1. Introduction

Individuals without a college degree in the US have experienced a relative decline in labor market and other opportunities. This is especially the case for lower educated white men who entered the labor market in the early 1980s and after. These trends are not exclusive to the US, in the UK and elsewhere those without a college degree have fared poorly since the early 1980s.

For the US, the raw statistics point to some of the most depressing empirical findings for developed economies. There has been a fall in (relative) real earnings for the low educated, especially white men. There appears to be almost no wage progression over the working life for low educated men and women. There is strong assortativeness by wages in marriage such that the increasing labor market participation of women has not offset the growth in earnings inequality for couple households. In addition, medical costs have risen, especially in terms of social care, and perhaps most surprisingly, mortality has risen.

Motivated by these trends, the authors specify a life-cycle model that includes allows for marriage and divorce, human capital accumulation, medical expenditures and changing life-expectancy. They use data from the PSID and the HRS to construct a sample of white, non-college-educated Americans. Sample moments are then used to estimate the model. Counterfactual simulations are then used to ask: What if the 1940s cohort of non-college educated white Americans had experienced the wages, the medical expenses, and the mortality of the 1960s cohort? The ‘what if’ is for labor market participation, hours, savings and welfare.

In this discussion, I first examine the trends in outcomes for these different groups over this period in the US. I then briefly run through the modeling framework for the counterfactual simulations. Finally, I raise a number of issues concerning the data and the interpretation of the changes across cohorts.

1 Acknowledgements: Thanks to Jim Ziliak for comments and help in constructing the CPS series. Support from the UK Economic and Social Research Council through the Centre for the Microeconomic Analysis of Public Policy (CPP) at IFS, grant reference ES/M010147/1, is gratefully acknowledged. Any errors and all views expressed are mine.
2. Setting the scene

The strong relative decline in real earnings for the low educated is not just true of the US, it is a phenomena that has occurred elsewhere. For example, the 90-10 ratio for male earnings in the UK has risen continuously from 2.5 to around 5.5 over the period from 1980 to the present with male real earnings at the 10th percentile seeing almost no increase. In the US, the 90-10 ratio for male earnings has also grown and stands at more than 6.5, while male earnings below the median has fared even more poorly, see Blundell et al (2018).²

Perhaps what stands out most is the relative decline of low educated white men in the US. Figure 1, from the CPS, shows the decline of the position of white men with less than high school. Although in absolute terms they are faring no less well than similarly educated black men the relative decline is striking. These figures are median average hourly wages for men ages 25-55 to avoid issues relating to schooling and early retirement. The relative decline is clear.³ Women have fared better in terms of real growth in earnings but from a low base and again the lower educated women have had relatively low earnings growth, see Figure 1 B.

Figures 1 A and B here

Figure 1 focusses on the group with less than high school. Figure 2 shows this relative decline for men is true across all lower education groups over this period.

Figure 2 here

These changes in earnings, coupled together with strong sorting by wages in marriage, points to a strong relative decline in real earnings for families of the lower educated. Increased female earnings has not offset the inequality growth nor the decline in the relative position of the lower educated couples over this period, see Blundell et al (2018).

What is even more poignant is the lack of wage progression over the working life for those without college education. Figure 3A shows the average profiles by age, sex and education, while Figure 3B suggests these profiles have been widening over the period. Especially noticeable is the difference between the 1940s and 1960s cohort, precisely the groups being compared in this study.

Figures 3A and 3B here

Added to this is a fall back in longevity documented in the recent work of Case and Deaton (2015). Figure 4 presents the descriptive statistics for ‘all-cause mortality. Case and Deaton show that it is poisoning (mainly opioids) and suicide that drive this change in direction.

Figure 4 here

² Of course, the deflator matters in calculations of real earnings levels but not for ratios unless the price changes have had a systematically differential effect favoring low earners over this period.

³ These figures are for men who do not have their hours or earnings imputed by the Census Bureau. Moreover, for each year and gender we trim the top and bottom 1% of the hourly wage distribution. Nominal earnings are deflated using the personal consumption expenditure deflator with 2010 base year.
These statistics provide motivation for this paper. The lower educated in the 60s cohort saw a strong decline in the wages and their longevity relative to the position of the lower educated in the 40s cohort.

