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THE SPUTTERING LABOR FORCE OF THE 21ST CENTURY
CAN SOCIAL POLICY HELP?

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ABSTRACT

This paper examines two questions: how will the labor force change over the next 20 years, and can social policy significantly alter its size and shape. In the last twenty years, the overall labor force grew by 35 percent and the so-called prime age workforce—those aged 25-54—grew by a remarkable 54 percent. The number of college educated workers more than doubled, and increased as a fraction of the labor force from 22 percent of the total to over 30 percent. In the next twenty, there will be virtually no growth in the prime age workforce at all. Indeed the number of native born white workers in that group will fall by 10%. Growth will be almost exclusively among older workers and people of color, in part due to immigration. Whether a sharply slowing labor force is a problem is debatable, but more troubling is the finding that even under the most optimistic scenario, the educational level of the workforce will improve far less in the next 20 years. At best college graduates might rise from 30% to 35% as a share of the workforce.

The second part of the paper examines in detail what we know about the incentive effects of a variety of social programs from welfare, to the Earned Income Tax Credit, to UI, to disability programs to Social Security. There is clear evidence that incentives matter. But when I examine what plausible policy changes might accomplish the aggregate impact is not large. Moreover, most of these changes would tend to bring the least educated and most marginal workers into the labor force, while the need will be greatest for more skilled workers. Only strategies that would encourage more wives to work or that would significantly retard retirement are likely to generate many more educated workers. The findings suggest that immigration and education and training changes will loom far larger in future years and may be a better place to look for answers.

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The Sputtering Labor Force of the 21st Century
Can Social Policy Help?

By
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Summary

This paper has two distinct parts. The first finds evidence that the growth of the labor force in the future will be very different from the past with some very troubling implications about skill levels:

- Over the next 20 years, labor force growth will slow considerably, and the number of prime age workers will be essentially unchanged. What growth there is will come from older workers.

- Only a tiny fraction of new workers will be native born whites. Indeed the number of prime age native white workers will *decline* significantly over the next 20 years.

- Even under the most optimistic scenario, the educational level of the workforce will grow much more slowly than in the past. If the demand for skills continues to grow as in the past, the nation can almost certainly expect a much more severe skill shortage than in the past, and presumably will see continuing rises in the return to education.

In the second part of the paper, I examine the potential impact of social policies on the labor force. A number of basic conclusions emerge.

- Incentives really do matter. There is plentiful evidence that altering benefits or changing administrative procedures can increase work.

- With the exception of Social Security, virtually all social policies are heavily targeted to less educated persons. Thus any success one may have in increasing work is likely to be among low skill workers. The entrance of such workers would do little to alleviate skills shortages and might well exacerbate them.

- Altered policies have already pushed up work by single parents considerably, but one has to wonder if we are nearing the limits. Moreover, single parents are a relatively small share of the population. If non-work by single parents were reduced by 20% it would add an additional 540,000 workers, mostly

with very low education, some working part-time, and with concurrent child care costs.

- The very modest level of means tested benefits provided to other families and adults suggests there is far less scope of increasing benefits through additional changes in means tested aid.

- The biggest group of potential workers classified by family status among prime age individuals is wives, particularly married mothers. Since social policies currently provide very little aid to two parent families now, the only hope for encouraging greater work by these persons would be expanded work related supports such as child care. Ironically highly targeted aid to low income working families actually creates disincentives for wives to work as their entrance into the labor market can raise the family income sufficiently to make them eligible for far less aid. If new supports such as child care were to induce 10% more married mothers to work, it would increase the workforce by 850,000 including some better educated women.

- Both unemployment insurance and workers' compensation seem relatively sensitive to incentives. However, the fact that benefits for UI and to a lesser degree WC are already time limited and the fact that they reach such a small portion of the populace means that even fairly radical changes would increase the labor force by at most 300,000 workers.

- Disability benefits clearly have played a significant role in reducing labor force participation of some groups, particularly older men below retirement age. Radical changes might increase the workforce by 500,000 workers, but doing so could come at a high human cost as all of the new workers would face some disabling condition. Programs designed to encourage work by being more supportive of employment by persons with disability remain relatively small and untested.

- The Social Security retirement program almost certainly played an important role in inducing earlier retirement, but economists have been surprisingly hard pressed to prove it. In any case, only quite radical changes in benefits such as advancing the early retirement age to age 65 and moving the normal retirement age to 70 seem likely to have major impacts. If one could effectively shift out the current pattern of retirement by 2 years (a massive task) one could increase the labor force by nearly a million workers. Unlike other proposals many of these new workers would have reasonably strong educations.

In the end, the only really big gains look like they might come from increased work among wives and among older workers. But shifting social policy in ways designed to encourage work for both groups could be expensive and politically difficult.

The labor market of the future looks problematic. Unfortunately, it appears that social policy changes can have only a limited impact on improving the situation. Immigration and education policy are sure to become far more important in the future as alternative ways of coping with the sputtering labor market.

Introduction

A growing and increasingly educated workforce has been a central feature of the prosperity of the past decades. In the last twenty years, the overall labor force grew by 35 percent and the so-called prime age workforce—those aged 25-54—grew by a remarkable 54 percent. The number of college educated workers more than doubled, and increased as a fraction of the labor force from 22 percent of the total to over 30 percent. During this same time, the racial composition of the workforce was changing gradually, partly due to a sharp rise in immigration. A sizable majority of the growth in the labor force still came from native born whites.

Past is not always prologue. The next twenty years of labor force growth look almost nothing like the past twenty. Rather than growing by 54 percent, the prime age workforce will grow by only 3 percent. Perhaps even more disturbing is the fact that even under the most optimistic scenario, barring a major change in immigration policies, the fraction of the labor force which is college educated will grow by only 5 percentage points as opposed to the nearly 9 point gain on a much larger base in the last two decades.

Under more pessimistic assumptions, the fraction which is college educated could hardly change at all. What growth there is in the labor force will not come from native born whites—they will represent less than 15 percent of new workers. Indeed the number of prime age native born whites in the labor force will likely decline by more than 10 percent.

Social policies by their nature often have incentives built in that tend to reduce work activity. Yet in recent years, there have been some very visible successes in increasing employment among formerly unemployed aid recipients. Given the radical changes that will be occurring in the labor market, particularly the slowdown in growth, it seems appropriate to ask whether social policies can do anything to expand the labor force.

This paper has three basic aims. First I document the changes in the labor force in the past and project changes into the future. Major innovations offered here are the projections of educational attainment and the separation of immigrants from natives. Second, I seek to examine what impact current social policies seem to have on employment, with particular attention to different age and educational groups. Finally, I explore what impact altered social policies might be expected to play in influencing the size and composition of the employed labor force.

Because I am particularly interested in examining patterns by level of education, this paper focuses almost exclusively on persons over the age of 24, when most education is completed. The under 25 age group is not projected to grow much at all in the next 20 years anyway, and much of this population is still in school. Moreover these younger workers are often at the lowest section of their productivity profile. For some means

tested benefits, notably public assistance and food stamps, a significant share of recipients are under the age of 25, so I will explore some issues for this younger group. Still, even for these program, 75 percent - 80 percent of recipients are over 24.

PART I: THE CHANGING FACE OF THE LABOR MARKET – 1980 TO 2000

If one imagines the situation as it looked in 1980, it was easy to project that the following twenty years would be a period of dramatic labor force expansion with a sizable upgrading of educational attainment. Three factors were favorable: baby boomers were just coming of age, women were entering the labor force in large numbers, and younger cohorts were vastly better educated than older ones.

The coming baby boom as of 1980 can be easily seen on Figure 1, which shows the population by individual years of age (and by nativity). As the population ages, the mass of population shifts to the right—20 year olds become the 40 year olds, except for mortality. If one focuses on what will happen to the age group between 25 and 54, the people represented by the mass of people 20 years to the left of the line drawn at 54 will be aging out of the cohort. The group 20 years to the left of the current 25 year olds will be moving in. It was abundantly obvious in 1980 that the departing cohorts—those between 35 and 54 would be vastly smaller than the group entering (those to the left of the 25 age line). Thus the prime age population would grow considerably in the coming 20 years.

The labor force participation rate of men and women age 25-54 and 55-64 from 1962 to 2000 is plotted on Figure 2. Over the period 1962-1980 there was some decline in participation for prime age men and even more so for older men, but these were more

than offset by rising participation for women. Slowing rates of marriage and childbirth contributed to the expansion, but it was mostly fuelled by a rapid increase in work by married mothers. Thus there was every reason to expect that even more women would be entering work in subsequent decades. And indeed the labor force did continue to grow. By the end of the 1990s, however, participation rates had flattened considerably, suggesting that the disproportionate growth in the female labor force may now be over.

And perhaps most importantly, educational trends created a sharp upgrading in the educational mix of the labor force. Figure 3 plots the distribution of education of 30 year olds from 1955 (the persons who would be just turning 54 in 1980) to 2000. Up to 1980, it is a story of almost continuous growth in education with each successive cohort. After 1980 though, things flattened out rather remarkably. We shall return to this educational slowdown below. But even with this flattening, the chart still implies dramatic improvements in the educational character of the labor force between 1980 and 2000.

The prime age (25-54) workforce in 1980 included the people who turned 30 between 1955 and 1985. Over the subsequent 20 years, the people who turned 30 in 1955-1975 aged out of this population window, and those who turned 30 after 1985 were brought in. The entering cohorts (those who turned 30 after 1985) had vastly more education than the exiting ones. Moreover the entering cohorts were part of the baby boom generation and so were much larger in absolute number. Thus during the 1980s and 1990s, much larger and more educated cohorts were replacing smaller, less educated ones. The inevitable result was a sharp rise in the overall educational attainment of the labor force.

Finally the workforce grew due to one change that probably would not have been predicted in 1980—a major increase in immigration. Figure 1 showed that only a relatively small portion of the population was foreign born in 1980. But a variety of policy changes during the subsequent 20 years significantly eased immigration, which added further to the labor force.

In combination these factors implied a sharply rising and more educated labor force, especially among 25-54 year olds. Of course, the educational demands of the workforce rose perhaps even faster than the education of the workforce, and this gap between supply and demand is a leading explanation for the rapid rise in inequality over the following 20 years. Still, it is obvious the workforce was well positioned for sustained economic growth.

Projecting the Workforce to 2020

Economists are properly reluctant to project the future. Many key determinants of future economic health such as labor force participation rates and educational patterns are unambiguously endogenous. Shortages in one domain drive up prices, reduce demand and expand supply. Moreover a major part of the motivation for this paper derives from the premise that social policy can and does affect labor supply decisions of potential workers.

Nonetheless the iron laws of demography (everyone who will be 25 or over in 2020 has already been born), the timing of educational completion, and the relative stability in labor force participation rates implies that one can get a rough sense of the forces shaping the future. And an economist can ask some well-defined questions such as: if wages and policies were held constant, what would the future labor force look like.

If the picture that emerges is inconsistent with likely changes in demand, one can also begin to forecast how wages might be expected to move in the future and what impact those price changes might have on labor force participation, education, and policy. For this paper, my goal is not to accurately forecast the future, but rather to explore the range of likely possibilities so as to focus attention on issues that social policy may need to address.

I sought to project the labor force by age, sex, race and ethnicity, nativity, and education over the coming 20 years. I chose to do a somewhat non-conventional racial break by also incorporating nativity. Population assumptions, including racial composition, hinge critically on immigration assumptions. Breaking people into detailed racial categories by nativity creates some very small cells. Thus I created 6 different race/ethnicity/nativity categories: white-non-Hispanic-native, black-non-Hispanic-native, Hispanic-native, other-non-Hispanic-native, Hispanic-foreign born, and non-Hispanic-foreign born. My basic methodology was to age the year 2000 cohort of the March Current Population Survey (CPS) based on assumptions regarding mortality, immigration, labor force participation, and education.

Sitting as we do in the year 2001 (and looking at data for 2000), the demographic picture is dramatically different than it was in 1980. Figure 4 shows the distribution of the population in a way that is comparable to Figure 1. The baby boom is now right in the middle of the 25-54 year old range. The boom was followed by a baby bust and then a more modest echo. But for the foreseeable future, the number of people entering this age range each year will be almost exactly the same as the number leaving. Indeed, barring a spurt in immigration, it appears the population will be level for a while, then

perhaps rise slightly in 15 years as the height of the baby boom reaches their 50s, and then fall off.

The Census Bureau does far more systematic projections. Given the relative stability of mortality trends and the fact that emigration from the US is quite low[1], it is straightforward to predict the native born population over 25 in two decades as all of these persons have already been born. The only question mark is immigration.

A detailed discussion of potential trends in immigration and the forces driving them is far outside the scope of this paper. In producing its most recent round of projections, the Census Bureau sought for the first time to roughly model some aspects of immigration, and to take account of the longer term implications of immigration law changes. These are documented in some detail in Hollmann, Mulder and Kallan (2000). Perhaps the most important assumption is that the rapid increase in migration caused by the large scale legalization under the Immigration Reform and Control Act (IRCA) of 1986 would lead to migrants "becoming U.S. citizens in increasing numbers. As they became citizens, they could sponsor the legal immigration of immediate relatives without being subject to numerical limits." This additional flow composed largely of people from Latin America was "projected to reach a peak early in the decade of 2000 to 2010, then gradually decline to zero as the supply of potential reunifications is exhausted."[2] They also assumed that other aspects of immigration law including the current numerical quotas would remain unchanged.

Whether these assumptions are accurate or not depends primarily on political processes. Recently Congress enacted a temporary increase in the number of H1B skilled

[1] The Census Bureau puts emigration of natives out of the US at 48,000 per year, an annual rate of 0.02 percent. (Hollmann et al. (2000), p. 21).

worker temporary visas.[3] If labor shortages appear, there will surely be strong pressures to expand immigration further. At the same time, as immigrants become a larger share of the population, some will push for increased restrictions.

Professing no expertise in either mortality patterns nor immigration, I elected to use the Census Bureau's middle series population projections through 2020. These have the advantage of including projections by individual years, individual years of age, race and ethnicity, sex, and nativity. Thus as I aged the CPS data, I adjusted weights to ensure that the population equalled the fully detailed Census projections.

Projecting labor force participation rates is a much less scientific business. Fullerton (1999) provides the estimates currently used by the Bureau of Labor Statistics (BLS) in making their projections. Generally Fullerton projects no change in labor force participation for men within narrow age groups. But he projects some continued growth in labor force participation among women under 54, and relatively significant growth for women over 55. This latter estimate is easy to understand since younger cohorts entererd the labor force in larger numbers than previous generations. As these women age, their higher participation patterns seem likely to persist.

The projected growth in labor force participation of younger women is harder to understand. The labor force participation rates of women aged 35-44 have been completely unchanged for a decade. Women aged 45-54 today work almost exactly as much as they did when they were 35-44. Especially given the later timing of births and marriage, I think a more plausible assumption is that the participation of women aged

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[2] Hollmann, Mulder and Kallan (2000), p. 17.

[3] "The new law increases the number of H-1B visas to 195,000 for each of the next three years, starting with the fiscal year that began Oct. 1. Without the law, the number would have been 107,500 for this fiscal year and 65,000 in subsequent years."The Associated Press (2000).

45-54 will also remain flat into the future. There has been some growth in work by women aged 25-34 in the past 5 years, but this has been concentrated almost entirely in single parents. This is almost certainly the result of policy changes such as welfare reform and expansions in the Earned Income Tax Credit and the unusually strong economy. It seems unreasonable to project that this growth will continue long into the future, baring further policy changes.

I wanted labor force participation rates separately by age, sex, and race-ethnicity-nativity. Given the relative stability of rates for most persons in the last 4 years, I used the average labor force participation rate by individual years of age, sex, and race-ethnicity-nativity from the March CPS over the four year period 1997-2000 for males and for women under 55. Using individual years of age clearly creates some noisy estimates, but since I always aggregate the data in Tables, the errors should tend to average out.[4] For women aged 55-64, I assumed that participation would rise by 1 percentage point per year for the next five years and then level out. For women over 64, I assumed a 3 point rise over the next few years.

Figure 5 shows the projected labor force participation rates when these projections are applied and the population adjustments made. Mostly these are flat projections.[5] It is entirely possible that women will work still more or that men will continue to work somewhat less. Moreover, if shortages of workers persist, employers

[4] Another source of random error resulted from my desire to base initial projections on individual level data. For each individual I randomly assigned his or her participation based on comparison of a random number with that persons projected participation rate. Again the noise introduced by this procedure will generally average out in aggregate tabulations.

[5] The projected figures are not entirely smooth after 2000 both because we are aging a not quite smooth population and because individuals were probabilistically assigned a labor force status based on the projected status for that group.

may adjust wages, benefits or working conditions to entice people to work more. These figures simply give a rough sense of what will happen if current patterns persist.

The story for education is perhaps the most disheartening. As emphasized by Card and Lemieux (2000) and many others, there was a dramatic slowdown in educational attainment in the 70s, 80s, and early 90s. This slowdown shows up vividly in the patterns of educational attainment of 30 year olds on Figure 3. In the period after 1980, there was very little change in education until the late 1990s when there was some rise in college and a noticeable jump in educational activities beyond high school.

Projecting the future in education is notoriously difficult. Economists naturally emphasize factors such as the rate of return to schooling and tuition costs, along with factors such as parental income and education, to explain cross section and time-series variation in schooling. In particular, if returns to schooling were to change dramatically, one would expect the school attainment of entering cohorts to change.

Interestingly, although the rough correlation or lack thereof in returns to education and school patterns is frequently commented upon[6], until recently few authors have actually sought to measure just how responsive schooling is. Card and Lemieux (2000) find that all the traditional economic factors matter, but that for men the "decline in enrollment rates in the 1970s and the slow recovery in the 1980s point to a permanent shift in the inter-cohort trend in educational attainment that will affect U.S. economic growth and trends in inequality for many decades to come". They report that the impact of rising returns on enrollment differs by gender. A rise in the return to education comparable to that experienced between 1978 and 1988 (when returns to college almost doubled) is predicted to push up college entry rates roughly 10 points on a base of 60

percent for men but only 3 points for women. On the other hand they find a strong unexplained positive underlying trend for women and a somewhat weaker negative one for men. Others such as Acemoglu and Pischke (2000) find relatively limited response to college returns in their models. In many ways the real puzzle is why there has not been more of an increase in college going. Part of the explanation may have to do with sharply rising tuition.[7] Card and Lemieux (2000) find sizable cohort size effects as well, although they played little role in the most recent years.

To the extent that college enrollment is endogenous, it is impossible to reasonably predict enrollment patterns without a closed model projecting both supply and demand factors along with tuition. Thus it is perhaps unsurprising that there are only a few attempts to project education, and these are often carried out by government agencies charged with making projections. These works make no attempt to examine the role of supply and demand or returns to college. Gerald and Hussar (2000) use a methodology whereby enrollments are based on projections of real income per capita and unemployment rates. Day and Bauman (2000) use a trend analysis to create a high and low projection.

