								
Edlow	0.430	0.570	0.736	0.365	0.371	0.264	0.066	0.199
Edmid	0.451	0.549	0.537	0.312	0.225	0.463	0.139	0.324
Edhigh	0.457	0.543	0.223	0.183	0.040	0.777	0.274	0.503
				B. Germany (GSOEP)				
1984								
Edlow	0.500	0.500	0.613	0.393	0.220	0.387	0.107	0.280
Edmid	0.559	0.441	0.465	0.362	0.103	0.535	0.197	0.338
Edhigh	0.464	0.536	0.310	0.255	0.055	0.691	0.209	0.482
1991								
Edlow	0.408	0.592	0.562	0.359	0.203	0.437	0.049	0.388
Edmid	0.450	0.550	0.401	0.306	0.095	0.599	0.144	0.455
Edhigh	0.451	0.548	0.183	0.159	0.024	0.817	0.293	0.524

Table 12a: Employment by Family Composition and Education, Women Age 18-29, 1984 and 1991 (Levels)

	1984				1991			
	Not Married		Married		Not Married		Married	
	Without Children	With Children	Without Children	With Children	Without Children	With Children	Without Children	With Children
	United States (CPS)							
A. Employment-to-Population Ratio								
Edlow	0.526	0.308	0.455	0.303	0.526	0.316	0.468	0.335
Edmid	0.842	0.645	0.791	0.508	0.846	0.660	0.842	0.578
Edhigh	0.957	0.856	0.898	0.642	0.949	0.885	0.923	0.670
B. Full-time Employment-to-Population Ratio								
Edlow	0.303	0.157	0.342	0.192	0.325	0.175	0.333	0.220
Edmid	0.606	0.398	0.642	0.326	0.619	0.433	0.710	0.396
Edhigh	0.796	0.649	0.756	0.457	0.793	0.679	0.831	0.499
	Germany (GSOEP)							
A. Employment-to-Population Ratio								
Edlow	0.643	0.667	0.875	0.339	0.850	0.476	na	0.243
Edmid	0.883	0.787	0.856	0.321	0.970	0.657	0.943	0.301
Edhigh	0.887	na	1.000	0.429	0.953	na	0.958	0.231
B. Full-time Employment-to-Population Ratio								
Edlow	0.619	0.545	0.750	0.136	0.800	0.286	na	0.027
Edmid	0.844	0.745	0.833	0.133	0.929	0.371	0.811	0.053
Edhigh	0.774	na	0.826	0.143	0.860	na	0.875	0.154

na: Cell size equal to 10 or fewer observations.

Table 12b: Employment by Family Composition and Education, Women Age 18-29, 1984 and 1991 (Differences)

	1984				1991			
	Not Married: With Children vs. Without Children		With Children: Not Married vs. Married		Not Married: With Children vs. Without Children		With Children: Not Married vs. Married	
	Absolute Difference	Divided by Mean	Absolute Difference	Divided by Mean	Absolute Difference	Divided by Mean	Absolute Difference	Divided by Mean
	United States (CPS)							
A. Employment-to-Population Ratio								
Edlow	-0.218	-0.618	0.005	0.014	-0.210	-0.560	-0.019	-0.051
Edmid	-0.197	-0.291	0.137	0.202	-0.186	-0.258	0.082	0.114
Edhigh	-0.101	-0.116	0.214	0.247	-0.064	-0.072	0.215	0.242
Edlow-Edmid	-0.021	-0.327	-0.132	-0.188	-0.024	-0.302	-0.101	-0.165
Edlow-Edhigh	-0.117	-0.501	-0.209	-0.233	-0.146	-0.488	-0.234	-0.293
B. Full-time Employment-to-Population Ratio								
Edlow	-0.146	-0.695	-0.035	-0.167	-0.150	-0.647	-0.045	-0.194
Edmid	-0.208	-0.441	0.072	0.153	-0.186	-0.358	0.037	0.071
Edhigh	-0.147	-0.209	0.192	0.273	-0.114	-0.153	0.180	0.242
Edlow-Edmid	0.062	-0.255	-0.107	-0.319	0.036	-0.289	-0.082	-0.265
Edlow-Edhigh	0.001	-0.486	-0.227	-0.439	-0.036	-0.494	-0.225	-0.436
	Germany (GSOEP)							
A. Employment-to-Population Ratio								
Edlow	0.024	0.043	0.328	0.593	-0.374	-0.655	0.233	0.559
Edmid	-0.096	-0.145	0.466	0.702	-0.313	-0.548	0.356	0.854
Edhigh	na	na	na	na	na	na	na	na
Edlow-Edmid	0.120	0.188	-0.138	-0.109	-0.061	-0.107	-0.123	-0.295
B. Full-time Employment-to-Population Ratio								
Edlow	-0.074	-0.173	0.409	0.958	-0.514	-1.233	0.259	0.621
Edmid	-0.099	-0.237	0.612	1.468	-0.558	-1.338	0.318	0.763
Edhigh	na	na	na	na	na	na	na	na
Edlow-Edmid	0.025	0.064	-0.203	-0.510	0.044	0.106	-0.059	-0.141