3. **The quantitative approach to counterfactual simulations**

The framework used by the authors is to place individuals in a life-cycle model that includes single and married people with single people meeting partners and married people facing a risk of divorce. Human capital accumulation occurs on the job, medical expenditures are incorporated which change across the life-time, and life-expectancy is allowed to differ by education group.

The drawback of such a quantitative model for counterfactual simulations is the inevitability of strong assumptions. The authors are clear about these. Marriage, divorce, and fertility are exogenous, and married people have the same age. One strong assumption, I return too below, is that the lifetime wage profiles for each education group are parallel across the two birth cohorts. The authors also assume that households have rational expectations about all of the stochastic processes that they face. Thus, they anticipate the nature of the uncertainty following the time when they enter the model at age 25. In some ways these assumptions, or something similar, are inevitable given the ambition of the authors to provide counterfactuals, but strong nonetheless.

There are three main counterfactual simulations examined by the authors. A change in the wage schedule, an increase in expected out-of-pocket medical expenses during retirement, and a decrease in life expectancy. These are for the group of white, non-college-educated people born in the 1960s cohort, which comprises about 60% of the population of the same age.

The change in the wage schedule is found to have by far the largest effect on the labor supply of both men and women. In particular, it depressed the labor supply of men and increased that of women. The decrease in life expectancy mainly reduced retirement savings, but the expected increase in out-of-pocket medical expenses increased them by more.

Relative to the same group born in the 1940s, the results suggest that the group of white, non-college-educated people born in the 1960s cohort, which comprises more than 60% of the population, experienced large negative changes in wages, large increases in medical expenses, and large decreases in life expectancy. It seems they would have been much better off if they had faced the corresponding lifetime opportunities of the 1940s birth cohort.

4. **Selection of non-college white Americans across the two birth cohorts**

a. How important is sample selection and changes in composition?

The selection of non-college white people in the 1940s and 1960s birth cohorts provides the focus for this paper. It is a large group, even for the 1960s cohort. But it is still selective. College enrolment increased by more than a third over this period from 17% to 23%. There could be clear implications for wages and mortality. Possibly the low educated had 'better' underlying productivity and health in the 40s cohort. It would be useful to compute worse case bounds that
assume the highest wages and lowest mortality are selected out. It is likely though that this level of selection would have little impact.

On a related matter, why not split out high school drop-outs from the non-college group? The model does allow some differences across people in each cohort by accumulated/average earnings (human capital), but Figure 2 above for example, suggests it would be very useful to split out drop-outs.

Finally, changes in cohort size could have equilibrium effects on wages. It might be useful to see what the impact in a Katz-Murphy framework. Again, this is likely to be small, but worth ruling out.

b. Does the reason behind the decline matter?

The reasons for the decline in relative real wages for the non-college white population is taken as exogenous in the paper and is not discussed. But the cause of the decline could inform the model and change the welfare implications of the results. For example, there is evidence that the decline is related to the fall in unionized employment in the US, see Farber et al (2018). This probably reflects a change in occupational structure and changes in product demand but also suggests a change in the bargaining strength of blue collar worker and changes in the competitive nature of the labor market. Alternatively, the decline in wages could be driven purely by a decline in productivity within a largely competitive market.

In both of these cases there would be implications for the college educated wages and for rents going to the owners of capital. These changes in rents and returns (to those with more human capital and more physical and financial capital) would surely change the counterfactuals in the model. Maybe not the overall conclusion though?

c. Should we worry about changes in wage progression as well as wage levels?

The authors find that wages are key in driving differences across cohorts in terms overall family labor supply and earnings. The analysis suggests three components to this: First, the wages of men were much higher than those of women in the 1940s birth cohort. Second, the wages of men, both married and single, went down by 9%. Third, the wages of married and single women went up by 7% across these two cohorts.