After considerable experimentation, I chose to begin by assigning a level of education to each entering cohort of 25 year olds. To account for additional education beyond age 25, I created an age by education level transition matrix for each sex and race/ethnicity/nativity based on longitudinal data from the most recent Survey of Income and Program Participation (SIPP) which shows the odds that a person of a given age and

[6] See for example, Cameron and Heckman (1999), Ellwood and Kane (2000), and Kane (1994).
[7] See, for example, Kane (1999).

a given level of education will move to a new level of education. This transition matrix was applied each year as the cohorts aged.

The only question is what levels of education to assign to successive cohorts of 25 year olds. I chose to use two: a level projection method and a high growth method. The level projection assumes that educational attainment of each group remains at the same level it was at on average over the period 1997-2000. High growth is based on the assumption that for all groups, graduation rates from high school rise .25 points per year over the next twenty years, the entry rate from high school into some college rises by 1 point per year, and the entry rate from some college to college rises by 1 point per year.

Foreign-born residents pose particular problems since they can enter at any time. But examination of CPS data showed very little difference in educational attainment of immigrants by age. Thus I treated immigrants in the same manner as other racial/nativity groupings. Entering cohorts of 25 year olds were given the education rate for similar immigrants (plus growth in the high growth assumption). They too were allowed to gain more education as they aged according to the SIPP transition matrices for that immigrant group.

The impact of these two assumptions can be seen on Figure 6. With the level projections, education of 30 year olds roughly levels out at its current levels, with the high growth projections, it rises significantly. Visually the high growth projection appears to suggest a return to the long-term trend in growing educational attainment. In fact, it implies a quite dramatic rise in education that is in part obscured by the changing racial mix. The growth assumptions imply that the fraction of 25 year old white natives with a college degree would rise from 30 percent to nearly 45 percent in the next two

decades and that essentially all white natives would graduate from high school. This far exceeds the 10 point rise in college that occurred between 1983 and 1999 when there was a dramatic increase in the return to education. It is greater than the high growth assumption in Day and Bauman (2000). The sharp projected growth in Hispanics, both native and immigrant, tends to slow apparent educational rises. These groups on average currently receive far less education than other groups.

The level projection is not as unreasonable as it may seem. Current trends do not suggest that a sudden spurt in education of the sort projected in the high growth model is likely. From 1994 to 1998 (the last year of published data) the fraction of 20-21 year olds enrolled in school has been level for both males and females. Moreover the growing cohort size as the baby boom echo is reaching college age seems likely to create crowding effects at schools. The post secondary school age population (18-24) will grow by nearly 20 percent in the next decade. Indeed the model of Card and Lemieux (2000) would seem to predict declines in the next few years absent a radical change in the rate of return because of cohort size. Gerald and Hussar (2000) of the Department of Education essentially predict the level pattern over the next decade. Still, if returns to education were to rise sharply, so might enrollment.

With these assumptions, one can at last project labor force characteristics in the future. Table 1 shows the age and race/nativity mix of the labor force and changes over time.[8] Several important conclusions emerge, based on this model:

- The labor force is projected to grow far less in the next 20 years than it did in the previous 20. While the labor force grew by over 38 million workers

[8] Since labor force participation varies with education, even estimates of the size of the overall labor force depends slightly on the education assumption. For this table I use the high growth assumption. If level growth had been used, the projected 2020 over-24 labor force would be 137.1 million instead of the 137.9 million shown.

previously, it will grow by less than 20 million workers in the future. In percentage terms, the labor force grew by nearly 50 percent between 1980 and 2000. Between 2000 and 2020 it is projected to grow just 16 percent.

- The so-called prime age workforce is projected to essentially stop growing altogether. After increasing by 35 million in the 80s and 90s, it will rise by just 3 million in the next 20 years.

- By contrast, the older workforce—those over age 55, will nearly double in the next 20 years, rising by 16.5 million workers—a sharp contrast to the previous period where only 3.6 million new workers were found.

- The racial/nativity mix of new workers will also change radically. Some 54 percent of net new workers in the past two decades were native whites. Only 15 percent of new workers will be native whites in coming decades.

- The number of native born white workers age 25-54 will actually fall by 7.7 million—a decline of over 10 percent in the next score years. These workers will be replaced by older workers, persons of color, particularly Hispanics, and foreign born workers.

Table 2 shows the striking projections of the educational mix of the labor force under the level and high growth assumptions.

- Even under the high growth education assumption, an assumption that I believe is quite unrealistic, growth in the education of the labor force will slow considerably. Between 1980 and 2000, the fraction of workers with college degrees more than doubled. In the next 20 years, it will rise by about one third. Overall the share of the labor force with a college degree rose from 21.6 percent in 1980 to 30.2 percent in 2000. At best it appears college graduates will rise to just 35.2 percent over the next 20 years.

- Under the level attainment assumption, the share of college graduates in the labor force will hardly change at all. It will rise from 30.2 percent in 2000 to 31.7 percent in 2020.

It may seem surprising that even the high growth assumption yields so little increase in education of the labor force. After all, new cohorts still tend to have more education than leaving ones. But the long period of educational stagnation of the 70s and 80s dominates much of the labor force, and new cohorts take considerable time to age

their way through. Moreover the changing racial structure works against educational gains.

The aging of the workforce has commanded a great deal of attention in the press and in scholarly work particularly in debates over the funding of Social Security. And much has been made of the changing racial composition. Far less attention has been paid to the sheer slowdown in the absolute number of workers and the nearly complete leveling off of prime age workers. And even less attention has been paid to the sharp slowdowns in education.

There is an obvious question about whether any of this matters. In traditional economic models in steady state, and a constant saving rate, the overall rate of population/labor force growth influences the total growth rate of the economy, and should increase capital per worker, with some rise in the real wage. Whether these short term changes would have much effect is harder to determine. In a more complex world, real impacts can be felt. Fixed and sticky assets such as land and some forms of capital presumably are disadvantaged by a slowdown in population growth. Thus one might generally expect wages to rise somewhat relative to capital returns. Short run labor shortages raise Phillips curve concerns and may lead to tightened monetary policy.

It is also possible that an economy can make necessary adjustments to new technology and other economic demands more quickly in a context where labor supplies are growing. Firms seeking additional workers do not need to bid them away from existing jobs. Labor shortages would seem to strengthen workers' hands. This might lead to new benefits and increased security. It may also lead to new demands that might reduce the flexibility of the market.

A slowdown in labor force growth also implies rather profound changes in the age distribution of the population and the workforce that do create real problems. The best known is the problem that fewer workers will be available to pay in the pay-as-you-go Social Security costs and for Medicare. But the aging of the population also implies a sharp rise in the need for certain types of services. For example, home care and elder services have traditionally been provided by women under 55. In the 1980s and 1990s the population of persons over 65 grew by 9 million people (or 38 percent) while the number of women aged 25-54 in the labor force grew by almost 20 million people (or 71 percent). In the next 2 decades, the number of elderly persons will rise by 22 million people (or 66 percent) and the number of prime age female workers will rise by less than 2 million (or 3 percent). And the percentage growth in the over-80 or over-100 year olds will be even larger.

Most importantly, as hinted in Card and Lemieux (2000), the slowdown in educational growth would seem to imply a return to sharply rising inequality. The standard economic explanation for the rise in inequality rests heavily on the idea that educational gains failed to keep up with the rising demands for skill in the labor force. But future educational gains look small even under highly optimistic assumptions. The rise in inequality over the 80s and 90s produced when education grew by twice as much as education is projected to increase even under the high growth assumption. And even if new cohorts do gain additional education, it will take a long time for them to represent a large share of the overall workforce.

Of course all of these projections depend on the assumptions of the model. One of the reasons the aging of the baby boomers has such a profound effect is that labor

force participation patterns fall off rapidly after age 55, and especially after age 62. If baby boomers could be induced to work more at later ages, the labor force picture could be brighter. Employers will likely seek ways to enhance the economic position and perhaps the workplace appeal for older workers. Similarly employers may also seek to upgrade the skills of existing workers if they cannot hire enough workers who already have the necessary skills. Thus one interpretation is that the coming decades might be unusually bright for workers as employers fight to retain them and seek to upgrade their skills.

But there is an alternative. American employers may shift more and more of their work to other nations. Skilled work might be done abroad while much of the service work which cannot be exported would remain.

Finally, immigration policy will certainly play a major role in the future. Already skill shortages have led to expansions in visas for more skilled workers. Further expansions would seem inevitable given the current projections. Indeed the Census projections, which imply fewer new immigrants in the next decades than in the past ones look quite unrealistic. But immigration could move in different directions. Recent immigrants tend to include a larger share of low skilled workers and somewhat higher share of more high skilled workers than a cross section of the native workforce. If immigration were uniformly expanded and the educational mix remained the same as today, it would increase the labor force, but do little to alleviate the educational deficits projected here.

This is not a paper about immigration or education policy, though these results strongly suggest that these will become increasingly critical issues. It is an examination of social policy. And for that examination, three conclusions seem central:

- The slowing growth of the labor force implies that policies designed to encourage work by those getting aid will become even more important.
- The emerging education slowdown implies that policies that increase work by more educated workers would be particularly valuable to sustaining growth and prosperity
- The aging of the potential workforce implies that social policies that increase employment among older workers would be particularly useful.

PART II: THE POTENTIAL FOR SOCIAL POLICY

Current American social policy might be thought of as consisting of three major elements:

1. Means Tested Benefits—These are benefits where the level of aid is generally tied almost entirely to current circumstance and where benefits decline as income rises. There are four major national programs providing cash or near cash benefits. The Aid to Families with Dependent Children (AFDC) program and its successor, Transitional Assistance for Needy Families (TANF), primarily serve low-income single mothers and their children. The Supplemental Security Income (SSI) program aids low-income aged and disabled persons. The Food Stamps program is available to virtually any low income family or individual. Housing assistance is generally means tested and is available in various forms, but its funding structure leaves many eligible families without aid. In addition states have various programs, notably general assistance, though these benefits have been sharply cut back in the past decade. In addition Medicaid was typically provided to recipients of AFDC and SSI, and in recent years it has been expanded to all low-income children.

2. Social Insurance Programs—These benefits are tied to past work and earnings, but are triggered by an event such as unemployment or retirement. Generally benefits rise with past earnings, though often workers at the bottom do better as a proportion of their past pay. The big three are Unemployment Insurance, Workers Compensation, and Social Security. Social Security includes disability insurance and retirement benefits along with a variety of dependents, spousal, and survivors benefits. Medicare might also be grouped with these programs as it generally aids the aged and disabled who are eligible for Social Security.

3. Work Support Benefits—Until the early 1990s, the U.S. offered relatively little targeted support for working families—a legacy no doubt of the origins of most of the current social policies in the Depression anyone with a jobs was one of the lucky ones. But today the Earned Income Tax Credit, which aids low income working families, is larger than TANF/AFDC. Moreover child care and medical coverage of various forms are far more available than in past decades to help support low to moderate income working families.

Means-tested and social insurance programs unambiguously create incentives to reduce work. In the case of means tested programs, the highest benefits are provided to

the poorest families and these are withdrawn as earnings rise. The income provided and the high effective tax rates that are created when benefits are withdrawn as earnings rise reduce incentives to work. For social insurance programs, benefits are given when someone is unemployed, injured or otherwise disabled, or retired. Since individuals have at least some control over these situations or their response to them, there is potential for work reduction.

The work support programs are more ambiguous. They often create strong work incentives for the first person in a family to enter work, since benefits are typically available only to workers. But second and additional workers may face disincentives, since benefits are eventually phased out as family income rises. And even first workers may face some disincentives to increase work hours beyond some point. Still on net these work support programs thus far seem to be increasing work.[9]

There is a rather voluminous literature on the impact of these government programs on work. To solve the inevitable sample selection issues, many of the best and most recent offerings seek to exploit natural experiments, notably significant policy changes, to infer impacts. There is also a sizable literature testing specific experimental initiatives. I will turn to reviews of this literature shortly, but there are several features that somewhat limit its usefulness in assessing how much impact social policy could have on labor supply. Much of it tends to focus on one program at a time, but within families, multiple program use is common. Often the research is limited to testing a particular policy change or experiment. Few studies distinguish impacts by level of education or age.

[9] See for example, Hotz and Scholz (2001) for an excellent recent summary.

One can begin to get some sense of the potential adverse impact of these programs on labor supply by examining patterns of use. Table 3 provides information on the fraction of all persons who report receiving each of the means tested and social insurance programs in 1999 according to the CPS by education and broad age classes. I do not include information for those over 64 as virtually all get social security.

Even this simple tabulation gives a strong sense of both the potential and the limits of social policy.

- Nearly 13 percent of adults aged 25-54 and 27 percent of those aged 55-64 got some form of aid. The single most common form of aid was food stamps for the prime age group and Social Security for the older category.

- Use differs enormously by level of education. Over 30 percent of 25-54 year old high school dropouts get some form of aid, while just 4 percent of college graduates get it. Among those over 54, 46 percent of dropouts get aid; 14 percent of college graduates do.

The findings should not be particularly surprising. Food stamps is the only program available to virtually anyone under the age of 62 based solely on their income, so it should be the one with the greatest use. Social Security offers support for the disabled under 65 and for virtually all retirees over 61, so it will inevitably be more widely used in the older group. And since the incidence of low income, unemployment, illness or disability is unquestionably higher among lower education groups, and since the difference between potential earnings and government benefits is also less for those with lower pay, one would certainly expect higher use of aid among the less educated. Still the magnitude of the differences by education class is striking. Even among the older group, where the bulk of the Social Security use is related to early retirement, three times as many low education persons get aid than high education ones.

Before turning to specific estimates of what social policy can actually do, we can use the information on use to generate an extreme upper bound estimate of what one might hope to accomplish by changing incentives in means-tested and social insurance programs. Suppose that within age, race, family types, and sex groups, the employment rates for those who get aid were somehow raised as high as the rates for those who did not get aid. Of course this sort of outcome is not remotely realistic. Aid is typically restricted to people who are in a weakened position to work according to some externally verifiable condition such as involuntary unemployment or disability. It is hard to imagine what combination of policies could push their employment rates up as high as those of non-recipients. Nonetheless, such a calculation can provide an absolute maximum estimate of what might be achieved by altered social policies.

Tables 4 and 5 indicate both the actual employment rates of adults 25-54 and 55-64 respectively, and the estimated rate is if the employment patterns of current aid recipients were identical to those of current non-recipients. They also show the number of new workers that would be implied in each category. To make these projections I simply estimated a model of employment (separately by sex) in race dummies, detailed age groups, education dummies, family type (married, divorced, separated, widowed, never married) and number of children, confining the sample to the group of people who report receiving no aid. I then use this model to predict employment rates for the entire population regardless of whether or not they received aid.

The tables suggest:

- If employment rates of aid recipients were identical to those of non-recipients, employment rates for 25-54 year olds would rise by 4.3 percentage points, and 5 million more persons would be working, a rise of roughly 5 percent. By contrast, for the older group, employment rates would rise by

12.3 points, which would be a 21 percent increase in the older labor force or a rise of roughly 3 million workers in 2000. This estimate represents an extreme upper bound to what could possibly be hoped for from policy.

I want to emphasize that I am not suggesting that anything like this number could be induced to work or that it would be socially desirable even if it were possible . Rather I am seeking to bound the potential. That said there are a few factors that may lead to some understatement in this estimate: there is significant underreporting of some benefits in the CPS and it is possible that some work support policies might induce people who are not now getting aid to work more.

The fact that older workers have so much more hypothetical potential for increasing work is particularly important for the future. For, as we have seen, by the year 2020, 55-64 year olds will have roughly doubled. Thus the potential increase for that group could be as high as 3 million in years to come. Shortly we shall explore just how many workers might actually be moved into work with aggressive social policy changes.

But one other fact is particularly important:

- It appears that social policy changes are unlikely to do much to increase the more skilled workforce, and indeed, they are likely to reduce the overall average level of education among workers. The overwhelming majority of the potential workers that might come from social policy changes are workers with high school educations or less. Some 65 percent of the group of potential new workers are high school graduates or less amongst the prime-age group. Moreover, even though high school dropouts represent less than 9 percent of current prime age workers, they are nearly 18 percent of the potential new workers. Less educated workers are an even larger share of the older group. College graduates represent less than 10 percent of the potential new workers.

If anything, these estimates probably understate the educational skew of those who might be influenced to work more by social policy. Benefits to more educated workers are almost always much smaller in relation to their potential wage than for less

educated workers. As such, since more educated workers already face stronger incentives to work, one might surmise that they will be less sensitive to changed policy structures.

These upper bound estimates are sizable, but they are not enormous relative to the changes in the workforce we have experienced in the past 20 years. If one could induce half of the potential 5 million prime age workers into jobs, this would represent a one time only increase equivalent to just over one years' average annual increase in the prime age labor force in the past 20 years. And of course the educational mix would be vastly less favorable than the typical year's growth in the past 20 years.

It may be worth pausing to note that if the goal were to increase the number of low to moderate skill workers, increased immigration might be an easier, and potentially even less expensive way to do so. And given that the most serious concern in the labor market may have to do with a shortage of higher skill workers, social policy changes may not look like such an attractive place to look for additional workers.

One other way of cutting the data can be helpful. Labor supply decisions are sure to be influenced by family circumstances—namely whether the adult is a single parent, a married mother or father, etc.

Thus it may be appropriate to ask what the family status is of the prime-age persons who are not currently working Table 6 gives that distribution by level of education.

- A sizable majority, 55 percent of prime age persons not currently working, are wives. And they constitute an even larger share among the more educated non-workers. Single parents are 12 percent, very disproportionately found in the less educated categories. The rest are scattered among various categories.

It is obvious that non-working wives, the vast majority of whom have children is the largest group where non-working adults under age 25 are found. Unfortunately, as we shall see, such persons already get very little aid. So social policies would have to rely on carrots rather than sticks if the goal were to move them into work.

Next I seek to get a more realistic idea of what social policies might accomplish. In exploring what might be accomplished through social policy change, it is probably useful to break the policies into 4 loose categories: mean tested and workers support programs for families/persons without disabled workers, unemployment and worker's compensation, disability programs, and retirement programs. This classification system has some real limitations because there is significant overlap in these categories—for example persons collecting unemployment may also get food stamps or the earned income tax credit based on earnings for part of the year; some workers age 62-64 may qualify for both disability and retirement benefits—and I shall return to these distinctions later.

In exploring these areas, I will seek to (1) describe the nature of benefits and the changes in them over the past 10-20 years, (2) summarize what the existing literature suggests the impacts of social policy are, and (3) offer some estimate of what might realistically be achieved in the future.

Means-Tested and Work Support Programs for Non-Disabled Families and Individuals

There has been a near revolution in the nature of support to low income families, particularly single parents, in recent years. The U.S. has been rapidly cutting support for families with no one working outside the home while dramatically increasing support for

low income working families. The effect has been to radically change incentives facing parents. The unanimous conclusion of economists who have examined these changes is that they, along with a remarkably strong economy, have led to an unprecedented increase in work among single parents. For some other parents, notably married mothers, the incentive changes have been more ambiguous and the impact on work has been equally so. Thus the changes in the nature of aid for low income families offers perhaps the best indication of what can and cannot be accomplished with social policy "reform".