Notes: na: indicates cell size equal to 10 or fewer observations. "Mean" refers to the mean outcome for the relevant education group.

Table 13: Actual and Hypothetical Employment Rates, Women Age 18-29 with Low Education Levels

	Employment		Fulltime Employment	
	Actual	German Shares	Actual	German Shares
1984				
Germany	0.553	0.553	0.427	0.427
United States	0.353	0.382	0.210	0.231
Difference	0.200	0.171	0.217	0.196
1991				
Germany	0.563	0.563	0.417	0.417
United States	0.375	0.411	0.232	0.257
Difference	0.188	0.152	0.185	0.160

Notes: Employs German shares for marital status-presence of children groups.

Table 14: Employment by Family Composition and Education, Women Age 18-29, 1984 and 1991 (Differences)

	Married: With Children vs. Without Children			
	1984		1991	
	Absolute Difference	Divided by Mean	Absolute Difference	Divided by Mean
	United States (CPS)			
A. Employment-to-Population Ratio				
Edlow	-0.152	-0.431	-0.133	-0.355
Edmid	-0.283	-0.417	-0.264	-0.367
Edhigh	-0.256	-0.295	-0.253	-0.285
B. Full-time Employment-to-Population Ratio				
Edlow	-0.150	-0.714	-0.113	-0.487
Edmid	-0.316	-0.669	-0.314	-0.604
Edhigh	-0.299	-0.425	-0.332	-0.446
	Germany (GSOEP)			
A. Employment-to-Population Ratio				
Edlow	-0.536	-0.969	na	na
Edmid	-0.539	-0.812	-0.642	-0.873
Edhigh	-0.571	-0.730	-0.727	-0.864
B. Full-time Employment-to-Population Ratio				
Edlow	-0.614	-1.438	na	na
Edmid	-0.700	-1.217	-0.758	-1.283
Edhigh	-0.683	-1.105	-0.721	-0.954

Table A-1: Probit Results for the Determinants of Employment and Fulltime Employment, Age 18-29

	Germany				United States			
	Men		Women		Men		Women	
Explanatory Variables	Coeff.	Asymp. Std. Err.	Coeff.	Asymp. Std. Err.	Coeff.	Asymp. Std. Err.	Coeff.	Asymp. Std. Err.
A. Employment 1984								
white	----	----	----	----	0.428	0.037	0.331	0.033
age	-0.577	0.397	0.318	0.275	0.107	0.065	0.080	0.055
agesq	0.012	0.008	-0.005	0.006	-0.002	0.001	-0.001	0.001
mar	0.489	0.189	-0.647	0.131	0.550	0.036	-0.354	0.026
childyes	-0.236	0.150	-1.049	0.118	-0.163	0.031	-0.680	0.025
edlow	-0.443	0.262	-0.321	0.189	-0.925	0.055	-1.192	0.048
edmid	0.126	0.220	-0.100	0.166	-0.381	0.050	-0.461	0.041
constant	7.692	4.736	-2.955	3.292	-0.455	0.766	0.052	0.656
Sample Size	622		716		13421		14441	
Log Likelihood	-210.947		-371.638		-5480.21		-8013.24	
B. Full-time Employment 1984								
white	----	----	----	----	0.397	0.035	0.180	0.033
age	0.277	0.325	0.485	0.276	0.424	0.058	0.528	0.055
agesq	-0.005	0.007	-0.010	0.006	-0.007	0.001	-0.010	0.001
mar	0.434	0.157	-0.744	0.125	0.483	0.029	-0.197	0.024
childyes	-0.256	0.129	-1.215	0.115	-0.124	0.027	-0.679	0.024
edlow	0.006	0.227	-0.122	0.185	-0.476	0.044	-0.881	0.044
edmid	0.334	0.177	0.195	0.158	-0.173	0.038	-0.302	0.035
constant	-3.455	3.888	-4.857	3.292	-5.623	0.687	-6.439	0.657
Sample Size	622		716		13421		14441	
Log Likelihood	-309.091		-363.485		-7671.28		-8735.83	