Wages (log) are specified to have an age profile term, a human capital term, a persistent shock term, and a fixed effect term. Differences across cohorts occur in all these terms. But is it enough? The age profiles are assumed to be parallel shifts across cohorts. Does this look reasonable? Figure 3B above suggests there may be a ‘fanning out’ of wage profiles across education groups.

There is also an issue as to whether these changes are known at the beginning of working life for each cohort. The model assumes each cohort expects the same age profile.

d. What are the implications of sorting for family earnings and labor supply?

Marital sorting by education and wages appears to have increased in the US over this period, especially for lower wage workers, see Blundell et al (2018). At the same time the relative earnings of women have risen but its seems earnings inequality within women has risen too. The
implication is that inequality within families has fallen but overall inequality between families has risen. How does this play out for the 1960s cohort?

In terms of marriage and divorce, the authors specify a nice Markov structure for the arrival of partners and for marital breakups. What about marriage across education groups? There are more male college educated in earlier cohorts so some below college women will match with college educated men. How does this work in the model?

How large are cross-Marshallian female labour supply elasticities effects from persistent shocks to male wages on labor supply of spouses? Blundell, Saporta-Eksten and Pistaferri (2016) suggest this could be an important source of earnings response within the family, especially for low asset, low educated couples which are the focus in this study.

e. How important are deaths of despair and the value of life?

Specifying the value of life is key in this world of increasing mortality but what is the value of an extra year for the low educated in the 40s? How sensitive are the results to the assumptions on the additive utility value of life?

The adverse health issues and increased mortality identified in the Case and Deaton (2015) arise at working ages, see Figure 4 above. It would be useful to allow mortality and the changes across cohorts to occur during working life. To an extent the authors acknowledge this and note that enriching their framework to allow for health shocks during the working period and disability insurance is an important area of research to better understand the changing opportunities and outcomes of the most disadvantaged groups.

f. Does the tax function adequately capture welfare and tax credits?

Getting the tax and welfare system right would seem a first-order issue. To what extent does the tax function accurately reflect changes to Food Stamps, AFDC/TANF (eligibility restrictions), EITC (work conditions), medicaid (child and income conditions)?

In the counterfactuals it would be useful to know the the implications for tax revenues and welfare expenditures, especially due to the changes induced by the wage changes. What would it take to off-set growth in inequality of family incomes using taxes, EITC and food stamps, for example?

E. What should be the price deflator for wages?

What is the appropriate price index to use and should this index differ across education groups? Although the Figures in section 2 above adopt the same deflator for all education groups, they do use the PCE deflator. As this is a chain-weighted index, by accounting for substitution and new goods, it typically records a larger rise in real earnings. Even so the Figures back up the analysis in the paper suggesting that real wages and earnings for less educated white men across these birth cohorts do seem to have fallen.

These indices may still over-estimate the rise in living costs as they neither account for the different shares of consumption goods across education groups not the changing quality of new
goods. There is also the change in home ownership, house price changes and the tax advantage of housing in the US tax system. It is probable that the higher educated gain more from quality change as these goods are often luxuries. They may also have gained from changes in the housing market and in overall price changes.

Overall, it is difficult to argue against a strong decline in the relative economic position of the lower educated in the 60s cohort.

5. Conclusion

The rise and fall of less educated white men in the US in the post-war period is bound to attract increasing attention as the political fallout and the impact on economic and health inequalities becomes more evident. This is a thought-provoking paper that deserves a wide readership.

References


Figures

Figure 1: Real Wages in the US by Education, Race and Sex

Source: authors calculations.
Figure 2: Earnings Changes in the US by Education and Sex US


Figure 3A: Wage Profiles by Education and Age in the US

Notes: CPS, real median earnings 2016, PCE deflator, Ages 25-64. Source: authors calculations.
Figure 3B: Wage Profiles by Education, Cohort and Age in the US

Real Median Hourly Wage—Age Profile of Male and Female Workers Ages 25–64 in the U.S. by Birth Cohort

Notes: CPS, real median earnings, PCE deflator, Ages 25-64. Source: authors’ calculations.

Figure 4: All-cause mortality among those aged 45-54 in the US
Source: Case and Deaton (2015)