The benefits described here are different from those discussed in the other sections in three important and related respects. Generally they are targeted on low to moderate income people. Second eligibility and benefits are usually linked to family income and family characteristics, rather than individual circumstance. Given their family orientation, they are the policies that are likely to influence the behavior of multiple family members. Finally they often overlap significantly. Virtually every family on AFDC/TANF gets food stamps and many get housing aid and even the EITC as well. Relative to their numbers a highly disproportionate share of the aid, and an even more disproportionate share of policy reforms have been directed at single mothers. Thus I look separately single mothers and all others.

The Impact of Policy Change on Work by Single Mothers—Welfare reform as embodied in the Person Responsibility and Work Opportunity Act of 1996 (PRWORA) was the culmination of several decades of changes in welfare policy. Since the 1970s, benefits in few states had been adjusted sufficiently to keep up with inflation. Committee on Ways and Means (2000) indicates that real AFDC/TANF benefits for a family of three

in the median state fell from roughly $580 in 1980 to $421 in January 2000.[10] Declining real benefits and other changes had significantly reduced the number of single parents receiving aid even before the current round of reforms. From 1972 to 1989, the fraction of single parents collecting aid fell from .85 to .55, before rising to .65 following the recession of the early 1990s.[11] During the 1990s, more and more states used "waivers" to create more work oriented, demanding support programs.

Still, PRWORA, the national welfare reform, did represent a major departure, for it essentially gave states almost complete authority over TANF (the AFDC replacement), converting a matching aid program to block grants, while including requirements that a sizable fraction of the caseload be working or off of aid altogether, and setting a five year time limits on aid for most persons. But perhaps far more important than statutory changes was a radical change in the climate surrounding welfare and attitudes toward recipients. States began aggressive campaigns to reduce welfare caseloads.

Since 1994, AFDC/TANF caseloads have essentially been in freefall. The number of cases has fallen by roughly 60 percent.[12] Just between June 1999 and June 2000, caseloads dropped 15 percent. Welfare reform seems certain to have played a central role in these declines, but other policy developments figured prominently.

Other means tested aid (for those who are not disabled) fluctuated considerably less. Food stamps is automatically adjusted for inflation and while there have been changes in policy over time, in recent years they have been modest in comparison to those for AFDC/TANF. It is important to understand though that food stamps are

[10] Committee on Ways and Means (2000), Table 7-10, p. 390. Benefit levels adjusted for inflation using the CPI-U-X1.
[11] Ellwood (2000a), Figure 1.
[12] Administration for Children and Families (2000)

determined "last." This means that changes in other program aid are partially offset by food stamp benefits. The vast majority of those collecting AFDC/TANF also gets food stamps, though there has been some reported drop in the past couple of years.[13]

Housing aid is a more complex story, because it comes in several forms including public housing and Section 8 vouchers for private rental housing, because it is administered locally, and because there is insufficient aid available to serve all those potentially eligible. Only about 1/3 of AFDC/TANF recipients got housing aid in recent years, though this is an increase from the roughly 20 percent who received it in the 1980s.[14]

Less well known than changes in welfare are the dramatic expansions in aid to working families in recent years. The Earned Income Tax Credit (EITC) expanded enormously. So too did medical protection, particularly for children. Figure 7, drawn from Congressional Budget Office (1998), shows that the levels of supports to low income families not receiving cash aid—chiefly working families—rose in real terms from less than $6 billion in 1984 to over $51 billion in 1999. Indeed the U.S. spends more today on the Earned Income Tax Credit (EITC) than it ever did on AFDC or TANF (in 1999 dollars). But almost equally large have been changes in medical benefits.

Not surprisingly these radical changes have led to large changes in incenitves.

- Ellwood (2000b) reports that in 1986 a single parent with two children who was not working and collecting AFDC and food stamps could expect to collect $8,460 in the "average" state. If she took a job paying $10,000 her net income would rise just $2,200 because of reductions in aid, and she and her children would likely lose her Medicaid, a benefit which could easily be worth nearly the $2,200. By 1998, her benefits when not working had been cut to $7,717 assuming she was even able to get aid. But if she went to work

[13] Committee on Ways and Means (2000) Table 15-3 shows that 87 percent of AFDC recipients got food stamps in 1995, but that this figure dropped to 81 percent in 1997/1998.
[14] Ibid.

> at a $10,000 a year job her income would rise to roughly $14,600—a gain of nearly $7,000—and her children would not lose Medicaid. Even she would be assured of Medicaid coverage for a transitional period.

Yet one problem with this information and the usual focus of economists on benefit levels and effective marginal tax rates is that they do not work very well in fully capturing the nature of recent reforms. Much of what has been done to the welfare system involves local bureaucratic initiatives more than state or national benefit or rule changes that have often led to sharp caseload reductions.[15] Thus it is far from clear that the non-working single mother in the example above would even get welfare in 1998.

Let me offer an alternative way to examine the changing patterns of aid. Ideally one would like to explore how much aid persons in identical economic circumstances would qualify for over time. Benefit levels alone are not very helpful. But one can observe the amount of combined aid persons actually received *conditional on their level of earnings*. Thus one can determine the average amount of combined aid persons with 0 earnings, $1-7500 in earnings, $7501-$15000 and so forth received. If for example, administrative procedures have tightened or stigma has increased, persons with a given level of need may be less likely to get aid and thus will be observed to receive a lower benefit. Moreover by conditioning on earnings, one eliminates the single biggest source of endogeneity in models of labor supply and benefit—the fact that benefits are themselves a function of income. [16]

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[15] Consider two examples: In Georgia, before she can even begin the application process, a woman seeking aid is required to get a form signed by 6 employers saying that she applied in good faith for a minimum wage job and was turned down.[15] Once enrolled, if she is penalized twice for failure to meet some key administrative/work requirement, she is barred for life from seeking aid in the state. In Wisconsin, no aid is provided *unless the person is already working*. When applicants claim they really cannot find a job, the providers of TANF will, in some cases, provide a subsidized job for a limited duration, but aid remains tied to working. In both states, caseloads have dropped dramatically--nearly 80 percent in Wisconsin.

[16] There are still important sources of potential bias: if work patterns change, the mix of persons in each

Figure 8 offers this alternative method of determining the combined impact of various programs on single parents.[17][18]

- Average benefits received by those with zero earnings have fallen precipitously in recent years, moving from an average of over $7,000 to less than $5,000. By contrast, aid for those in the $7,500-$15,000 category after falling in the early 80s during Reagan era cuts have grown dramatically in recent years from roughly $1500 in the mid 80s to nearly $3500 today. This latter change is almost entirely the result of expansions in the EITC. Indeed the difference in actual average benefits reported between those with zero earnings and those in the $7,500-$15,000 category has narrowed from $7,000 in the mid 1980s to only about $1,000 today.

And note that this analysis still does not include Medicaid expansions for low income working families, which would lower the gap even further.

One critical note of caution should be sounded given the policy changes implied by Figure 8:

- Social policy for low income families is shifting from being strongly counter-cyclical to far more pro-cyclical. With benefits tied so closely to work and low earnings, during periods of recession, low income families may lose their jobs and their benefits.

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earning category will also change. For example as more people go to work, fewer people will report zero earnings and only those with the most serious problems may remain. If aid is somehow conditioned on these unmeasured non-financial characteristics, changes over time in observed benefits received by zero earners may not reflect what others might get if their earnings fell to zero. This would be most serious if one included disabled persons in the group. After a burst of work, only the disabled would remain behind and they might qualify for relatively high benefits. In this analysis, I omit persons who report they did not work in the past year for reasons of illness or disability.

[17] Disabled persons are those defined as those who report that the primary reason they have not worked in the past year is because of illness or disability. This definition is not wholly satisfactory, but it is the only one available over the entire sample period.

[18] In determining family earnings, I used earnings of the immediate family or sub-family only. One concern with the zero earning category is that it may reflect measurement error or people who had high levels of income from other sources. Some are living with other family members who are not in their immediate sub-family. Some of these may be persons who have chosen not to get aid. But in recent years, some of those with zero earnings and zero benefits may have been excluded from aid because of changing administrative practice, even time limits. Presumably people who voluntarily refuse aid have other sources of income. Thus I exclude from this figure any persons with zero benefits if all the relatives in the household had greater than $5,000 in other income (including extended families.) Those with zero earnings and zero benefits who remain after this exclusion have very low levels of education (44 percent are dropouts). This methodology only affects the zero earnings category. If all those with zero benefits were excluded from the level of aid for those with zero earnings would be $9200 in 1979 and $5900 in 1999. If none are excluded, the levels would be $6700 in 1979 and $2700 in 1999.

There is a rather large and rapidly growing literature that examines the impact of these dramatic policy changes on work by single mothers. Some, including MaCurdy et al. (1990), Moffitt (1986) and Dickert et al. (1995), use structural models where the kinks and other features of the budget constraints created by the EITC and other programs are explicitly modeled using either assumed or estimated labor supply elasticities. A second strategy is to quantify the various changed incentives facing potential workers and to use these to estimate a fairly straightforward reduced form labor supply model. The most sophisticated use of this strategy is Meyer and Rosenbaum (1999). These authors go to considerable effort to parameterize altered incentives created by both state and federal EITC policies and by changes in AFDC including benefit rule changes, time limits, and some state Medicaid extensions, childcare and training.

Perhaps the most common approach is some form of difference in difference estimator comparing the change in labor supply of single mothers or low skill single mothers to changes for other groups over this period of policy change. The first authors to do this for the EITC were Eissa and Liebman (1996), and since that time work by Meyer and Rosenbaum (1999), Blank et al. (2000), Ellwood (2000b), Meyer and Rosenbaum (2000) and Schoeni and Blank (2000) have used variations on this methodology.

All of this literature is nicely summarized in Hotz and Scholz (2001). A simple graph illustrates what the more sophisticated models find.

- The clear consensus in the literature is that the policy changes sharply influenced work behavior of single mothers. Figure 9 illustrates the level of work of single mothers by level of education. After roughly 15 years with

> almost no change in work patterns, starting in the early 1990s, with the advent of welfare reform, sharp expansions in work supports, such as the EITC, and a very strong economy, work by single parents began to rise sharply. And the greatest increases have been among single parents with the least education, rising from roughly 40 percent to nearly 60 percent in March 2000 among high school dropouts. Even among women with some schooling beyond high school, sizable increases occurred.

It has proven far more difficult to parse out the differential impact of different policies. Several authors including Meyer and Rosenbaum (1999) argue that over half can be traced to the EITC changes alone. But in previous work (Ellwood (2000b)), I concluded that the interaction effects, the extreme difficulty of parameterizing state AFDC administrative changes, the failure to account for changes in Medicaid, housing, and child care aid, and the strongly interactive effects of the economy (work incentives should have much different impacts when jobs are plentiful) makes it almost impossible to isolate the impact of one policy change versus another.

A number of recent experimental programs use randomized control groups and thus can do a far better job of isolating specific incentives. These confirm the power of incentives to increase work. The most dramatic increase in work incentives came in Canada's Self-Sufficiency Project, which guaranteed full time workers half the difference between their current earnings and $30,000 to $37,000 and effectively increased the reward to working full time by $3,000 to $7,000[19] as compared to the comparison system.[20] Benefits were limited to families that had received welfare for at least a year and who went to work full-time. The program raised the fraction who worked 18 months later from 32 percent to 43 percent, and boosted their earnings by 50 percent. Minnesota's Family Investment Program (MFIP) raised work incentives by closer to

[19] Michalopoulos et al. (2000).
[20] The information in the paragraph is drawn from Berlin (2000).

$1,800, but the fraction working 18 months later still jumped from 36 percent to 53 percent among long term recipients. But MFIP had other important elements (mandatory participation, counseling, etc), and incentives alone seemed to account for perhaps 1/3 of the increase in work.

The Impact of Policy Change on Work by Others

The evidence is rather overwhelming that social policy changes can and do influence work by single mothers, particularly low education mothers who had been collecting means tested benefits. But single parents constitute just 7 percent of the population age 25-64, and only 20 percent of these are high school dropouts for whom the effects seem to be largest. The potential impacts of altered means tested benefits and work supports on others may be far more limited.

Means tested benefits are rare for anyone other than single parents. Food stamps are the primary means tested benefit available to two parent families. Welfare benefits are available to some, but not to two parent families where both parents are healthy and at least one adult is working. Only 2-3 percent of married couples with children report getting welfare in any year between 1980 and today. By last year the numbers were down to 1.3 percent. But low earning married couples can qualify for the EITC and these benefits have expanded over the years.

Figure 10 shows the benefits for two parent families in the same way that Figure 8 did. Unlike Figure 8, though, I combine the zero and $1-7500 earnings categories, because only a tiny fraction of two-parent families (0.9 percent) where the husband is not disabled have zero earnings for an entire year.[21]

- Two parent families with zero or extremely low earning have always gotten

[21] Indeed only 2.6 percent have 0 to $7,500 in earnings.

much less money than single parents have. What benefits they have received have fallen precipitously in recent years.

- But just as with single parents aid to those with earnings in the $7,501 - $15,000 range have risen sharply in recent years (due to the EITC expansions),. Indeed benefits for couples in this range now exceed those paid to parents with lesser earnings. Benefits have risen somewhat for those with $15,001 - $30,000 range also. But parents with earnings over $30,000 continue to get essentially nothing in aid.

Even more than with single parents it is obvious that persons with low earnings—roughly the equivalent of one full-year full-time minimum wage worker have become increasingly advantaged as compared to those with almost no earnings. In principle work support benefits such as the EITC should encourage at least one person to work in such households, but among those not reporting a disability, employment rates for husbands hover at 90 percent for this entire period, and in over 95 percent of married couples with children, at least one person works now.

Figure 11 shows employment rates of husbands with children over time.

- Even among high school dropout husbands with children, employment rates typically exceed 80 percent. It is this latter group that might be induced to work by growing EITC benefits. Little work has been done examining the impact of the EITC on this group, but simple inspection suggests that current work levels may be a point or two higher than in other peak years, but that the economic cycle seems to explain what little variation there is. Generally experimental designs such as MFIP have shown far more mixed impacts on work by men.

The story for wives is more complex. Wives are nearly always one of two earners if they work outside the home.

- The current structure of aid shown on Figure 10 actually creates *disincentives* to for a second low wage worker to enter the labor force. EITC benefits rise with earnings up to a point, but after family income reaches $12,500, benefits begin to phase out. Thus if a women is living with a man already earning $10,000-$15,000, she often faces a very high marginal tax rate including social security, federal and state income taxes, and EITC and even food stamp benefit reductions. Indeed Ellwood (2000b) argues that while the net

gain from taking a $10,000 job for single mothers rose from $1,861 in 1986 to $6,876 in 1998, the net gain from working for married mothers married to a husband earning $15,000 fell from $4,665 to $3,329 over the same period.

The key insight is that targeted worker supports advantage a family with low earnings relative to ones with no earnings *and relative to families with slightly higher earnings*. Thus they strongly encourage a family to send the first person into the labor market, but both income and substitution effects may discourage the entry of a second worker.

These negative incentives really only affect second earners in households where the "first" worker (typically the husband, but potentially the wife) has relatively low earnings. If the first worker earns more than $25,000- $30,000, the family would not qualify for targeted worker supports anyway whether or not the second earner adds additional income. If women are commonly the second earners, then only low education women (who are typically married to low education men) would be facing increased work disincentives as a result of the expanded worker support system.

- Several authors including Eissa and Hoynes (1999) and Ellwood (2000b) find evidence that the EITC has dampened work by married mothers in the lowest education groups. Figure 12 shows that work by the lower education group is significantly lower than that for other groups and that the gap has grown in recent years.

Thus it appears that the same incentives which pull more single parents into the labor market may also serve to discourage at least a few married mothers from participating. Given the fact that married mothers are perhaps the greatest source of potential new labor in the prime-age working group, these somewhat perverse incentives might be a source of concern.

Finally we consider work by other adults—those who are not parents.

- Healthy adults without children, current means tested benefits are extremely limited. Work supports are typically small as well. Employment rates are generally quite high among these groups, though wives work somewhat less than others on average. There is little evidence that social policy changes will significantly increase work by prime age workers in this group.

How Much Can Altered Means Tested Benefits or Worker Supports Do to Increase Labor Supply?

There is abundant evidence that dramatic changes in social policies of the sort adopted by the US in recent years can significantly increase work by those formerly getting aid. Single parents now work significantly more than in the past, and policy change appears to account for the bulk of the change.

- The examination of single parents and a comparison of effects with others also illustrates the limits of policy for the future. For single parents, it is hard to imagine a more extreme alteration of incentives: average benefits received when a single parent is not-working have been reduced by nearly ½, while aid for those working has gone up nearly as much. The economy has been remarkably strong. Employment rates for single mothers with a high school education or more now exceed 80 percent. Among college graduates, they exceed 90 percent. Much more could be done to support work. Child care support remains quite low. Medical aid is often limited. And some working families fail to get the aid they are entitled to. Expansions may significantly aid struggling families, but one has to wonder how much more labor supply can realistically be achieved from those with a high school education or more.

Nonetheless, considerably more could be done to support single parents as they work. Child care, especially high quality care, might further accelerate movements into work. Ensuring people have medical protection regardless of their work status might help as well. Finally as states find ways to help those left on TANF, the so called hard to employ, at least some these mothers will move into the labor market. I know of no basis for estimating just how much more a variety of policies could accomplish. In the past 5 years, we have reduced the number of non-working parents by 25 percent with radical

policy changes and an extraordinary economy. Perhaps a reasonable upper bound might be of the 20 percent of the remaining single parents who are not now working outside the home might be moved into work with the proper supports and expectations. Table 7 illustrates what that would do to the labor market.

- A combination of policies that reduced the number of "not employed" working single parents by 20 percent would raise the overall employment rate (among those 25 and over) by .003 and increase total employment by slightly over 500,000 workers. The bulk of these would be poorly educated women and many may have serious barriers to work.

We saw on Table 6 that the largest group of persons not working among those aged 25-54 today are wives. Over 70% of these women have children. Very little attention has been paid to the question of whether government policies could effectively stimulate greater work by wives. In part this must reflect ambivalence about whether it is desirable to encourage work by mothers (though there seems to be little ambiguity about the position of the nation regarding work by single mothers). But other nations such as Sweden have moved towards pro-employment policies when they faced serious labor shortages. Perhaps the U.S. will do so also.

- One could sharply reduce the disincentives for second earners that are built into the current worker supports by expanding their benefits further into the middle class. Ellwood and Liebman (2000) and Cherry and Sawicky (2000) offer strategies to increase child related tax benefits for families above the EITC phase-out range and thereby significantly lower marginal tax rates for second earners.