Table A-1: Probit Results for the Determinants of Employment and Fulltime Employment, Age 18-29 (Cont'd)

	Germany				United States			
	Men		Women		Men		Women	
Explanatory Variables	Coeff.	Asymp. Std. Err.	Coeff.	Asymp. Std. Err.	Coeff.	Asymp. Std. Err.	Coeff.	Asymp. Std. Err.
C. Employment 1991								
white	----	----	----	----	0.359	0.041	0.270	0.034
age	-0.048	0.067	0.604	0.429	0.139	0.072	0.087	0.062
agesq	0.001	0.001	-0.011	0.009	-0.002	0.002	-0.001	0.001
mar	0.038	0.027	-0.675	0.169	0.432	0.041	-0.214	0.028
childyes	-0.022	0.027	-1.732	0.166	-0.046	0.036	-0.662	0.028
edlow	-0.074	0.035	-0.327	0.275	-1.055	0.063	-1.235	0.051
edmid	-0.038	0.028	0.042	0.236	-0.498	0.058	-0.421	0.044
constant	1.485	0.820	-5.936	5.238	-0.717	0.857	0.018	0.741
Sample Size	473		554		10926		11924	
Log Likelihood	----		-201.802		-4376.31		-7430.67	
D. Fulltime Employment 1991								
white	----	----	----	----	0.302	0.039	0.120	0.034
age	-0.213	0.472	0.182	0.435	0.530	0.066	0.656	0.061
agesq	0.007	0.010	-0.004	0.009	-0.009	0.001	-0.012	0.001
mar	0.043	0.213	-0.723	0.158	0.543	0.036	-0.090	0.027
childyes	0.117	0.203	-1.955	0.154	-0.082	0.033	-0.650	0.027
edlow	-0.127	0.264	-0.556	0.262	-0.653	0.051	-0.928	0.046
edmid	-0.060	0.224	-0.135	0.209	-0.210	0.044	-0.278	0.037
constant	1.942	5.673	-0.328	5.304	-6.709	0.786	-7.940	0.737
Sample Size	473		554		10926		11924	
Log Likelihood	-187.373		-195.551		-5702.66		-8264.56	

* The employment regression for German men in 1991 is OLS, due to convergence problems.

Table A-2: Probit Results for the Determinants of Employment and Fulltime Employment, Age 25-36

	Germany				United States			
	Men		Women		Men		Women	
Explanatory Variables	Coeff.	Asymp. Std. Err.	Coeff.	Asymp. Std. Err.	Coeff.	Asymp. Std. Err.	Coeff.	Asymp. Std. Err.
A. Employment 1984								
white	----	----	----	----	0.355	0.039	0.028	0.031
age	0.456	0.425	0.121	0.276	-0.107	0.083	-0.020	0.061
agesq	-0.007	0.007	-0.002	0.005	0.002	0.001	0.001	0.001
mar	0.601	0.197	-0.364	0.125	0.546	0.040	-0.275	0.026
childyes	-0.285	0.196	-1.303	0.131	-0.037	0.040	-0.704	0.028
edlow	-0.725	0.242	-0.320	0.154	-1.111	0.049	-0.974	0.037
edmid	-0.053	0.187	0.077	0.131	-0.543	0.042	-0.324	0.029
constant	-5.897	6.431	-0.775	4.190	2.646	1.246	1.460	0.921
Sample Size	820		898		15343		16400	
Log Likelihood	-169.496		-512.271		-4823.43		-9526.76	
B. Full-time Employment 1984								
white	----	----	----	----	0.358	0.035	-0.137	0.030
age	0.181	0.320	-0.030	0.300	0.073	0.070	0.061	0.059
agesq	-0.003	0.005	-0.00005	0.005	-0.001	0.001	-0.001	0.001
mar	0.406	0.145	-0.569	0.119	0.476	0.033	-0.322	0.024
childyes	-0.225	0.142	-1.484	0.119	-0.010	0.033	-0.781	0.025
edlow	-0.233	0.184	-0.136	0.171	-0.804	0.040	-0.819	0.037
edmid	0.455	0.121	0.154	0.137	-0.357	0.031	-0.276	0.026
constant	-2.003	4.885	1.839	4.543	0.738	3.167	0.033	0.895
Sample Size	820		898		15343		16400	
Log Likelihood	-349.708		-399.363		-7069.55		-10073.8	