One irony of the current direction of social policy is that the heavily targeted nature of work supports may have encouraged work by single parents while discouraging it for married ones. The reason to target aid is obvious: low income working families are the most needy. But if the goal is to increase work by married mothers as well, such benefits probably should not be so narrowly targeted.

- One could significantly increase support for child care. Developmental day care programs might improve prospects for future generations as well.

I am not aware of reliable estimates of what might be achieved by larger scale child care programs. There is some evidence that availability of child care facilitates work by single parents. At a minimum government supported child care would reduce the cost of work. Several European countries offer far more supports to working mothers of all income classes, and work levels are sometimes higher than in the U.S. Given that married mothers already work in large numbers and that many are in families with sizable incomes, perhaps it is unrealistic to expect work to increase by much more than 10%. Thus I simulate the effects of that policy.

- Table 8 shows that if 10% of non-working married mothers were induced to go to work (and this applied to all education levels), the labor force would grow by 850,000 workers and a sizable fraction of the group might be better educated—in sharp contrast to single mothers.

Of course any program designed to increase wives at all education levels would involve expansion of work supports or child care into the middle class and beyond and that is likely to be extremely expensive, simply because so many families are found there. Moreover, high quality developmental child care is itself quite costly. Thus any attempt to use social policies to encourage more wives to move into the labor force will likely carry a high price tag. Moreover, to the extent the entry of wives requires more child care workers, the net gain in the available workforce of other activities will be smaller than the increase in work by wives.

- For other groups, the level of means tested aid is much lower and in general employment rates often exceed 80 or 90 percent, so it seems unlikely that government supports would change work patterns much.

Some people get food stamps—mostly those with low educations. One could adopt proposals to require work of all those who seek even food aid. Indeed such proposals were included in the PRWORA, though some have since been modified. Whether one wants to condition even food aid on work is controversial. With means tested benefits being so modest, the other strategy for moving remaining non-workers into the market would involve raising the rewards to work using a mechanism like the EITC which is currently limited primarily to those with children. But I doubt much can be done on this score.

Unemployment Insurance and Workers Compensation

These two programs are considered together because they are both linked closely to employment and administered by the states with some federal oversight. Both affect far fewer persons than means tested benefits or Social Security, though in dollar amounts these programs rival TANF in magnitude. Since both are directly targeted to the working population and specifically designed to provide aid during a period when the person is not working, the potential for moral hazard is self-evident. And the incentive effects of both have been subject to careful economic analysis.

Trends in Unemployment Insurance

The unemployment insurance system provides time-limited benefits to qualified workers who become unemployed—typically through "no fault of their own". In all states persons who voluntarily leave a job without "just cause" and those who are fired get delayed or reduced benefits and they are often denied them altogether. In addition, program rules require that the person be both able to work and available to work. A

person may not refuse "suitable" work, though the definition of suitable varies by state and even by duration of unemployment. [22] Generally benefits are limited to 26 weeks (or less depending on qualifications), though at times of high unemployment the federal government pays half the cost of a 13 week extension.

Benefits and eligibility are determined by a formula that varies state to state. Applicants must meet a minimum earnings requirement and have earnings in multiple quarters. Benefits are then typically calculated as a certain percentage of the person's wages, subject to a maximum and a minimum. As a result of the maximum, benefits as a fraction of actual wages—the replacement ratio—is typically lower for those in the higher wage groups. Many states have supplements if the person has dependents.

The two most common ways to measure the generosity of the system is to determine the fraction of unemployed persons who get benefits, and the replacement ratio for those who receive them. Aggregate data show a significant decline in the fraction of unemployment that is covered. For example Baicker (1997) report that UI claims as a fraction of all unemployed fell from roughly 50 percent in the mid 1950s and early 1960s, to 40-45 percent in the 70s and early 80s, to 30-35 percent in the late 80s and 90s. Other series including Committee on Ways and Means (2000), Table 4-2 and Blank and Card (1991) show similar patterns in the years they report, though the magnitude varies with the definition. There is also a strong cyclical component to the fraction of unemployment which is covered. In times of recession, coverage rates rise sharply, presumably because involuntary unemployment rises as a share of the total and because of the traditionally high levels of participation by manufacturing workers who are disproportionately represented among the cyclically unemployed.

[22] Committee on Ways and Means (2000), p. 288-290.

The reasons for these declines have been studied by several authors. Blank and Card (1991) conclude that almost none of the change in the fraction of unemployed covered by UI between 1977 and 1987 can be traced to changes in eligibility rules per se. They trace up to 50 percent of the decline to a geographic shift in the location of unemployment—with a larger share of unemployment being found in states where fewer of the unemployed have traditionally collected aid. A 1988 study by Mathematica Policy Research reached somewhat different conclusions—tracing 22-40 percent to changes in state program characteristics, 16 percent to geographic change, 4-18 percent to changing industry mix, and the rest to a variety of other changes such as federal taxation of benefits and changes measurements.[23]

I found no published data which seek to trace out how coverage has varied by skill/education of the worker since administrative data do not provide information on education of the worker. As an alternative, I used March CPS data to determine in each year, the fraction of persons with more than 4 weeks of unemployment who report receiving UI during the previous year.[24] Figures 13 and 14 show the fraction collecting UI by gender and race:

- Within genders there is surprisingly little variation by education in the fraction of unemployed workers who report getting UI. Those who are high school graduates are somewhat more likely than either dropouts or college graduates to get UI, presumably because of differences in their occupation/industry mix.

- The downward drift in UI receipt seems far more pronounced for men than for women, perhaps because the greater labor force involvement of women has led more to qualify or because women are becoming more aware of their

[23] This is as reported in Committee on Ways and Means (2000).
[24] I used the 4 week cut off to eliminate the significant number of people who report having been unemployed a week or two, but who would be unlikely to have considered getting unemployment insurance. I also tried doing this calculation weighting by the number of weeks unemployed and results were very similar.

opportunity to collect aid. Nonetheless, women are still significantly less likely to collect aid.

- The downward drift in UI recipiency is strongest for workers with the least education.

There is much less information available on trends in replacement ratios for those who do collect UI. Baicker (1997) report a series based on average benefits and average wages which shows very little change. Committee on Ways and Means (2000) and earlier years include tables on the replacement ratios for workers of different wages in each state, but a consistent time series is not available. Thus I used data on the rules in each state in each year from 1980 to 2000 to project the replacement rate for workers at different wages. I used two different wage patterns: one was holding fixed real wages at a given level say $5 or $10 per hour. The other was using the actual wages observed for the median male worker, and for workers at the 33 and 67 percentile of wages. This latter measure is probably a better measure of how incentives facing different workers have changed over time since wage changes and benefit rules interact to influence actual replacement ratios. I then weighted each of the state calculations by the fraction of all workers in the state in March 2000 to get a weighted national average. The results for male workers at different percentiles are shown on Figure 15.

- As expected, replacement ratios are highest for low wage workers, and lowest for high skill workers. Replacement rates for the median work have drifted upward over the past 20 years, but not for workers at the top or bottom.

The slightly surprising differences are caused by two factors. Typically the replacement rate is 50 percent for someone not at the maximum benefit. In the 1980s, the maximums in many states were low enough that a median wage worker (roughly $14 per hour) get less than 50 percent. By the late 1990s, the maximums had risen in real terms

in many states and median wages had fallen slightly. At the high end, the higher maximum would have also pushed up benefits, but real wages rose more than the maximums so that the average replacement rate was unchanged.

Incentive Effects of UI

Three features of UI have been the focus of particular attention: imperfect experience rating, the level of benefits as measured by the replacement ratio, and the time limits for collecting benefits.

UI is financed via taxes on firms. The taxes paid vary imperfectly with the past use of UI by workers who left the firm. Because there is imperfect experience rating, firms have an incentive to allow employment to fluctuate over the cycle and season more than they otherwise would because laid off workers are partially insured. This may make it easier for firms to retain workers even after they are temporarily laid off, and it may even be welcomed as a quasi-vacation by some workers. Feldstein (1978), Topel (1983), Topel (1985), Anderson and Meyer (1994), Card and Levine (1994) and Baicker (1997) all find strong evidence that imperfect experience rating seems to increase cyclical or seasonal layoffs and thereby increases unemployment. There is some evidence in Card and Levine (1994) that the impact of imperfect experience rating varies with the state of the economy as they find significant results only during "recessionary" years. The differing methodologies and samples makes it hard to easily convert these effects into impacts on unemployment durations, but Topel (1983) reports that the mean impact of imperfect experience rating is to increase the "average duration of layoffs by 1.3 weeks."[25]

[25] Topel (1983), p. 553.

The second major influence on unemployment duration is the replacement ratio itself. This could operate in one of two ways. First, higher replacement ratios reduce the incentive to find a job quickly, increasing the duration and reducing the intensity of job search. Second they should heighten the consequences of imperfect experience rating for firms. Presumably firms will have greater incentives to allow "excessive" layoffs and seasonality, the greater the benefits their laid off workers will receive. Meyer (1990) finds that a 10 percentage point increase in replacement ratios might increase average spells by one and one-half weeks. Moffitt and Nicholson (1982) find a one week increase. Solon (1985) reports a half week to one week increase from a 10 percentage point rise.

The third element influencing behavior is maximum benefit durations. Numerous authors including Moffitt and Nicholson (1982), Katz and Meyer (1990), Meyer (1990), and Card and Levine (1998) emphasize the sharp rise in the reemployment hazard as UI recipients approach their maximum durations, though Meyer (1990) somewhat discounts its significance since most spells have ended by that point. Katz and Meyer (1990) find that a 13 week extension of benefits would increase spell lengths by 2 to 2.5 weeks. Card and Levine (1998) offer a particularly compelling test of the impact of duration limits when they examines the effect of an unexpected extension of benefits in New Jersey. They conclude that a 13 week extension would raise durations by closer to 1 week.

How Much Can Altered Unemployment Insurance Increase Labor Supply?

Clearly evidence suggests that by changing existing parameters, unemployment spells could be shortened. No one has examined what a combination of changes might accomplish. There are good reasons to expect interactive effects that might mitigate or

exacerbate impacts. For example lowering the replacement ratio would tend to diminish the adverse incentives from imperfect experience rating. Nonetheless, loosely adding the estimated impacts from the studies above, a very crude estimate is that the combination of increased experience rating, a 10 percentage point decline in replacement rates, and shortening maximum durations by perhaps 4 weeks would reduce durations of unemployment by perhaps 2-3 weeks among the insured unemployed.

This would actually represent an extreme change in UI policy. The change in experience rating would be controversial, though it would not necessarily led to lower benefits to the unemployed. But the replacement rate cut is almost a 25 percent decline, and the duration limitation would add to the effective reduction of aid. Meanwhile much of the recent discussion has been centered on ways to improve benefits and increase eligibility for UI, given the declines in recent years, and particularly since people are losing means tested benefits as a result of welfare reform.

In light of the fact that the means tested and worker support programs are becoming more not less pro-cyclical, there is serious reason to question the implications of reducing UI support further for the insecurity of workers. Acemoglu and Shimer (1998) and many others emphasize that in a world with risk averse workers and not UI, the unemployed may engage in too little job search, and thus the unemployment insurance system may increase economic efficiency. Still a few authors have called for exploring more extreme changes than these. Gruber (1999) argues that many of the unemployed have adequate wealth to smooth expenditures, and he suggests that converting UI into a system of loans be considered.

There are other ways to reduce unemployment durations. There have been a series of experiments with programs designed to reduce unemployment durations, which were evaluated using randomized control methods. One strategy involved offering bonuses to workers who entered jobs before exhausting their benefits. Sometimes the level of the bonus is higher the quicker the person finds work. Another set of experiments involved job search requirements, intensive counseling, stricter monitoring and the like. Meyer (1995) offers an excellent review of a sizable number of such experiments. He finds that bonus experiments reduced unemployment by one-half to one full week over the course of a year, though not all these results were statistically significant. The job search experiments also reduced durations by one-half to three-quarters of one week, with one exception: a 1977 experiment in Nevada which produced an apparent 3.5 week decline. Unfortunately the Nevada program had one of the weakest and least complete evaluations, and the four other programs, all of which were completed after Nevada's, showed the smaller impacts.

Whether through benefit reductions or bonus/job search programs, it would seem that a realistic upper bound on what might be accomplished would be to reduce unemployment durations by 2 weeks among the insured unemployed. It is straightforward to estimate the impact of such a change if we assume that all of the persons who reported receiving unemployment insurance worked 2 weeks more—this represents a roughly 20 percent reduction in unemployment for these persons. The results are shown on Table 9.

- Even a set of policies that reduced unemployment durations among the insured unemployed by 20 percent--something requiring a roughly 25 percent cut in aid or extremely large bonuses for getting a job, has a very small

> aggregate impact on the overall labor force. Overall it would increase the number of workers by just under 200,000 workers.

While 200,000 workers is a significant number, it is a small portion of the labor force—equivalent to just 2 months growth in the labor force over the past 20 years. The reason impacts are so small is easy enough to understand: if the unemployed represent 4 percent of the labor force, and 30 percent of that group gets UI, a 20 percent reduced duration among UI recipients implies a roughly .04*.30*2 change in employment or a change of 0.24 percent. Of course the impact would be larger in a time of greater unemployment. But even in a period when unemployment rates were 9 percent the change would be just 0.54percent.

Thus even though incentives matter a great deal in altering unemployment durations, simply too few people are affected by them to have much impact on the labor force overall.

Impacts and Options for Workers Compensation

The story for workers compensation turns out to be much the same: rather sizable behavioral effects from policy change, but such low levels of participation that aggregate impacts are quite small.

There is far less information available on the trends in worker compensation benefits and eligibility structures. Indeed Committee on Ways and Means (2000) reports that the historical data series providing information on "costs, benefits and coverage of the workers' compensation (WC) system was discontinued by the Social Security Administration after publication of the 1993 data." The program itself is quite costly—over $41 billion in 1996, with 40 percent going for medical costs and 60 percent in compensation. WC benefits are available for temporary total disabilities, permanent total

disabilities, and permanent partial disability. According to Krueger (1990a), 70 percent of claims are for temporary total disabilities.

Meyer et al. (1995) argue:

> Workers' compensation can influence incentives workers face in several ways. Higher benefits may decrease workers' incentives to avoid injuries, may increase incentives to file for compensation for any given job injury, and may foster more claims for non-work injuries. In addition, higher benefits may make extending the duration of a claim more attractive.

In addition, workers compensation should presumably influence the behavior of firms, potentially making them more or less risk safety conscious depending on whether they are at risk for the WC claims made by their own workers.

Increasingly the literature distinguishes between the impact of WC benefits on the incidence of WC claims and the duration. Generally scholars track the impacts of natural experiments in either administrative or micro data. Using CPS data, Krueger (1990b) reports that a 10 percent increase in WC benefits appears to be associated with a 7 percent increase in incidence/new receipt or an elasticity of 0.7. Butler et al. (1997) offers frequency elasticity estimates derived from significant benefit changes in three states which range from 0.4 to 1.1 and average roughly 0.7 without regression adjustments. With regression adjustments for compositional change, the variation in estimates grows considerably, but averages around 1. Earlier work tends to show somewhat lower estimates. For example, Butler (1983) reports an elasticity of 0.3; Chelius and Kavenaugh (1988), .3; Butler and Worrall (1983), .3-.8. Ruser (1991) reports elasticities that vary from .8 to .2 depending on the size of establishment, with larger, more experience rated firms having lower elasticities. Both Krueger (1990a) and Butler (1994) also find sizable impacts of waiting periods on the incidence of benefits.

Using administrative data, Meyer, Viscusi and Durbin (1995) use a variety of situations where benefits were sharply increased to examine the impact of benefit levels on *duration* of benefits. They find elasticities ranging from 0.3 to 0.6 with most clustered around 0.3-0.4. These estimates are higher than those of some earlier authors, but lower than Krueger (1990b) who reports an elasticity of nearly 1.5, though his estimates are derived from a relatively small benefit increase of 8 percent in one state.

In principle, to determine the overall impact of benefit changes on WC spells, one needs simply to add these elasticities. The Krueger estimates lead to an estimated combined elasticity of over 2. Using a variety of incidence estimates from Butler, and duration elasticities from Meyer, Viscusi and Durbin (1995) gives an elasticity of closer to 0.6. Thus a 25 percent reduction in WC benefits would tend to reduce aggregate weeks of WC claims from 15-50 percent. The upper end of this range seems implausibly large, but it is certainly reasonable to suggest that such a change might lead to a 25 percent-30 percent reduction in aggregate weeks of WC.

One can roughly estimate the impact of a 25 percent change in benefits on employment rates using the CPS, but the procedure is more complicated than for UI. Reducing aggregate weeks of claims does not necessarily imply that employment will rise equivalently. Moreover the duration of WC receipt is not reported in the CPS—in contrast to unemployment durations. Finally since the benefit changes affect both incidence and duration, one must factor in both effects.

I performed a simple estimate of potential effects in the following way. Assume, using Krueger's estimate of 0.7 that a 25 percent reduction in benefits reduces the incidence of WC collection by 17.5 percent. We might assume that for 17.5 percent of

existing recipients, their level of work would have become the same as others of the same age, race and education who received no benefits at all. This is clearly an upper bound assumption. Then using the 0.4 upper end duration elasticity of Meyer, et al., assume that the remaining 82.5 percent of WC recipients would reduce by 10 percent (25 percent*0.4) the gap between their actual level of work and the level of work of others of the same age, race and education who received no benefits at all. The difference between actual and predicted benefits is the predicted impact of a 25 percent fall in benefits. The results are shown on Table 10.

- The impact of even sizable reductions in workers compensation would be modest, raising employment rates by less than .001 and increasing the labor force by approximately 100,000 workers.

Again the logic is simple: on average persons collecting WC have employment rates that differ from those who collect no aid at all by about .25. The changes reduce that gap by roughly 25 percent for the roughly 1 percent of workers who report collecting WC. The net effect then is .25*.25*.01 or 0.06 percent.

Note that the calculations shown on Tables 8 and 9 should be seen as extremely rough. They may be downward biased because of underreporting of benefits on the CPS and reflective of an unusually tight economy. On the other hand, the assumptions made in generating them tend to be close to upper bound values. None of the changes shown here are considered remotely possible currently. Indeed many argue that our UI system and to a lessor degree the WC system is far too restrictive in the current environment. Thus it seems fair to conclude that little increase in labor force can be expected from changes in UI and UC.

Disability Programs—Social Security and Supplemental Security Income

Persons with disabilities that render them unable to work ("substantial gainful activity") for at least a year are eligible for two federal programs: Social Security Disability Insurance (DI) and Supplemental Security Income (SSI). DI is a work based program with benefits tied to past earnings, though benefits grow less than proportionately with past earnings. In addition, spouses and children sometimes qualify for a benefit as well. SSI is a means tested program where benefits are based entirely on current income. Earnings of other family members can be considered in determining the level of SSI, but they are not considered for DI benefits. Medical eligibility for both programs is determined through a process whereby state based Disability Determination Units (DDUs), under federal supervision, but with considerable autonomy, use information supplied by the applicants physicians and often conduct their own exams. The medical criterion is identical for both programs. Persons with low benefits from DI can also collect SSI.

There have been considerable changes in the standards and procedures for medical eligibility over the past 25 years. Concern about sharp growth in the program during the 1970s lead first the Social Security Administration and then the Congress to tighten standards and increase continuing disability reviews to look for persons whose condition now allows them to work. New DI awards per year fell from nearly 600,000 in 1975 to less than 300,000 in 1982. Then responding to intense criticism, Congress passed new legislation in 1984 that eased medical eligibility. Awards rose to 400,000 by the late 1980s. Then in the early 1990s eligibility rules were eased slightly more, and an SSI outreach program began. As a result DI awards rose rapidly from 468,000 in 1989 to

636,000 in 1992 and they remain at roughly that level today.[26] Such large changes in flows naturally have a more modest change on the stock of DI recipient workers, but when the flows in get large, the caseload does grow rapidly. The number of recipients was 2.86 million in 1980, fell to "only" 2.60 million in 1984 during the big cutbacks of the early 1980s, but it has now risen to nearly 5 million.[27]

Needless to say with such significant changes in awards, there is debate and ambiguity about exactly what constitutes a legitimate disability. Moreover, some with a disability that may limit work may still have some choice over whether to seek DI/SSI benefits or to keep working. Individuals presumably compare their opportunities in the labor market, given their medical condition to what they might receive in disability benefits. The question is the extent to which changes in disability policy are reflected in changes in labor force patterns.

There are several different strategies that have been used to examine the influence of DI on labor force participation. The first is simply to compare patterns of work with patterns of benefit receipt. Figure 16 uses CPS data to track the labor force participation of males age 40-61 with the fraction who reported receiving DI and/or SSI. These ages are selected because disabilities remain rare for people under 30 and because persons over the age of 61 who fail to qualify for Social Security by reason of disability can still qualify for retirement benefits though at a somewhat reduced benefit level.

- Clearly the trends in labor force non-participation and the in DI/SSI receipt track each other fairly well. The dip in DI/SSI receipt of the early 80s does not seem reflected in a comparable dip in labor force participation, but the periods of growth in the 1990s are quite similar in both pattern and magnitude.

[26] Social Security Administration (2001a).
[27] Social Security Administration (2001b).

- The trends line up even more closely if one separates men by whether they report having a disability that limits work. Such data have only been available on the CPS since 1988. Figure 17 shows that for those who report disabilities, receipt has risen sharply and almost completely in tandem with non-participation. For those without reported disabilities, receipt is virtually unknown and labor force patterns have been quite stable.

Bound and Waidmann (1992) raise the obvious point that self-reported disability status is in part endogenous. And indeed during the 1988-2000 period, the fraction reporting a disability in the 40-61 year age group did rise slightly, from 10.2 percent to 10.7 percent, but this is small enough that the overwhelming growth in non-participation over this period must have come from the group already self-identifying itself as having a work limiting disability.

Bound and Waidmann (2000) and Bound and Waidmann (1992) use a variant on this basic trend analysis to explore the potential contribution of DI[28] to declining labor force participation. They conclude that roughly half of the 4.9 point drop in labor force participation among men aged 45-54 between 1949 and 1987 can be linked to DI, and perhaps 1/3 of the 20 point decline for men aged 55-64. And the "growth in the DI program can account for much of the decline in the relative employment position of the disabled" during the 1990s.

The question of causality is much harder to resolve or even to define. It is perfectly plausible that other factors reduced the rewards to working sufficiently that DI/SSI became a more attractive alternative. DeLeire (forthcoming), for example, has argued that the sudden jump in nonparticipation starting around 1990 is more plausibly caused by the American's With Disabilities Act (ADA) because it may have raised the

[28] Strangely and rather troublingly, these papers look only at DI patterns, not DI plus SSI even though both would affect behavior and the populations only partially overlap. This is a flaw that plagues much of the disability literature.

costs of hiring persons with disabilities. Presumably, persons facing a fall in demand for their services in the marketplace might choose instead to seek disability assistance. Under this or alternative scenarios, the decline in labor force participation and the rise in DI/SSI was a reflection of other forces, not something caused by policy changes themselves. But Bound and Waidmann (2000) argue that these programs still played a critical role in facilitating the labor force withdrawals. In the absence of the program, people would presumably have been far more likely to remain in the labor force even when demand for their services dropped.

A second method for assessing the impact of disability programs involves examining the impact of differentials in benefit levels or wage replacement ratios on labor force participation. Parsons (1980) found an elasticity of nonparticipation with respect to the replacement ratio of 0.63 for data in 1969, and argued that rising benefits could account for essentially all (actually more than all) of the rise in non-participation among men age 48-62 from 1948 to 1976. Bound (1989) points out that a serious limitation of this approach is that the structure of the DI system is such that persons with higher pay and greater labor force attachment tend to have lower replacement ratios. Thus the replacement ratio is likely to be spuriously negatively correlated with participation. Haveman (1991) uses a selection model in an attempt to deal with this problem and finds an elasticity of 0.06, but there are questions about the exclusions needed to identify their model. Others including Leonard (1979) and Halpern and Hausman (1986) have found elasticities in the range of 0.1 to 0.2.

Two other strategies have been used which rely on disability denial patterns. Bound (1989) examined the likelihood that denied DI applicants return to work. He

found that less than 50 percent of those denied benefits prior to 1978 were working 18 months (or more) later. And many of those who were working were working part-time. Since one would anticipate that denied applicants would be healthier than accepted ones, it would seem that even at the margin less than half of new enrollees would have been pulled from the labor market. Parsons (1991) claims that 75 percent of denied applicants who are living and not getting government aid are working, while Bound (1991), rightly I think, notes the sample is overly selected and proposes that 60 percent is more accurate. Of course all of these results are from an era that is nearly 25 years ago when vastly fewer people were collecting disability benefits.

Recently a new strategy has been employed, relying on changes in denial rates over time and/or across states to identify impacts. Gruber and Kubik (1994) look at the impact of changes in state level DI denial rates from 1977 to 1980 on changes in non-participation in the state over the same period. They conclude that a 10 percent increase in denial rates leads to a roughly 0.5 percentage point drop in participation rates (an elasticity of 0.27). Autor and Duggan (2000) are pursing a similar strategy and decomposing impacts by level of education, though the work is not yet completed.

It is surprisingly difficult to draw straightforward conclusions from this literature about what might happen to participation patterns if the disability programs were cut back. The most obvious thought experiment is to consider what would happen if the number of disability recipients was reduced, and then ask what fraction of those removed might be expected to work? The results on work patterns of denied applicants suggests that at most half might work, but this work is highly dated, and reflects a time when disability standards were arguably more strict than today.

Another estimate can be taken from the estimated impacts of a higher denial rate. A 20 percent rise in the denial rate should, over the long run, lead to at least a 20 percent fall in caseload[29]--equivalent to 1.3 percent of the (male) population age 40-61 in the DI/SSI population. The Gruber-Kubik estimate implies that such a cut would reduce non-participation by 0.6 percent of the population, so the numbers seem to imply that half of those cut do not return to work. On the other hand Gruber and Kubik (1994) examine changes in participation in the short run. If one simply assumes the entire change in participation in the two years they examine comes from denied applicants in those years (i.e. that theirs is a short run, not long run estimate), their evidence could suggest that declines in work more than offset declines in beneficiaries.

Yet a third strategy is to consider what impact a 20 percent cut in benefits would have using the estimates of non-participation elasticities. Using 0.3 as the elasticity, nonparticipation would grow by 6 percent or from roughly .14 to .15 among persons aged 40-62. But what is unclear is how much the DI/SSI caseload would fall. If the only people to leave the program are those that go to work, this would imply a 17 percent fall in the caseload. But it is possible that others would choose not get aid.

Based on these loose findings, a very rough guesstimate is that over the long run, perhaps 60-75 percent of persons who would be unable to get DI/SSI would instead be in the labor force. Numbers as low as 50 percent and as high as 100 percent are plausible given the current state of the literature, though it seems hard to believe that all of the people at the margin would otherwise work.

But we are more interested in actual employment—not just being in the labor force. Autor and Duggan (2000) raise the question of whether a significant fraction of DI

[29] More if applications fall.

rejections return to the labor force but show up as unemployed. There is another way to generate an estimate. We have seen that most of the increase in DI/SSI use in the 90s came from people who already claimed that a disability limited their work. It turns out that in 1990 roughly half of those who had a work limiting disability but who got no government aid of any sort were working. Some of these probably had private sources of support which might explain their not getting DI/SSI, but most are probably more able to work than those who get aid. Thus a rough rule of thumb might be that 50 percent of those cut would actually be able to work as much as persons who got no government aid at all.

Of course strategies to get more people with disabilities working need not be draconian. Advocates for persons with disabilities strongly urge the nation to find supportive ways to increase work opportunities of those getting DI/SSI. Recently changes have been considered and some have been adopted that are designed to remove barriers to work among DI/SSI recipients including increased work disregards and maintenance of health coverage if people go back to work. It is too early to judge the impact of such plans. Based on a simulation model, Hoynes and Moffitt (1997) cautions that many strategies such as lowering tax rates and improving financial work incentives may "contrary to perceived wisdom, possibly reduce work effort and increase the number of SSDI recipients." They believe that employer subsidies hold more promise.

But suppose one could move some workers with disabilities to work. Table 11 shows the impact of a 12.5 percent move into work. This might be accomplished with a 25 percent long run reduction in disability roles assuming that 50 percent of those denied

aid achieve work levels comparable to non-disabled people who get no aid or via new and as yet undeveloped support programs

- A set of policies that moved 12.5 percent of the DI/SSI to work would increase employment rates overall by .003 and raise employment by 470,000 workers. Overall it would increase employment by just under 200,000 workers.

- Some 75 percent of these workers would be high school graduates or less, and just 8 percent would be college graduates. Essentially all would have a physical or mental condition that limits work. And evidence from DeLeire (forthcoming) and many others suggest their wages would be low.

It is hard to imagine the nation adopting such a policy that cut caseloads by 25 percent, given the outcry in the late 1970s when caseloads were cut less than 20 percent and supportive programs remain to be developed.

It thus remains to be seen what, if anything, might realistically be done to increase work among those currently receiving DI/SSI. It is clear, however, that even in the best of circumstances that any new workers produced by policy change will be relatively poorly educated and at least partially disabled.

Social Security Retirement Benefits

Without question the biggest single force working to limit the size of the labor force from the 60s to the early 80s was the rapid decline in the labor force participation of men over the age of 55. As was shown on Figure 2, the participation rate for men aged 55-64 fell from 87 percent to 67 percent before largely leveling off in the past 15 years. Among those 65 and over the rate fell from 31 percent in the early sixties to roughly 17 percent from the 1980s through today. The overwhelming reason given for non-participation in both age groups is retirement.

No doubt part of the reason for the rise in retirement has to do with rising incomes and wealth leading to increased consumption of leisure. There has been a nearly century long trend toward earlier retirement. Still several features of the Social Security system and changes over time likely contributed to the changes.

The simplest measure of the system's generosity is the replacement ratio. The structure of SS ensures that these ratios are much higher for low earnings than for high ones, and these have changed significantly over time. Diamond and Gruber (1999) report that in the 1960s, replacement ratios for low earners retiring at 65 average roughly 50 percent and for moderate and higher earners were closer to 30 percent. During the 1970s benefits accelerated rapidly and replacement ratios reached 70 percent by 1980 for low earners and 50 percent for moderate ones. High earner ratios did not change much. Partly these increases were the result of over-indexation for inflation starting in 1972 that was not corrected until after 1977. In the early 1980s, replacement ratios fell rapidly and they currently stand at roughly 60 percent, 40 percent and 25 percent for low, medium and high earners.

A second critical feature involves the link between benefits and retirement age. For most of its history the normal retirement age (NRA) was 65, meaning that persons retiring at 65 got their "full" benefits. Starting in 1956 for women and 1961 for men, an early retirement age of 62 was established. Persons retiring between age 62 and age 65 get a reduced benefit designed to be "actuarially fair" in the sense that the present value of benefits were the same on average as for people who retire at age 65. Persons retiring after 65 get delayed retirement credit that leads to higher payments in later years. As a result of legislation passed in 1983 t he normal retirement age will be gradually extended

finally reaching 67 for workers who turn 62 in 2022 or later. Because of the actuarial reduction for early retirement, the effect of this change is to lower benefits for persons retiring at any given age. For those retiring at age 62, benefits are currently reduced by 20 percent. With a NRA of 67 they will be reduced by 30 percent.

A third feature of SS has to do with the treatment of earnings for people who are collecting SS. This test has changed considerably over time.[30] For example in 1975 benefits of all recipients were reduced $.50 for each dollar earned over roughly $4,000 (1998 dollars). By 1983 the test was removed for persons over age 70. It was liberalized considerably in subsequent years and was finally lifted for persons over the NRA of 65. Early retirees still face a 50 percent tax on earnings over $10,080.

Considerable progress has been made in recent years in determining the true marginal incentives for retiring at different ages. Early work tended to look at the retirement patterns of workers at different ages to infer the potential impact of Social Security. Burtless and Moffitt (1984) for example show vividly a change in the retirement hazard after adoption of new rules allowing early retirement in 1961.

- In 1960, there was no "spike" in the retirement rate at age 62 and a large spike at 65. By 1970, a noticeable second spike had developed at 62. By 1980, the spike at 62 was greater than it was at age 65, and it remains so today.[31] There seems no plausible explanation for the shift of the retirement spike from 65 to 62 other than this change in SS rules. Note that the finding that retirement patterns closely mirror rules regarding normal and early retirement is vividly demonstrated country after country in the Gruber and Wise (1999b) volume. This is powerful evidence that SS rules influence behavior.

[30] For an excellent summary of changes in the earnings test over time see Gruber and Orszag (2000).
[31] See Gruber and Wise (1999a) for a comparison of all these hazards.

A sizable number of early and some recent studies have sought to relate retirement decisions to the level of Social Security benefits or wealth and pension benefits.

Though Hurd and Boskin (1984) suggest much of the rise in retirement might be traced to rising SS, a sizable literature including Blau (1994), Diamond and Hausman (1984), Gustman and Steinmeier (1986), Burtless and Moffitt (1984), and Hausman and Wise (1985) all seem to conclude that while Social Security has impacts on retirement behavior, the magnitude of the impacts are small enough that they imply that only a very modest portion of the decline in retirement age can be traced to SS.

Much of the early literature included fairly rudimentary estimates of incentives - often a simple replacement rate. More recent work has recognized that a decision to retire also involves changing the entire future stream of benefits. Thus Diamond and Gruber (1999) compute the change in Social Security Wealth associated with working another year and the change in wealth as a percent of the wage. And a number of authors beginning with Stock and Wise (1984b) and Stock and Wise (1984a) and most recently Samwick (1998) and Coile and Gruber (2000b) have recognized that a decision to retire means foregoing the benefits associated with choosing a later retirement age, and that one should incorporate the "options value" of postponing retirement as well. This later literature finds somewhat larger economic effects, but still suggests only a modest role for SS in the long run trends. Samwick (1998), for example, reports that expansions in pension and Social Security " in the early postwar period can account for one-fourth of the contemporaneous decline in labor force participation rates" and the bulk of this effect is related to private pensions.

All of this literature is subject to the criticism that benefits are in some sense a non-linear combination of past earnings, family structures, and age and thus identification of an impact hinges critically on functional form. There are only a couple of studies that exploit natural experiments caused by unexpected changes in benefits. The most prominent, Krueger and Pischke (1992) found little labor supply impact even of a sizable unanticipated jump in benefits.

There is a final strain of literature which examines the impact of the earnings test. Not unlike the retirement literature, early work made much of a finding of earnings bunching right around the earnings maximum. Burtless and Moffitt (1984), Vroman (1985), and more recently Friedberg (1999) have emphasized this point. Friedberg (1999) claims to find important impacts from removing the earnings test, but the magnitude is not large. As calculated in Gruber and Orszag (2000), the removal of the earnings test for 65-70 year olds would increase their hours by just 3.4 percent. More recently Gruber and Orszag (2000) found little net impact of the earnings test and even provide evidence that removing it for early retirees may encourage more persons to take early retirement and be more likely to be poor later in life.

- All in all, economists have had a remarkably difficult time showing that Social Security incentives had a major influence on the existing trends in retirement and work among the elderly, except in finding major spikes at early and normal retirement ages. In part this is because many elements of the system such as the reduction in benefits for early retirement are designed to be actuarially fair, while other elements such as earnings tests which might reduce work are being eliminated.

The entirety of this literature is striking in its failure to find strong evidence that the massive SS program had much aggregate influence on retirement behavior. Perhaps this should not be too surprising. After all Costa (1998) reports that nearly 60 percent of

the decline in labor force participation of older males between 1880 and 1990 had occurred before Social Security began.

Yet it seems certain that SS played some important role. One of the striking findings of the literature on incentives is that for a typical worker with a normal time horizon without liquidity constraints, there is no particular incentive to retire at age 62 at all. Indeed Diamond and Gruber (1999) and Coile and Gruber (2000b) both demonstrate that for most workers the current system actually creates some disincentives to early retirement. Of course for some workers, those with short time horizons or who expect to die at a younger age, there still can be financial benefits to early retirement. Still for most, the economic models provide no reason to withdraw early. Yet we have seen there is a sharp retirement spike at age 62 which arose only after the adoption of the early retirement age. The explanation may lie in the combination of myopia, credit constraints, and altered social norms. Social Security does move income from working years to retirement years and myopic or credit constrained persons would respond to the income effect it embodies. Moreover, a retirement decision may have as much to do with norms and expectations as incentives, and Social Security has clearly sent the signal that early retirement is acceptable.

Can Social Security Be Used to Alter Work Behavior?

- Several proposals have been suggested that might alter retirement. Removing the aforementioned earnings test is one proposal. But the test was already removed for those over 65. And the most sophisticated work to date, Gruber and Orszag (2000), finds little evidence that removing it for early retirees will reduce retirement or increase labor supply. Indeed it may have the opposite effect.

Two other prominent proposals are to increase the normal retirement age and raise the delayed retirement credit. Coile and Gruber (2000a) investigate the impacts of each of

these. They conclude that current provisions of private pensions partially offset the impacts of changed incentives.

- Raising the normal retirement age to 67 is predicted to have essentially negligible effects on work behavior. Currently the delayed retirement credit penalized retirement past age 65. Over time this penalty will be eliminated. Coile and Gruber (2000a) estimate that eliminating this penalty immediately would raise work somewhat, but by at most a percentage point or two when its effects peak around age 65 and 66. This is a fairly sizable percentage rise on a base employment rate of .35, but its aggregate magnitude would be very small.