Table A-2: Probit Results for the Determinants of Employment and Fulltime Employment, Age 25-36 (Cont'd)

	Germany				United States			
	Men		Women		Men		Women	
Explanatory Variables	Coeff.	Asymp. Std. Err.	Coeff.	Asymp. Std. Err.	Coeff.	Asymp. Std. Err.	Coeff.	Asymp. Std. Err.
C. Employment 1991								
white	----	----	----	----	0.280	0.039	0.147	0.031
age	0.719	0.499	0.224	0.301	-0.062	0.082	-0.180	0.065
agesq	-0.012	0.008	-0.003	0.005	0.001	0.001	0.003	0.001
mar	0.393	0.248	-0.434	0.138	0.459	0.038	-0.099	0.026
childyes	-0.071	0.255	-1.497	0.142	0.029	0.039	-0.640	0.028
edlow	-0.516	0.276	0.183	0.169	-1.082	0.049	-1.035	0.038
edmid	-0.079	0.218	0.285	0.134	-0.531	0.043	-0.303	0.030
constant	-9.176	7.537	-2.451	4.547	2.287	1.245	3.765	0.992
Sample Size	696		789		14472		15796	
Log Likelihood	-108.36		-410.331		-4919.14		-8720.72	
D. Fulltime Employment 1991								
white	----	----	----	----	0.280	0.036	0.006	0.030
age	0.466	0.399	-0.125	0.341	0.023	0.075	-0.077	0.062
agesq	-0.007	0.007	0.002	0.006	0.000	0.001	0.001	0.001
mar	0.076	0.186	-0.587	0.135	0.509	0.035	-0.192	0.024
childyes	0.043	0.193	-2.066	0.133	0.062	0.035	-0.707	0.025
edlow	-0.346	0.223	-0.098	0.197	-0.924	0.043	-0.888	0.037
edmid	0.020	0.161	0.109	0.147	-0.376	0.035	-0.248	0.026
constant	-5.897	6.041	2.776	5.159	0.459	1.128	2.033	0.939
Sample Size	696		789		1472		15796	
Log Likelihood	-191.227		-296.014		-6116.72		-9824.16	

Table A3: Partial Derivatives and Semi-Elasticities of Employment Probabilities with Respect to Education
(asymptotic standard errors)

	Partial Derivative				Semi-elasticity			
	1984		1991		1984		1991	
	Edlow	Edmid	Edlow	Edmid	Edlow	Edmid	Edlow	Edmid
	A. Ages 18-29							
Germany								
Men	-0.087	0.025	-0.074	-0.038	0.099	0.028	0.078	0.040
	(0.051)	(0.043)	(0.035)	(0.028)	(0.058)	(0.049)	(0.037)	(0.030)
Women	-0.118	-0.037	-0.110	0.014	-0.179	-0.056	-0.153	0.020
	(0.069)	(0.061)	(0.093)	(0.079)	(0.105)	(0.092)	(0.129)	(0.110)
United States								
Men	-0.231	-0.095	-0.256	-0.121	-0.277	-0.114	-0.304	-0.144
	(0.014)	(0.012)	(0.015)	(0.014)	(0.017)	(0.014)	(0.018)	(0.017)
Women	-0.443	-0.171	-0.439	-0.150	-0.686	-0.265	-0.641	-0.219
	(0.018)	(0.015)	(0.018)	(0.016)	(0.028)	(0.023)	(0.026)	(0.023)
US-Germany								
Men	-0.144	-0.120	-0.182	-0.083	-0.376	-0.142	-0.382	-0.184
	(0.053)	(0.045)	(0.038)	(0.031)	(0.060)	(0.051)	(0.041)	(0.034)
Women	-0.325	-0.134	-0.329	-0.164	-0.507	-0.209	-0.488	-0.239
	(0.071)	(0.063)	(0.095)	(0.081)	(0.109)	(0.095)	(0.132)	(0.112)
	B. Ages 25-36							
Germany								
Men	-0.086	-0.006	-0.042	-0.006	-0.092	-0.007	-0.043	-0.007
	(0.029)	(0.022)	(0.022)	(0.018)	(0.031)	(0.024)	(0.023)	(0.018)
Women	-0.126	0.030	0.068	0.106	-0.221	0.053	0.105	0.163
	(0.061)	(0.052)	(0.063)	(0.050)	(0.107)	(0.091)	(0.097)	(0.077)
United States								
Men	-0.212	-0.103	-0.215	-0.106	-0.239	-0.116	-0.244	-0.120
	(0.009)	(0.008)	(0.010)	(0.009)	(0.010)	(0.009)	(0.011)	(0.010)
Women	-0.361	-0.120	-0.360	-0.106	-0.556	-0.185	-0.515	-0.152
	(0.014)	(0.011)	(0.013)	(0.010)	(0.022)	(0.017)	(0.019)	(0.014)
US-Germany								
Men	-0.126	-0.097	-0.173	-0.100	-0.147	-0.109	-0.201	-0.113
	(0.030)	(0.023)	(0.024)	(0.020)	(0.032)	(0.026)	(0.026)	(0.021)
Women	-0.235	-0.150	-0.428	-0.212	-0.335	-0.238	-0.620	-0.315
	(0.063)	(0.053)	(0.064)	(0.051)	(0.109)	(0.092)	(0.098)	(0.078)

Note: Based on coefficients from Tables A-1 and A-2. Derivatives are evaluated at the sample mean of the dependent variable. The semi-elasticity is defined as the derivative divided by the sample mean. Other explanatory variables include age, age squared, marriage, presence of children, and, for the US, white.

Table A4: School Attendance, Educational Attainment, Employment and Wages: Immigrants in Germany, Age 18-29

	1984		1991	
	Men	Women	Men	Women
A. All Immigrants				
In School	0.275	0.144	0.286	0.257
German Technical or High School Degrees	0.041	0.039	0.066	0.085
German Postsecondary Degrees	0.300	0.209	0.347	0.232
Vocational/University Degrees Outside Germany	0.137	0.094	0.063	0.037
Sample size (including the nonemployed)	437	436	378	354
B. Individuals Not in School				
German Technical or High School Degrees	0.025	0.027	0.048	0.038
German Postsecondary Degrees	0.325	0.204	0.407	0.289
Vocational/University Degrees Outside Germany	0.167	0.105	0.081	0.049
Employed	0.823	0.456	0.889	0.487
Full-time Employed	0.779	0.373	0.863	0.384
Log Hours-Corrected Earnings Among the Employed	6.889	6.617	6.991	6.731
Sample size (including the nonemployed)	317	373	270	263
C. Individuals Not in School and Without German Technical, High School or Postsecondary Degrees				
Vocational/University Degrees Outside Germany	0.222	0.119	0.132	0.072
Employed	0.830	0.400	0.848	0.376
Full-time Employed	0.778	0.314	0.835	0.276
Log Hours-Corrected Earnings Among the Employed	6.882	6.607	6.952	6.770
Sample size (including the nonemployed)	213	293	158	181
D. Individuals Not in School, Without German Technical, High School or Postsecondary Degrees, and Without Vocational/University Degrees Outside Germany				
Employed	0.824	0.403	0.854	0.381
Full-time Employed	0.782	0.318	0.839	0.280
Log Hours-Corrected Earnings Among the Employed	6.879	6.602	6.934	6.770
Sample size (including the nonemployed)	165	258	137	168

Note: Native earnings equations were used to simulate hours-corrected earnings for immigrants.

Table A5: Partial Derivatives and Semi-Elasticities of Government Employment Probabilities with Respect to Edlow and Edmid (asymptotic standard errors)

Age 18-29	Edlow	Edmid	Age 30-65	Edlow	Edmid
A. Derivatives					
		Men, 1984			
United States	-0.095	-0.063	United States	-0.171	-0.108
	(0.010)	(0.007)		(0.008)	(0.005)
Germany	0.001	-0.008	Germany	-0.208	-0.110
	(0.068)	(0.048)		(0.039)	(0.022)
		Men, 1991			
United States	-0.176	-0.043	United States	-0.181	-0.079
	(0.015)	(0.009)		(0.008)	(0.005)
Germany	-0.025	-0.032	Germany	-0.179	-0.070
	(0.067)	(0.050)		(0.052)	(0.025)
		Women, 1984			
United States	-0.230	-0.130	United States	-0.376	-0.247
	(0.018)	(0.009)		(0.011)	(0.007)
Germany	-0.165	-0.172	Germany	-0.283	-0.291
	(0.072)	(0.053)		(0.043)	(0.039)
		Women, 1991			
United States	-0.200	-0.103	United States	-0.320	-0.198
	(0.018)	(0.009)		(0.011)	(0.006)
Germany	-0.009	-0.026	Germany	-0.237	-0.241
	(0.083)	(0.062)		(0.047)	(0.040)