Clearly more radical changes would be required to have a significant effect on labor supply of the elderly. Recently the Committee for Economic Development released a report on creating new opportunities for older workers. Spurred both by the growing need for workers and a desire to ensure future Social Security benefits, the Committee made some rather bold proposals, including a call to extend the normal retirement age to 70 and to move the early retirement age to 65.[32] Such a plan is unlikely to be politically popular. Citing Jacobs and Shapiro (1998), Burtless and Quinn (2000) report that "with rare exceptions solid majorities reject any proposed hike in the retirement age. The size of the majority opposing higher retirement age was higher in the 1990s than in the 1980s."[33]

Nonetheless, political realities can change, so then the question is what impact such a plan would have. Given that current policies create limited direct incentives to retire early, it is possible that even changes this draconian would have a modest impact. But keeping in mind the credit constraints, myopia and social norm effects, it seems certain that such a proposal would increase work. Of course if the disability program remained unchanged, some might choose to enter the DI program instead where they can

[32] Committee for Economic Development (2000)

collect full benefits at any age. Still a recent paper by Mitchell and Phillips (2000) suggests that the flows into work would be twice as large as the flows into DI.

There is no very reasonable way to model the long term effect of such significant changes using the current literature. But suppose that starting at age 63, it shifted the pattern of work back a full 2 years. Thus 63 year olds would now work as much as 61 year olds do, 65 year olds as much as 63 year olds and so forth. This seems like an awfully large change, particularly since most models of Social Security predict far more modest changes from policy reforms. Moreover the movement to disability programs is not considered directly. Thus this estimate seems an upper bound on impacts.

Table 12 provides the results.

- If labor force participation rates after age 63 could be retarded by 2 years, aggregate participation would rise .005 points and the labor force would expand by nearly 1 million workers.

- This policy change, unlike any of the others, generates a significant number of new high skill workers. But that may not be realistic. Social Security changes are likely to have a far smaller behavioral effect on high education persons, since their benefits are proportionately much lower and because they retire less early.

It is a bit hard to decide if this is a big or small change. Surely this is considerably larger increase than that predicted by other policy changes. But the assumptions seem particularly strong and the change is still less than a 1 percent expansion in the labor force.

The conclusion on retirement changes is decidedly mixed. On the one hand the evidence is weakest in this context that realistic policy change can alter behavior in a sizable way. On the other hand, SS potentially affects a vastly larger number of people—

[33] p. 18.

including far more people with high educations. Of course, that is also why it is hard to change.

Conclusions

In this paper, I have sought to both explore what the future labor force might look like and consider what social policy might do towards increasing labor supply. The broad conclusions were summarized in the opening section and will not be repeated here.

I did attempt to simulate the impacts of some policy changes. In general, I have not tried to determine the exact impact of specific proposals, only to gauge what intensive policies that are still within the outside realm of plausibility might accomplish. Table 13 provides a summary of the projected impacts of the various scenarios.

- If the goal is to significantly increase the number of workers with an eye towards doing as much as possible to get more educated workers, there are two winners on the table: get 10% more married mothers working and postpone retirement patterns by two years. But sadly these are probably the two most unrealistic proposals and in the case of increasing work by married mothers, extremely expensive.

- Even policy changes underlying the other proposals were often rather extreme assuming either major benefit cuts or dramatic new programs of work support for highly disadvantaged persons. These do not increase the labor force a great deal, and most of the increase is in the least educated categories of workers.

Thus I generally would see each of these simulations as a sense of what is the most that could be accomplished in the current climate. Overall the numbers are sizable, but still not overwhelming. Collectively they add up to roughly 3 million workers, a number roughly 1.5 years of labor force growth over the past 20 years, with nearly all the growth among lower skilled groups. And there is no way one could achieve all of these results.

And inevitably all this discussion of using social policy to increase the workforce

raises a larger question. Shouldn't the ordinary workings of the labor market be left to deal with any worker or skill shortages? If firms need more workers, they will bid up wages and automatically draw people into the labor market. It seems hard to justify pro-work subsidies unless there is an additional reason to favor work.

Of course, there often are good and powerful reasons to support added aid for low income workers, above and beyond the labor supply impacts. It may be that having working role models in the home is appropriate for children. The public may be more willing to give generous aid if people work to receive it. Subsidizing work will surely help the children in low income working families. Providing more universal child care might benefit children, and create community, and increase opportunity of women in the long run. And thus it may still make sense to encourage work with social policy.

But some ways of generating more work raise serious questions about security and dignity. Already the move toward pro-cyclical social policies raise questions about the loss of automatic stabilizers and the danger that people will be doubly disadvantaged during recessions—losing work and benefits. The policy shifts transfer payments from less to more prosperous years. If work were further encouraged by reducing UI or tightening disability policy, some people will surely be hurt. A humane society protects citizens from the insecurity of illness, unemployment, and ensures dignity in old age. The challenge is to balance goals of work, responsibility, and humanity. Programs like UI seem like they are becoming more important as social policy shifts from being counter to pro-cyclical.

Two final issues arise from this discussion. Social policy changes seem most suited to drawing less skilled workers into the labor market. But the real need is for more

skilled workers. Perhaps a better direction for social policy is to seek out ways to improve the skills of existing workers in ways that employers will reward. Much more could be done to encourage new cohorts enter and get through college. Moreover, if there is a need for more low skilled workers, immigration offers a ready alternative.

This examination of work force changes and the role for social policy thus indicated that more might be done to promote work through social policies. Incentives really do matter and social policies can make a difference. Still there are very real limits to what can be accomplished. The most important debates about what to do about the sputtering labor market thus may have little to do with social policy and much more to do with education, training, and immigration.

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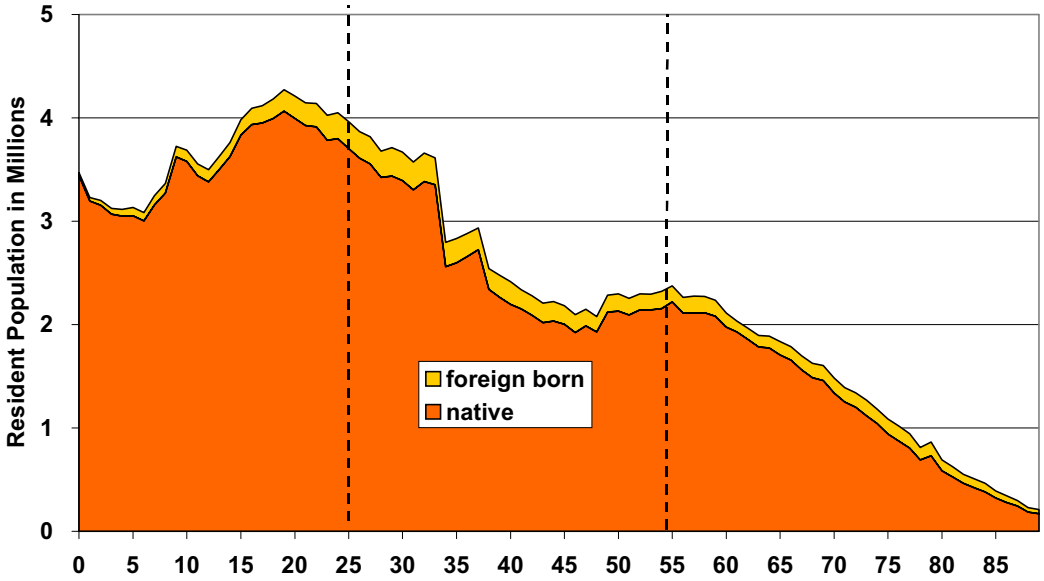
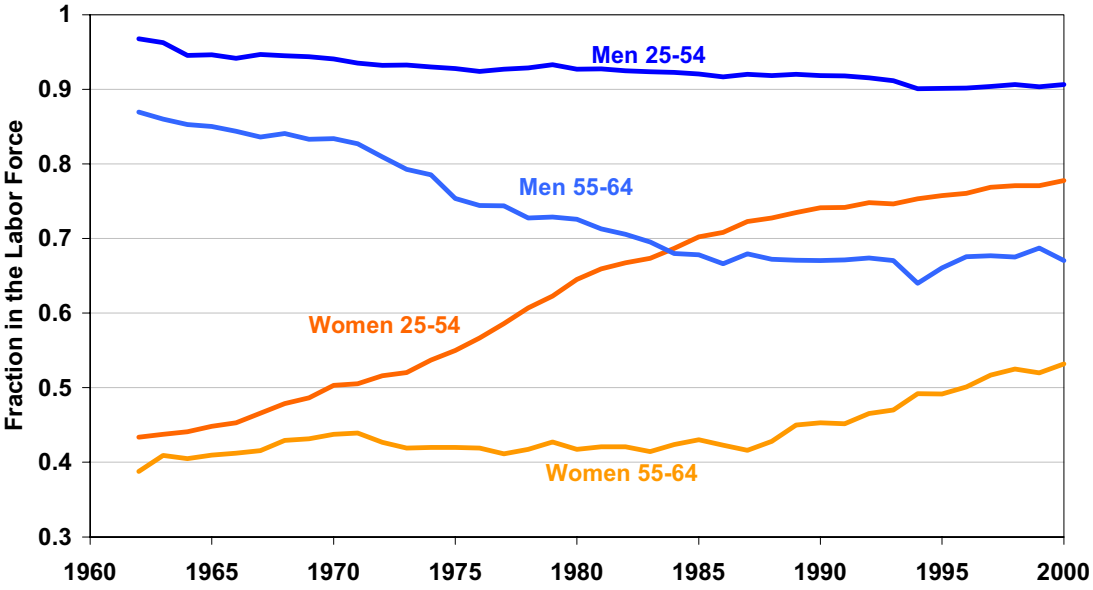
Figure 1
Resident Population of the United States in 1980
by Years of Age and Nativity



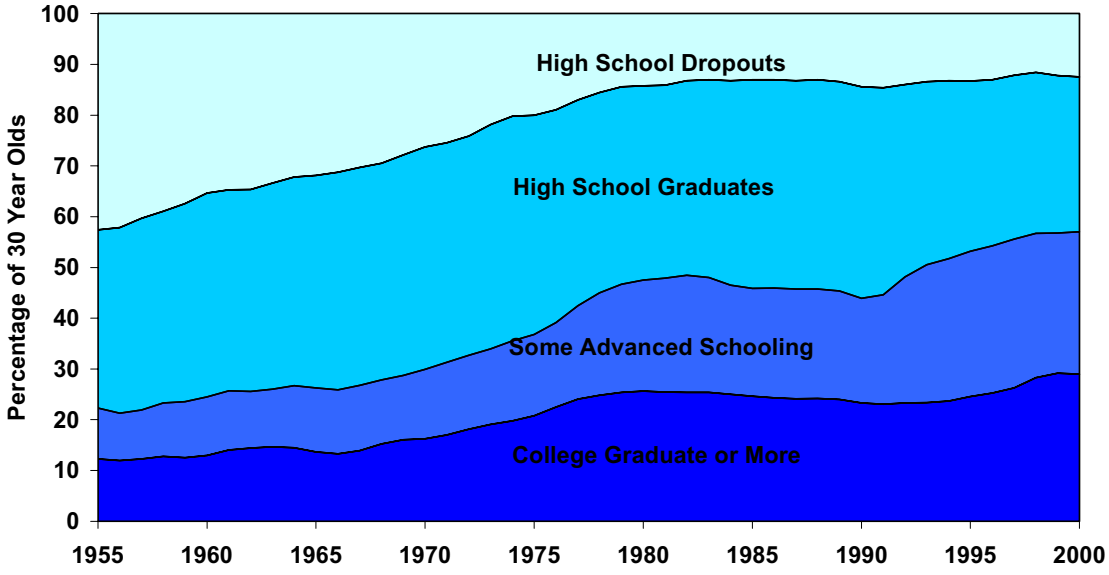
Source: Author's tabulations of 1980 Census data

Figure 2
Labor Force Participation Rate of Men and Women
Aged 25-54 and Aged 55-64 by Year



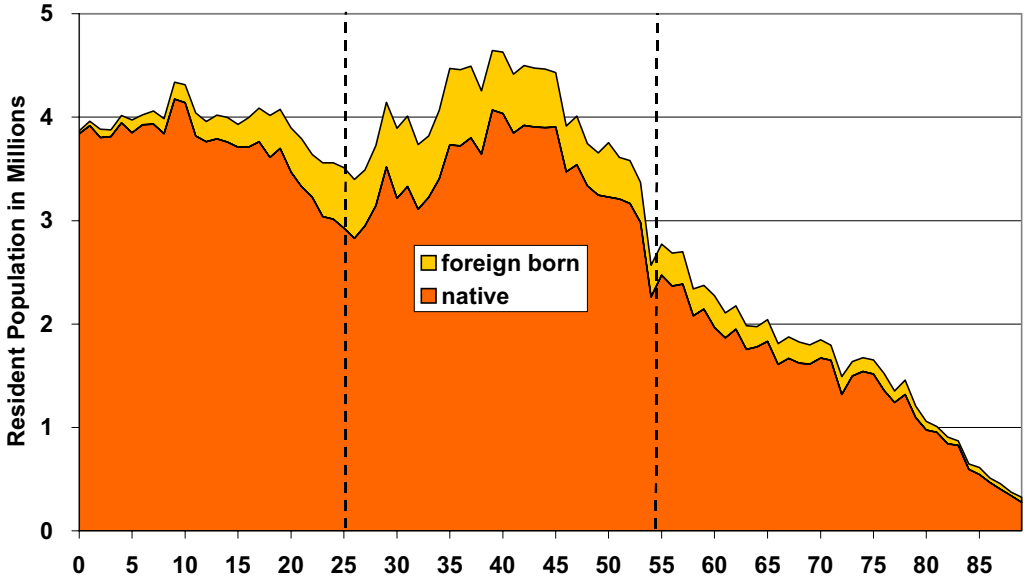
Source: Tabulations of March CPS data

Figure 3
Percent Distribution of Education Among 30 Year Olds By Year



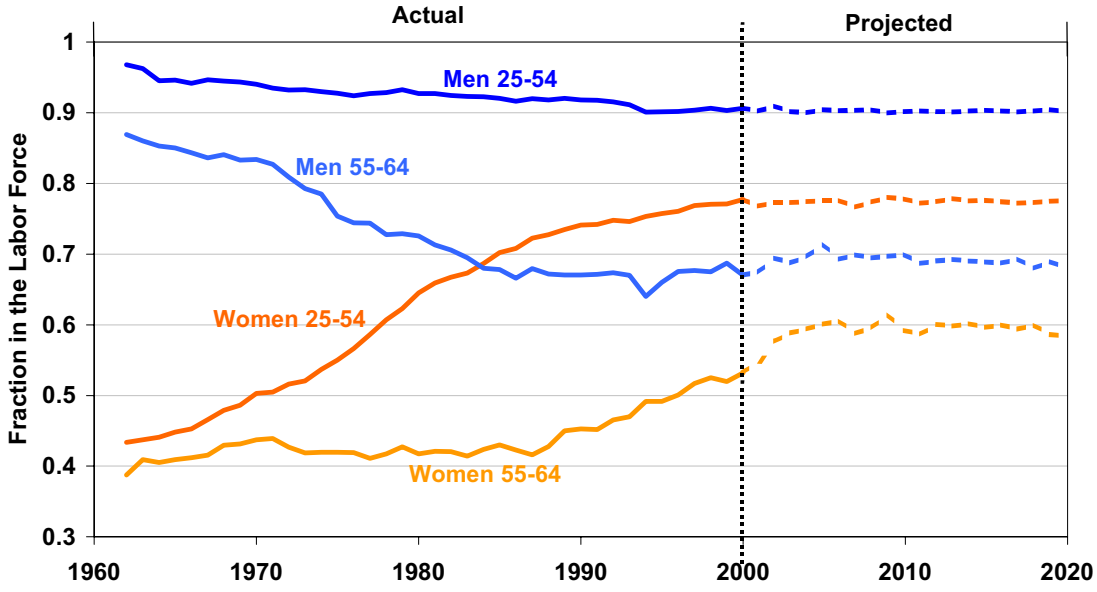
Source: Annual March CPS Data. Three Year Centered Moving Averages

Figure 4
Resident Population of the United States in 2000
by Years of Age and Nativity



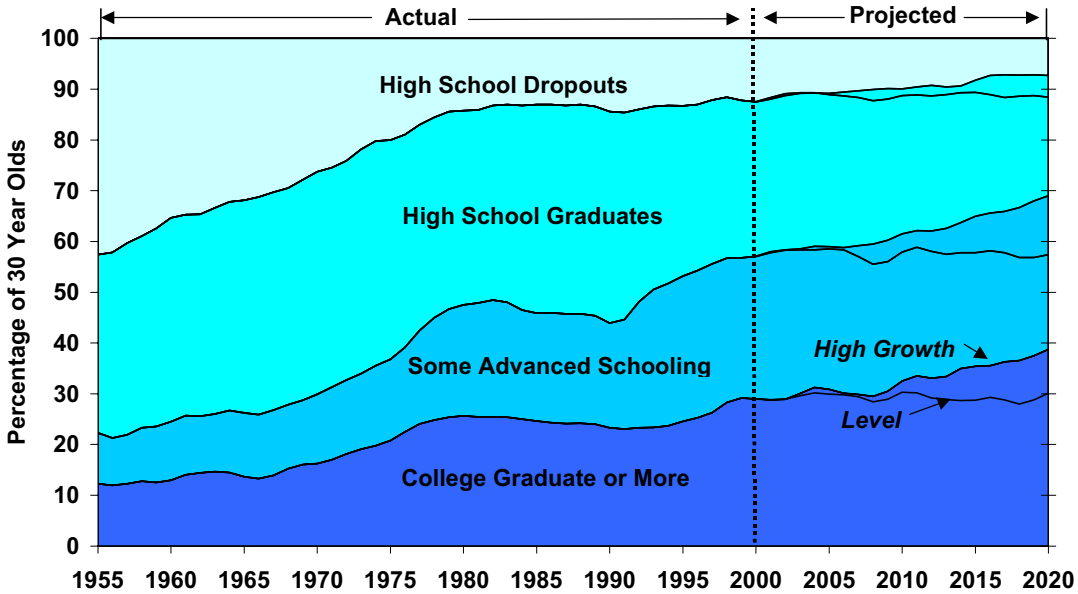
Source: Author's tabulations of March CPS data

Figure 5
Actual and Projected Labor Force Participation Rate of Men and Women Aged 25-54 and 55-64