Table A5 (ctd): Partial Derivatives and Semi-Elasticities of Government Employment Probabilities with Respect to Edlow and Edmid (asymptotic standard errors)

Age 18-29	Edlow	Edmid	Age 30-65	Edlow	Edmid
B. Semi-elasticities					
		Men, 1984			
United States	-1.090	-0.723	United States	-1.025	-0.649
	(0.118)	(0.078)		(0.045)	(0.031)
Germany	0.003	-0.049	Germany	-0.766	-0.405
	(0.409)	(0.289)		(0.144)	(0.079)
		Men, 1991			
United States	-1.631	-0.400	United States	-1.130	-0.493
	(0.137)	(0.079)		(0.052)	(0.030)
Germany	-0.130	-0.162	Germany	-0.675	-0.266
	(0.340)	(0.257)		(0.197)	(0.093)
		Women, 1984			
United States	-1.758	-0.989	United States	-1.488	-0.921
	(0.138)	(0.067)		(0.053)	(0.029)
Germany	-0.619	-0.644	Germany	-1.008	-1.034
	(0.268)	(0.199)		(0.155)	(0.138)
		Women, 1991			
United States	-1.753	-0.902	United States	-0.320	-0.198
	(0.161)	(0.076)		(0.011)	(0.006)
Germany	-0.032	-0.096	Germany	-0.760	-0.773
	(0.311)	(0.232)		(0.151)	(0.128)

Notes: Based on a probit model controlling for age, age squared, mar, childyes, edlow edmid, and white for the US, estimated among those with jobs. Derivatives are evaluated at the sample mean of the dependent variable. The semi-elasticity is defined as the derivative divided by the sample mean.

Table A6: Partial Derivatives and Semi-Elasticities of Employment Probabilities with Respect to Marriage and Presence of Children, Women (asymptotic standard errors)

	Employment Probability				Fulltime Employment Probability			
	1984		1991		1984		1991	
	Marriage	Presence of Children	Marriage	Presence of Children	Marriage	Presence of Children	Marriage	Presence of Children
A. Derivatives								
	A. Age 18-29							
Germany	-0.237	-0.385	-0.227	-0.583	-0.294	-0.481	-0.282	-0.763
	(0.048)	(0.043)	(0.076)	(0.056)	(0.049)	(0.046)	(0.062)	(0.060)
United States	-0.132	-0.253	-0.076	-0.235	-0.078	-0.269	-0.036	-0.259
	(0.010)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.011)	(0.011)
	B. Age 25-36							
Germany	-0.143	-0.512	-0.162	-0.558	-0.270	-0.442	-0.279	-0.754
	(0.049)	(0.052)	(0.051)	(0.053)	(0.045)	(0.042)	(0.061)	(0.059)
United States	-0.102	-0.261	-0.034	-0.223	-0.128	-0.311	-0.076	-0.280
	(0.009)	(0.010)	(0.009)	(0.009)	(0.010)	(0.010)	(0.009)	(0.010)
B. Semi-elasticities								
	A. Age 18-29							
Germany	-0.360	-0.584	-0.316	-0.810	-0.535	-0.874	-0.484	-1.309
	(0.073)	(0.066)	(0.111)	(0.078)	(0.090)	(0.083)	(0.106)	(0.103)
United States	-0.204	-0.391	-0.111	-0.343	-0.171	-0.589	-0.071	-0.513
	(0.015)	(0.014)	(0.015)	(0.015)	(0.021)	(0.021)	(0.021)	(0.021)
	B. Age 25-36							
Germany	-0.252	-0.902	-0.251	-0.866	-0.812	-1.326	-0.701	-1.895
	(0.087)	(0.091)	(0.080)	(0.082)	(0.136)	(0.126)	(0.153)	(0.149)
United States	-0.157	-0.402	-0.049	-0.319	-0.265	-0.643	-0.141	-0.518
	(0.014)	(0.016)	(0.012)	(0.013)	(0.020)	(0.021)	(0.017)	(0.018)

Note: Based on coefficients from Tables A-1 and A-2. Derivatives are evaluated at sample means of the dependent variable. The semi-elasticity is defined as the derivative divided by the sample mean. Other explanatory variables include age, age squared, edlow, edmid, and for US, white.