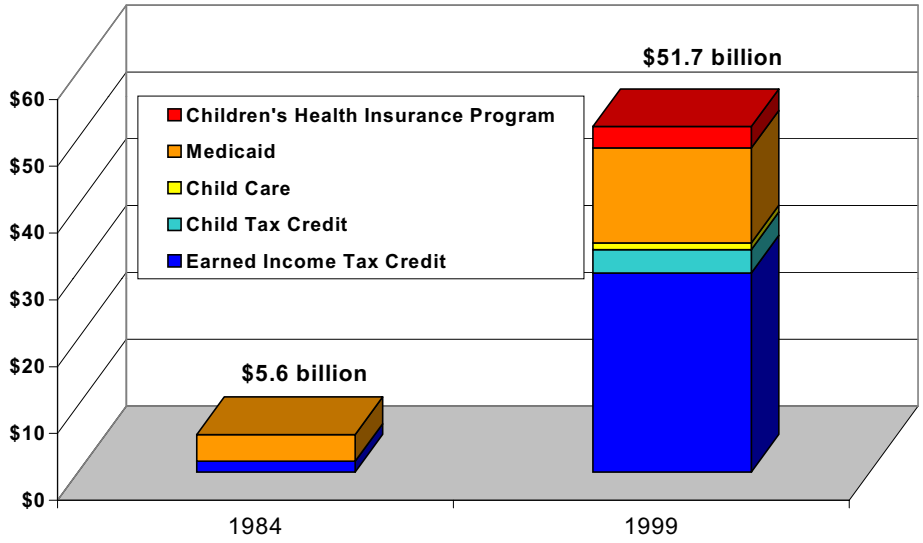
Source: Tabulations of March CPS data and author's projections

Figure 6
Percent Distribution of Education Among 30 Year Olds By Year
High Growth and Level Projections



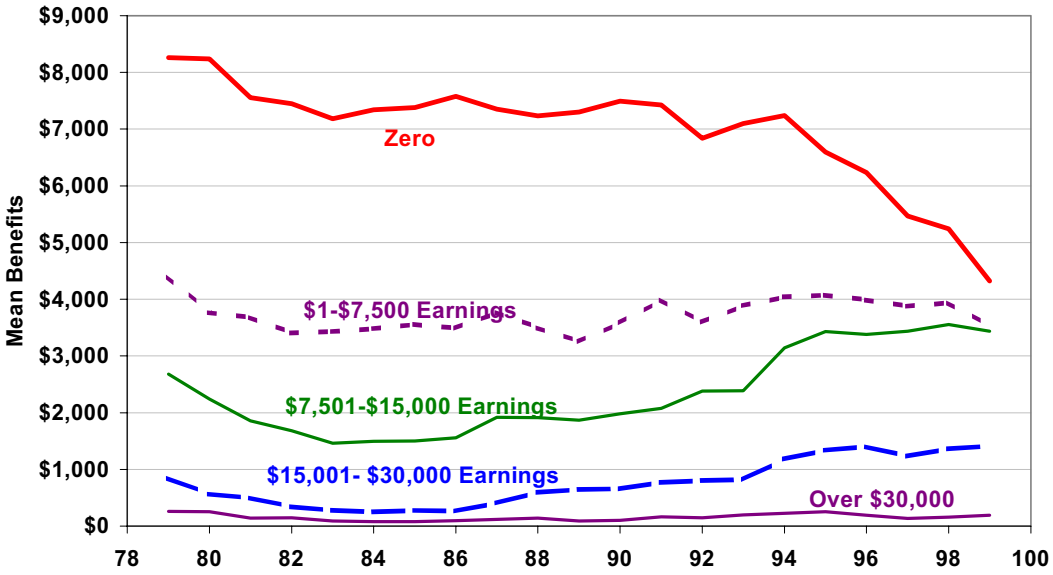
Source: Annual March CPS Data and Author's Projections. Three Year Centered Moving Averages

Figure 7
Federal Outlays on Low Income Families Not Receiving Cash Assistance
(Billions of 1999 Dollars)



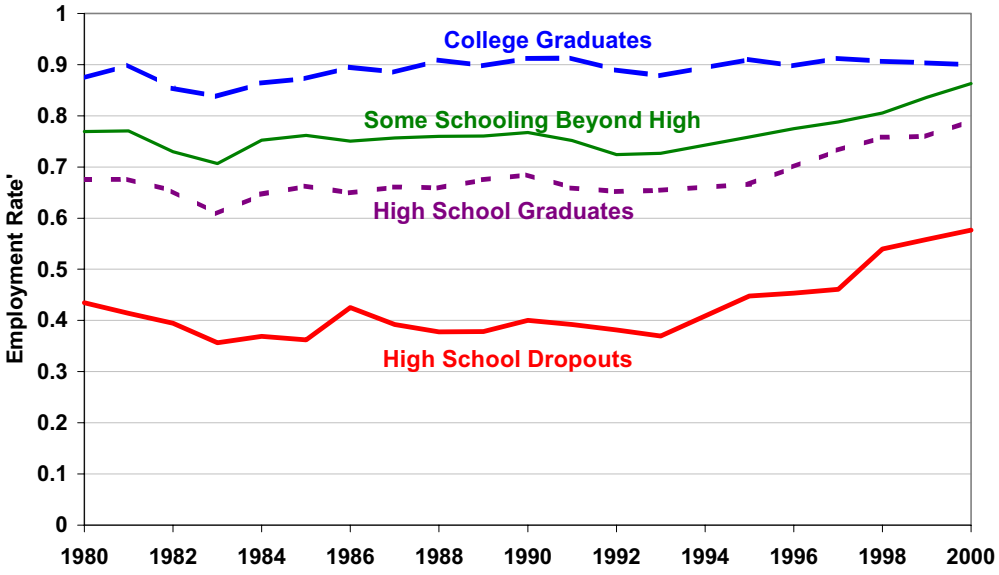
Source: Congressional Budget Office. "Policy Changes Affecting Mandatory Spending For Low-Income Families Not Receiving Cash Welfare." Washington, D.C.: U.S. Congress, September 1998.

Figure 8
Real Mean Public Assistance, Food Stamps, Housing Aid and EITC Benefits
Reported By Non-disabled Single Parents By Level of Family Earnings



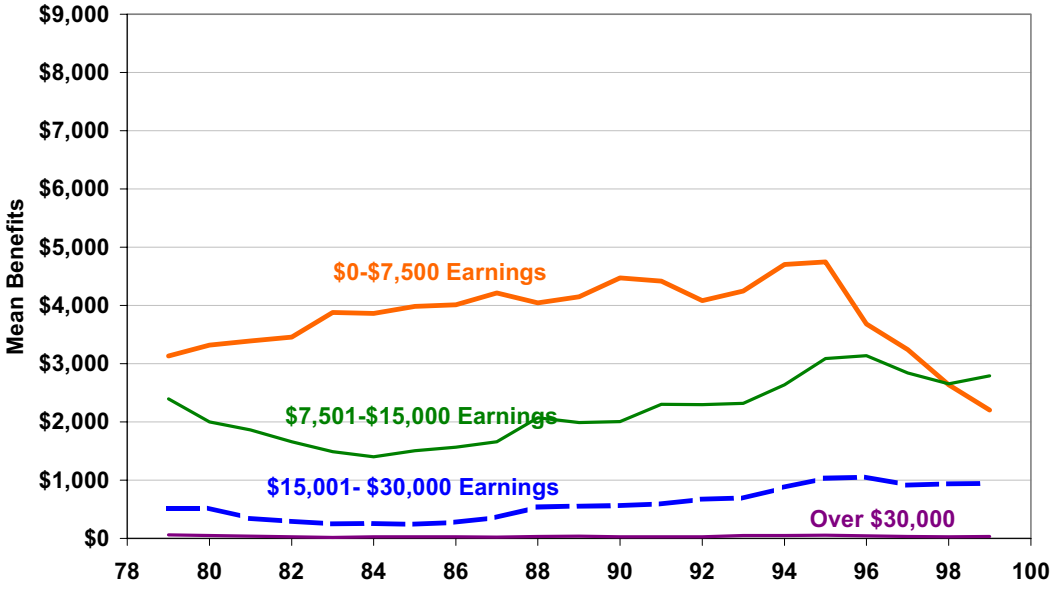
Source: Authors tabulations of March CPS data

Figure 9
March Employment Rates Among Single Parents Who Are Not Disabled
By Level of Education



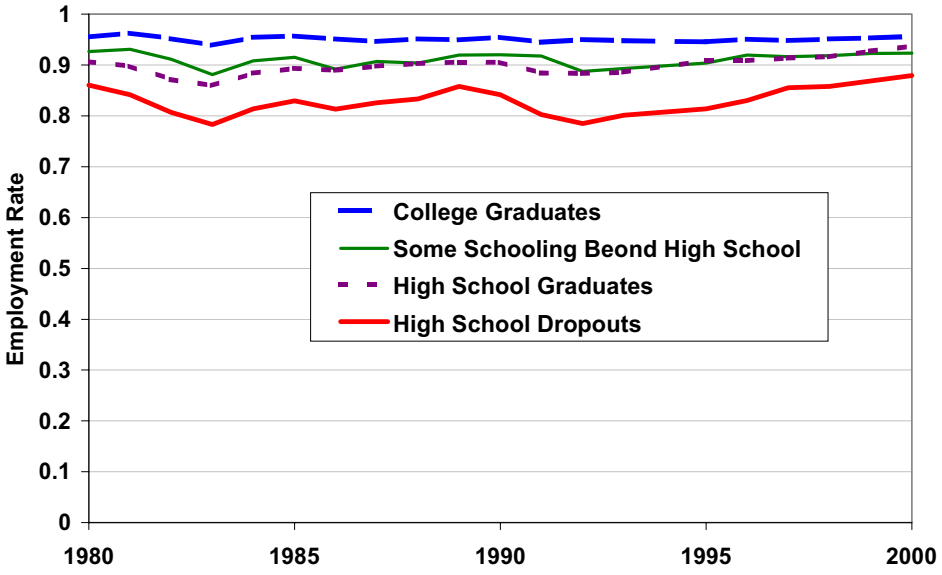
Source: Authors tabulations of March CPS Data

Figure 10
Mean Public Assistance, Food Stamps, Housing Aid and EITC Benefits Reported
By Non-disabled Two Parent Families By Level of Family Earnings in that Year



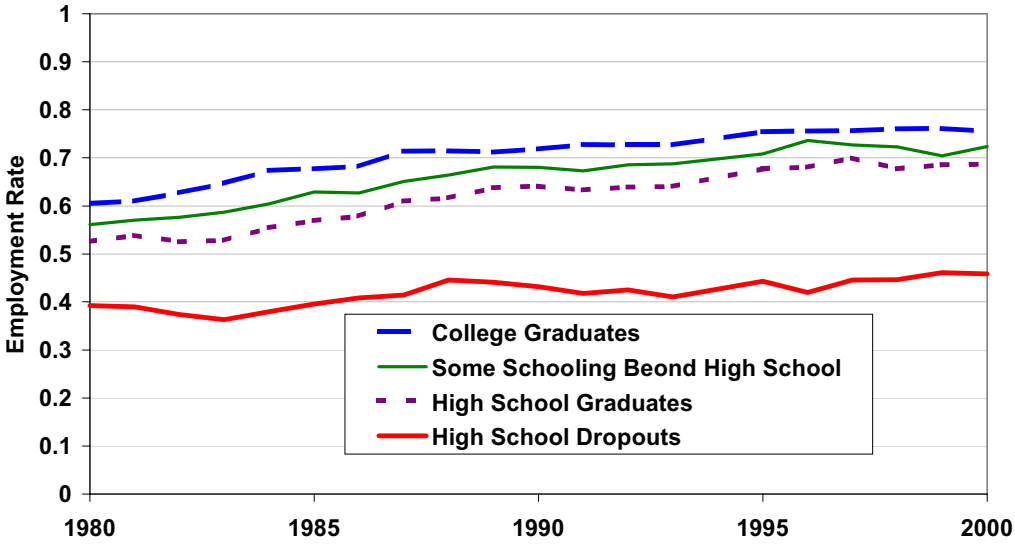
Source: Authors tabulations of March CPS data

Figure 11
March Employment Rates Among Married Fathers Who Are Not Disabled
By Level of Education



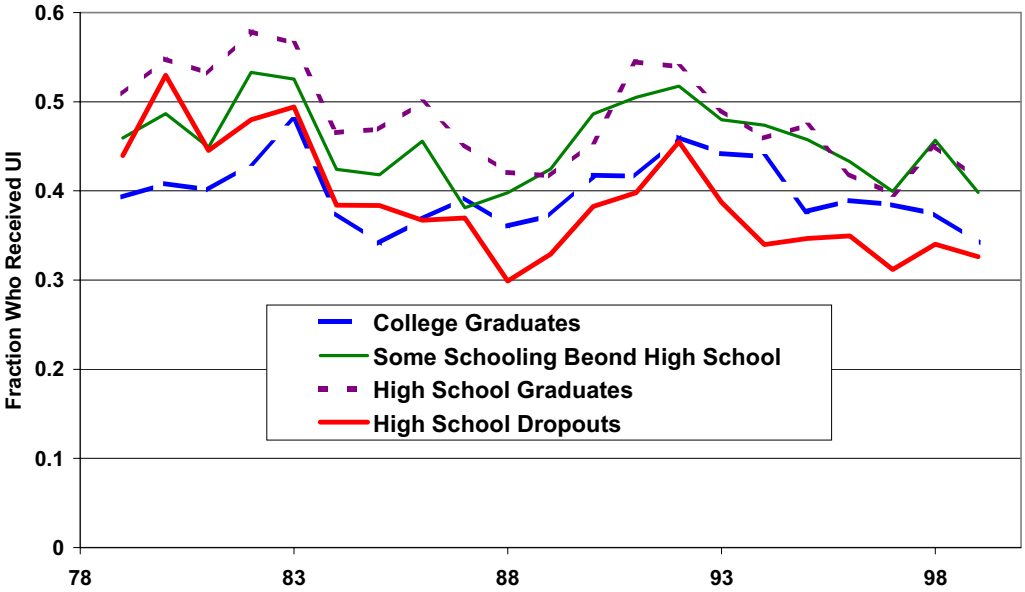
Source: Authors tabulations of March CPS Data

Figure 12
March Employment Rates Among Married Mothers Who Are Not Disabled
By Level of Education



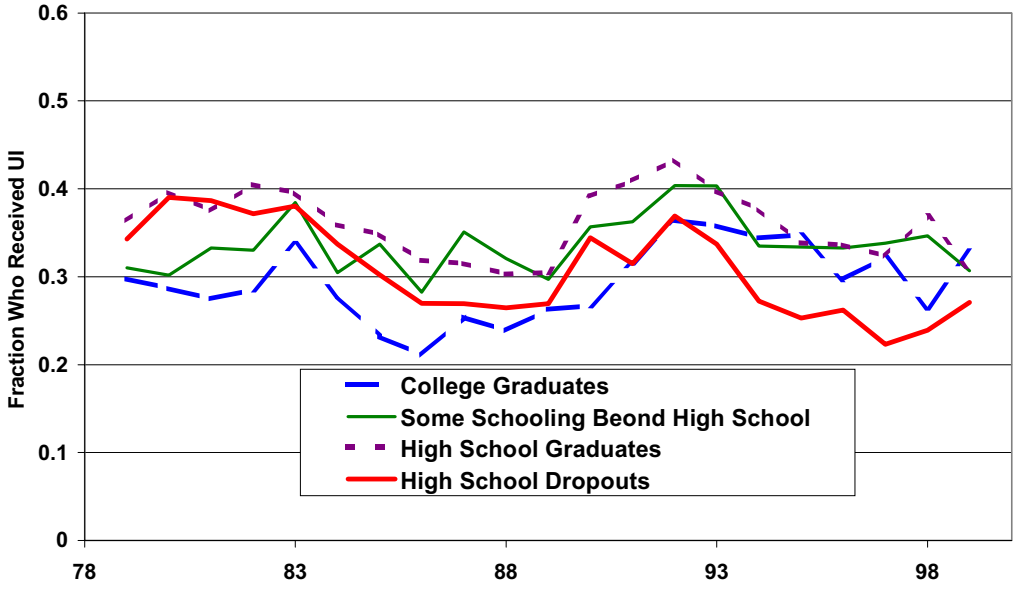
Source: Authors tabulations of March CPS Data

Figure 13
Fraction of Males With More than 4 Weeks of Unemployment Who Reported Getting Unemployment Insurance Benefits During the Year



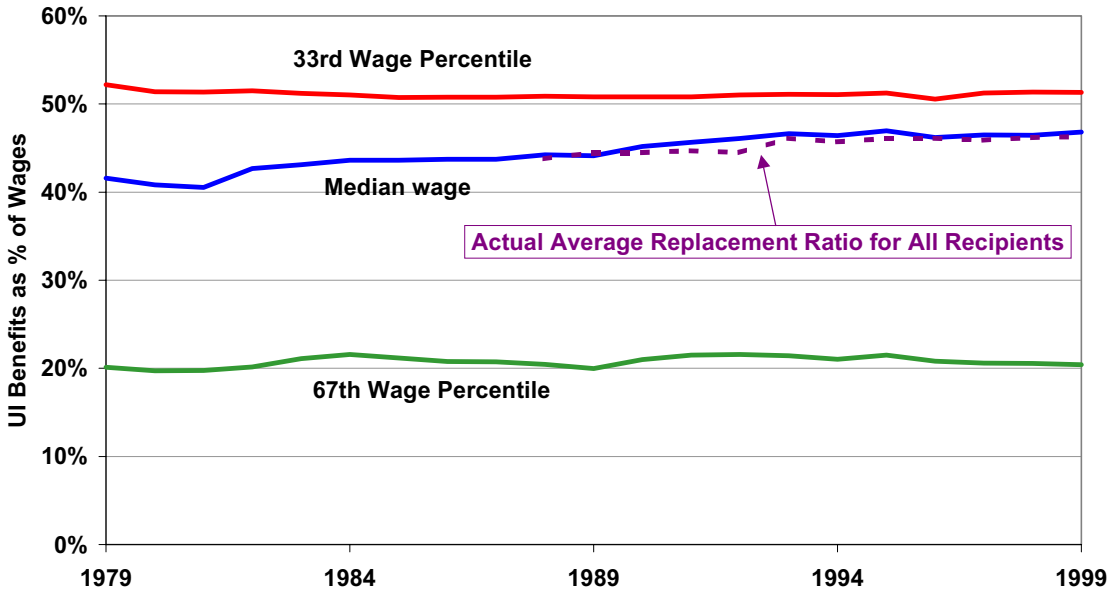
Source: Authors tabulation of March CPS data

Figure 14
Fraction of Females With More than 4 Weeks of Unemployment Who Reported Getting Unemployment Insurance Benefits During the Year



Source: Authors tabulation of March CPS data

Figure 15
Replacement Ratios: Projected Weighted Average UI Benefits as Percent of Wages for Males At Different Parts of the Wage Distribution



Source: Calculated by Elizabeth Welty using state unemployment benefit rules. See notes.

Figure 16
Percent Not In the Labor Force and Percent Receiving DI/SSI Benefit
Men Age 40-61

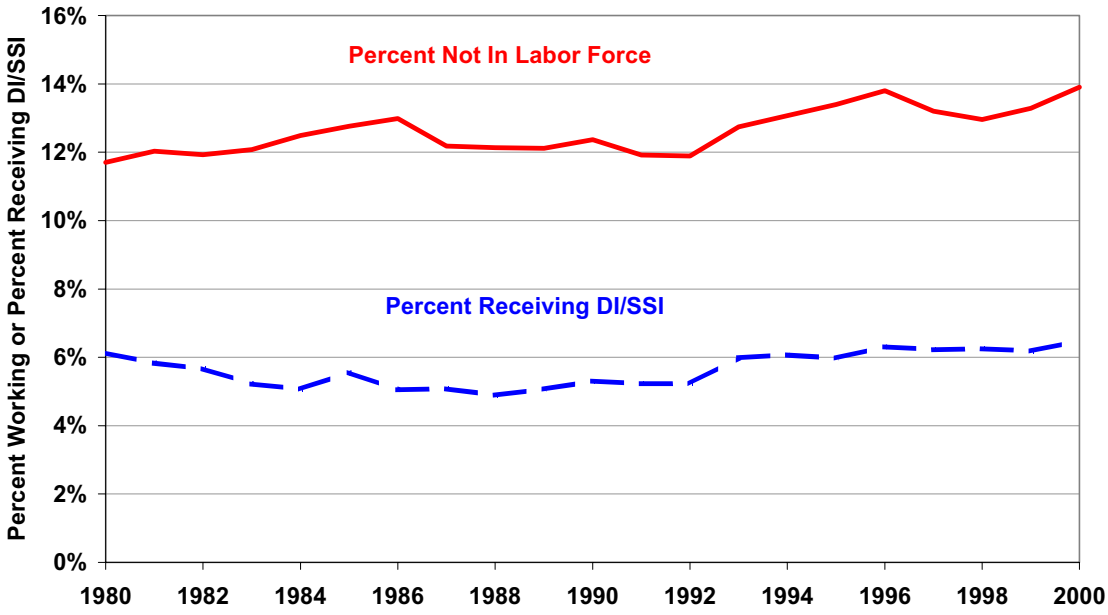


Figure 17
Percent Employed and Percent Receiving DI/SSI Benefit By Disibility Status
Men Age 40-60 by Disability Status

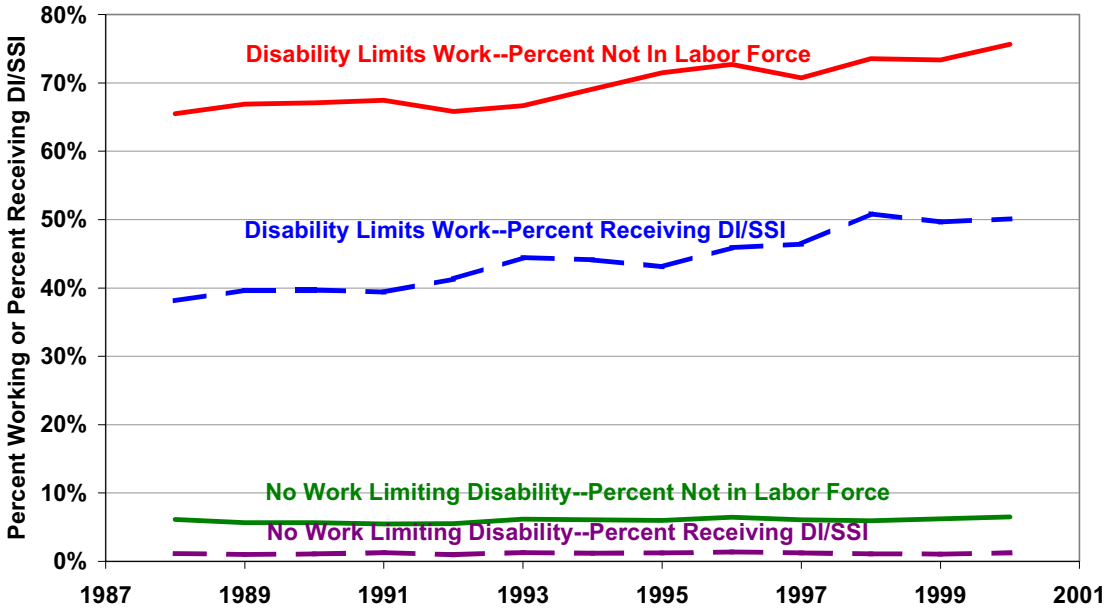


Table 1
Characteristics of the Labor Force Aged 25 and Over and Components of Change 1980, 2000, 2020

	Labor Force in 1980	Growth 1980 -2000	Labor Force in 2000	Growth 2000 -2020	Labor Force in 2020
Age					
25-54	**65.0**	**35.1**	**100.1**	**3.0**	**103.1**
55-64	**11.8**	**2.2**	**14.0**	**12.5**	**26.5**
65+	**3.0**	**1.4**	**4.4**	**4.0**	**8.4**
Total	***79.8***	***38.7***	***118.5***	***19.4***	***137.9***
Race/Ethnicity/Nativity					
White Non-Hispanic – Native	**63.0**	**21.5**	**84.5**	**2.6**	**87.1**
Black Non-Hispanic – Native	**7.6**	**4.6**	**12.2**	**2.8**	**15.0**
Hispanic – Native	**2.5**	**2.3**	**4.8**	**6.8**	**11.6**
Other Non-Hispanic – Native	**0.8**	**1.0**	**1.8**	**1.2**	**3.0**
Hispanic – Foreign Born	**1.8**	**4.5**	**6.3**	**2.8**	**9.1**
Non-Hispanic – Foreign Born	**4.1**	**4.8**	**8.9**	**3.3**	**12.2**
Total	***79.8***	***38.7***	***118.5***	***19.4***	***137.9***
SUMMARY					
Native White Workers 25-54	**50.8**	**19.3**	**70.1**	**-7.7**	**62.4**
Native White Workers 55 & Over	**12.2**	**2.2**	**14.4**	**10.3**	**24.7**
Workers of Color 25-54	**9.4**	**7.3**	**16.7**	**7.7**	**24.4**
Workers of Color 55 & Over	**1.6**	**0.5**	**2.1**	**3.0**	**5.1**
Foreign Born Workers	**5.9**	**9.4**	**15.3**	**6.0**	**21.3**
Total	***79.8***	***38.7***	***118.5***	***19.4***	***137.9***

Table 2
Educational Characteristics of the Labor Force
Aged 25 And Over
1980, 2000, 2020

High Growth In Education Assumption

	Labor Force in 1980	Growth 1980 -2000	Labor Force in 2000	Growth 2000 -2020	Labor Force in 2020
Education					
Less Than High School	**17.3**	**-5.3**	**12.0**	**-1.1**	**10.9**
High School Only	**31.5**	**6.3**	**37.8**	**1.5**	**39.3**
Some Schooling Beyond High School	**13.8**	**19.1**	**32.9**	**6.2**	**39.1**
College Degree or More	**17.3**	**18.5**	**35.8**	**12.8**	**48.6**
Total	***79.8***	***38.7***	***118.5***	***19.4***	***137.9***
% With College Degree	*21.6%*		*30.2%*		*35.2%*

Level Educational Attainment Assumption*

	Labor Force in 1980	Growth 1980 -2000	Labor Force in 2000	Growth 2000 -2020	Labor Force in 2020
Education					
Less Than High School	**17.3**	**-5.3**	**12.0**	**0.9**	**12.9**
High School Only	**31.5**	**6.3**	**37.8**	**3.8**	**41.6**
Some Schooling Beyond High School	**13.8**	**19.1**	**32.9**	**6.2**	**39.1**
College Degree or More	**17.3**	**18.5**	**35.8**	**7.7**	**43.5**
Total	***79.8***	***38.7***	***118.5***	***18.6***	***137.1***
% With College Degree	*21.6%*		*30.2%*		*31.7%*

*Subsequent cohorts have same education at age 25 as the cohort age 25 in 2000.

Table 3
Proportion of Persons Aged 25-54 Receiving Various Types of Government Aid By Level of Education-1999

	Public Assistance	Supplemental. Security Income	Food Stamps	Housing Aid	Unemployment Compensation	Worker's Compensation	Social Security	**Received Any Aid**
Less Than High School	0.044	0.062	0.148	0.079	0.047	0.016	0.064	**0.301**
High School Only	0.016	0.024	0.053	0.031	0.043	0.013	0.032	**0.158**
Some Schooling Beyond High School	0.010	0.013	0.032	0.020	0.035	0.014	0.025	**0.113**
College Degree or More	0.001	0.003	0.005	0.004	0.019	0.004	0.009	**0.040**
All Education Levels	**0.013**	**0.019**	**0.044**	**0.025**	**0.035**	**0.011**	**0.027**	**0.128**

Proportion of Persons Aged 55-64 Receiving Various Types of Government Aid By Level of Education-1999

	Public Assistance	Supplemental. Security Income	Food Stamps	Housing Aid	Unemployment Compensation	Worker's Compensation	Social Security	**Received Any Aid**
Less Than High School	0.014	0.114	0.108	0.071	0.032	0.014	0.299	**0.461**
High School Only	0.005	0.025	0.025	0.019	0.028	0.012	0.212	**0.278**
Some Schooling Beyond High School	0.004	0.020	0.015	0.013	0.026	0.015	0.180	**0.233**
College Degree or More	0.001	0.009	0.013	0.008	0.016	0.007	0.111	**0.138**
All Education Levels	**0.006**	**0.037**	**0.035**	**0.025**	**0.025**	**0.012**	**0.197**	**0.269**

Table 4
Actual Versus Predicted Employment Rates If Employment Rates For Persons Who Received Aid Equaled The Employment Rates for Those Who Did Not Receive Aid
Persons Age 25-54—1999

	Actual Employment Rate	Predicted Employment Rate if Employment Rate of Those Who Received Government Aid Equaled Rate for Those Who Did Receive Aid*	Difference	Actual Number Employed (in Millions)	Predicted Number Employed if Employment Rate of Those Who Received Government Aid Equaled Rate for Those Who Did Receive Aid* (in Millions)	*Difference (in Millions)*
Less Than High School	0.618	0.723	*0.105*	8.4	9.8	*1.4*
High School Only	0.787	0.838	*0.051*	29.9	31.8	*1.9*
Some Schooling Beyond High School	0.824	0.862	*0.038*	27.4	28.7	*1.3*
College Degree or More	0.866	0.879	*0.014*	29.6	30.1	*0.5*
All Education Levels	**0.801**	**0.843**	***0.043***	**95.4**	**100.5**	***5.1***

*Predicted employment based on a regression of employment rate (fraction of weeks worked in 1999) on age dummies, education dummies, race/nativity dummies, marital status dummies, and number of children estimated only for persons who reported receiving no government aid. Models run separately by sex using March 2000 CPS data.

Table 5
Actual Versus Predicted Employment Rates If Employment Rates For Persons Receiving Aid Equaled The Employment Rates for Those Not Receiving Aid
Persons Age 55-64—1999

	Actual Employment Rate	Predicted Employment Rate if Employment Rate of Those Receiving Government Aid Equaled Rate for Those Not Receiving Aid*	Difference	Actual Number Employed (in Millions)	Predicted Number Employed if Employment Rate of Those Receiving Government Aid Equaled Rate for Those Not Receiving Aid* (in Millions)	*Difference (in Millions)*
Less Than High School	0.414	0.598	*0.184*	1.8	2.6	*0.8*
High School Only	0.565	0.707	*0.142*	4.7	5.9	*1.2*
Some Schooling Beyond High School	0.641	0.746	*0.105*	3.4	3.9	*0.5*
College Degree or More	0.714	0.777	*0.063*	3.9	4.3	*0.3*
All Education Levels	**0.590**	**0.712**	***0.123***	**13.8**	**16.7**	***2.9***

*Predicted employment based on a regression of employment rate (fraction of weeks worked in 1999) on age dummies, education dummies, race/nativity dummies, marital status dummies, and number of children estimated only for persons who reported receiving no government aid. Models run separately by sex using March 2000 CPS data.

Table 6
Percent Distribution of Non-Disabled Persons Aged 25-54 Who Were Not Employed in March 2000 By Education and Family Status

Level of Education	Husbands	Wives	Single Parents	Grown Children and Others Living With Parents of Relatives	Single Individuals (Not Living With Relatives)	*Total*
Less Than High School	2.2	9.2	4.0	1.8	2.1	***19.3***
High School Only	3.4	18.5	4.2	3.0	3.9	***33.0***
Some Schooling Beyond High School	4.0	14.3	2.7	2.1	3.4	***26.4***
College Degree or More	3.1	13.2	1.0	1.2	2.9	***21.4***
Total	***12.7***	***55.2***	***11.8***	***8.0***	***12.3***	***100.0***

Table 7
Actual Versus Predicted Employment of Persons Over 24 If Policy Reduced the Number of Not-Employed Single Parents by 20 Percent
1999

	Actual Employment Rate	Predicted Employment Rate After Policy Change*	Difference	Actual Number Employed (in Millions)	Predicted Number Employed After Policy Change* (in Millions)	*Difference (in Millions)*
Less Than High School	0.395	0.402	0.007	10.98	11.17	0.20
High School Only	0.622	0.625	0.003	36.11	36.29	0.18
Some Schooling Beyond High School	0.716	0.718	0.003	31.79	31.91	0.12
College Degree or More	0.774	0.775	0.001	34.70	34.74	0.04
All Education Levels	**0.649**	**0.652**	**0.003**	**113.60**	**114.10**	**0.54**

Table 8
Actual Versus Predicted Employment of Persons Over 24 If Policy If Policy Reduced the Number of Not-Employed Married Mothers by 10 Percent
1999

	Actual Employment Rate	Predicted Employment Rate After Policy Change*	Difference	Actual Number Employed (in Millions)	Predicted Number Employed After Policy Change* (in Millions)	*Difference (in Millions)*
Less Than High School	0.395	0.400	0.005	10.98	11.12	0.15
High School Only	0.622	0.627	0.005	36.11	36.37	0.27
Some Schooling Beyond High School	0.716	0.721	0.005	31.79	32.02	0.23
College Degree or More	0.774	0.779	0.005	34.70	34.92	0.21
All Education Levels	**0.649**	**0.653**	**0.005**	**113.60**	**114.40**	**0.85**

Table 9
Actual Versus Predicted Employment If Policy Changes Reduced Unemployment Durations by 2 Weeks for Those Reporting Unemployment Insurance
1999

	Actual Employment Rate	Predicted Employment Rate After Policy Change*	Difference	Actual Number Employed (in Millions)	Predicted Number Employed After Policy Change* (in Millions)	*Difference (in Millions)*
Less Than High School	0.395	0.396	0.001	10.98	11.01	0.03
High School Only	0.622	0.623	0.001	36.11	36.18	0.07
Some Schooling Beyond High School	0.716	0.717	0.001	31.79	31.84	0.05
College Degree or More	0.774	0.775	0.001	34.70	34.73	0.03
All Education Levels	**0.649**	**0.650**	**0.001**	**113.60**	**113.80**	**0.19**

*Assumes 2 weeks additional work for persons reporting receiving UI and who had more than 2 weeks of unemployment.

Table 10
Actual Versus Predicted Employment of Persons Over 24
If Workers Compensation Benefits Were Reduced By 25%
1999

	Actual Employment Rate	Predicted Employment Rate After Policy Change*	Difference	Actual Number Employed (in Millions)	Predicted Number Employed After Policy Change* (in Millions)	*Difference (in Millions)*
Less Than High School	0.395	0.396	0.001	10.98	11.00	0.02
High School Only	0.622	0.623	0.001	36.11	36.16	0.05
Some Schooling Beyond High School	0.716	0.716	0.001	31.79	31.82	0.02
College Degree or More	0.774	0.774	0.000	34.70	34.71	0.01
All Education Levels	**0.649**	**0.649**	**0.001**	**113.60**	**113.70**	**0.10**

*Assumes 17.5% of WC recipients move to predicted employment based on a regression of employment rate (fraction of weeks worked in 1999) on age dummies, education dummies, race/nativity dummies, marital status dummies, and number of children estimated only for persons who reported receiving no government aid. Remaining 82.5% reduce the gap between actual employment and predicted for those with no aid by 10%. Models run separately by sex using March 2000 CPS data.

Table 11
Actual Versus Predicted* Employment of Persons Over 24
Move 12.5% of DI/SSI Recipients Back To Work
1999

	Actual Employment Rate	Predicted Employment Rate After Policy Change*	Difference	Actual Number Employed (in Millions)	Predicted Number Employed After Policy Change* (in Millions)	*Difference (in Millions)*
Less Than High School	0.395	0.401	0.006	10.98	11.14	0.16
High School Only	0.622	0.625	0.003	36.11	36.30	0.19
Some Schooling Beyond High School	0.716	0.717	0.002	31.79	31.87	0.07
College Degree or More	0.774	0.775	0.001	34.70	34.74	0.04
All Education Levels	**0.649**	**0.651**	**0.003**	**113.60**	**114.10**	**0.47**

*Assumes 12.5% of current DI/SSI recipients age 25-61 who report a disability limits work move to predicted employment based on a regression of employment rate (fraction of weeks worked in 1999) on age dummies, education dummies, race/nativity dummies, marital status dummies, and number of children estimated only for persons who reported receiving no government aid. Models run separately by sex using March 2000 CPS data.

Table 12
Actual Versus Predicted* Employment of Persons Over 24
If Labor Force Participation Rates Starting at Age 63 Were Retarded 2 Years
So That Persons Over 63 Began Participating As Much as Persons 2 Years Younger Do Currently
1999

	Actual Employment Rate	Predicted Employment Rate After Policy Change*	Difference	Actual Number Employed (in Millions)	Predicted Number Employed After Policy Change* (in Millions)	*Difference (in Millions)*
Less Than High School	0.395	0.403	0.009	10.98	11.22	0.24
High School Only	0.622	0.627	0.005	36.11	36.41	0.30
Some Schooling Beyond High School	0.716	0.720	0.004	31.79	31.99	0.19
College Degree or More	0.774	0.779	0.005	34.70	34.93	0.22
All Education Levels	**0.649**	**0.654**	**0.005**	**113.60**	**114.50**	**0.96**

*Assumes labor force participation rates of persons over 63 would be equivalent to current rates for persons two years younger.

Table 13
Summary Table of Hypothetical Effects on Employment (In Millions) of Various Policy Changes By Level of Education: 1999

	Reduce Not-Employed Single Parents by 20%	Reduce Not-Employed Married Mothers By 10%	Reduce UI Covered Unemployment Durations By 2 Weeks	Reduce WC Benefits by 25%	Move 12.5% of DI/SSI Recipients Back To Work	Retard Retirement Patterns of Those 63 and Over By Two Years
Less Than High School	0.20	0.15	0.03	0.02	0.16	0.24
High School Only	0.18	0.27	0.07	0.05	0.19	0.30
Some Schooling Beyond High School	0.12	0.23	0.05	0.02	0.07	0.19
College Degree or More	0.04	0.21	0.03	0.01	0.04	0.22
All Education Levels	**0.54**	**0.85**	**0.19**	**0.10**	**0.47**	**0.96**