Social and Economic Returns to College Education in the United States

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EDUCATION

More Money
Less Unemployment
More Stable Family
Better Health
Live Longer
Fewer Crimes
More Participation Civic Life

People who have more skills and good achievement

VS

People who have less skills and average result

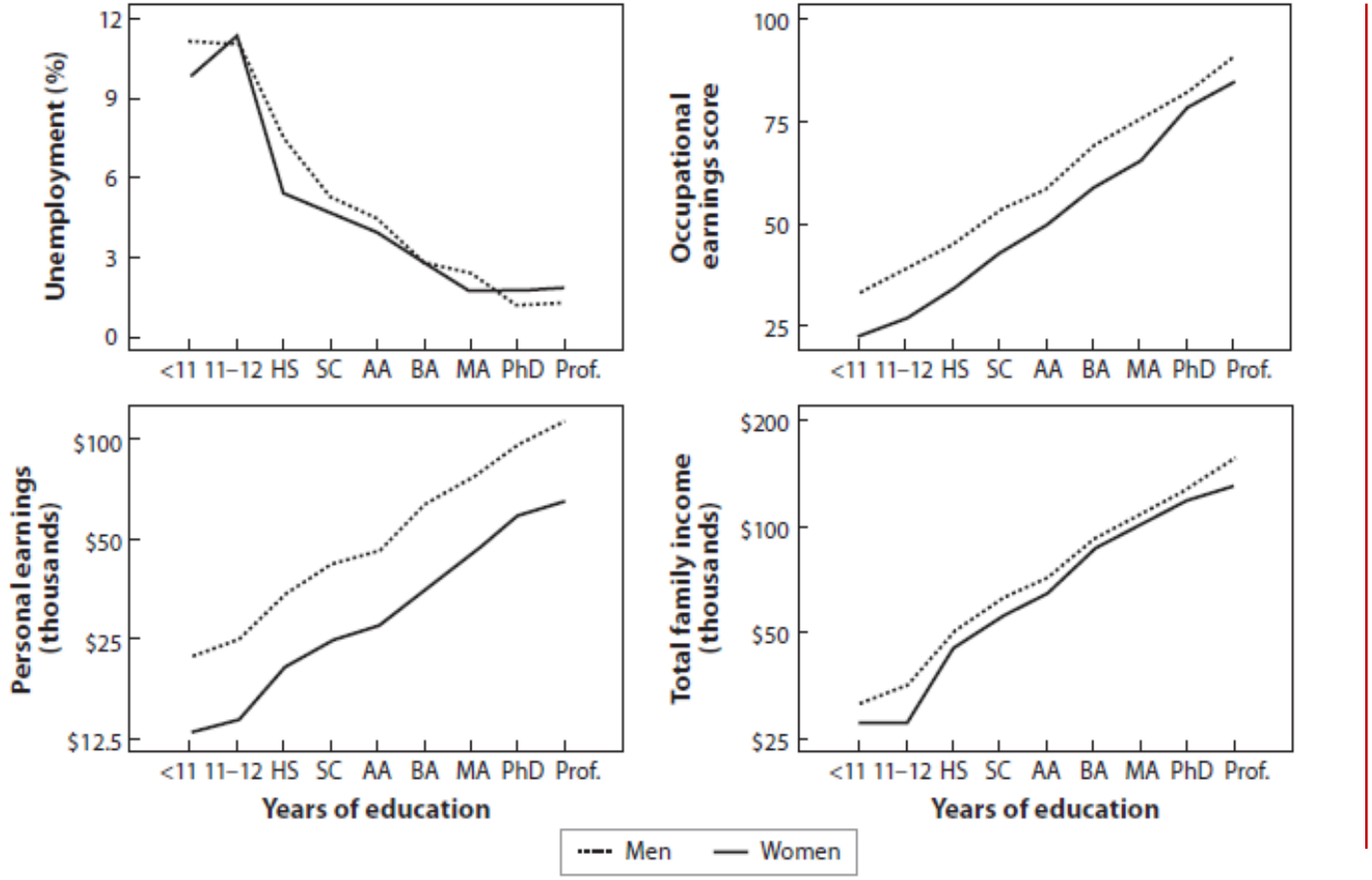
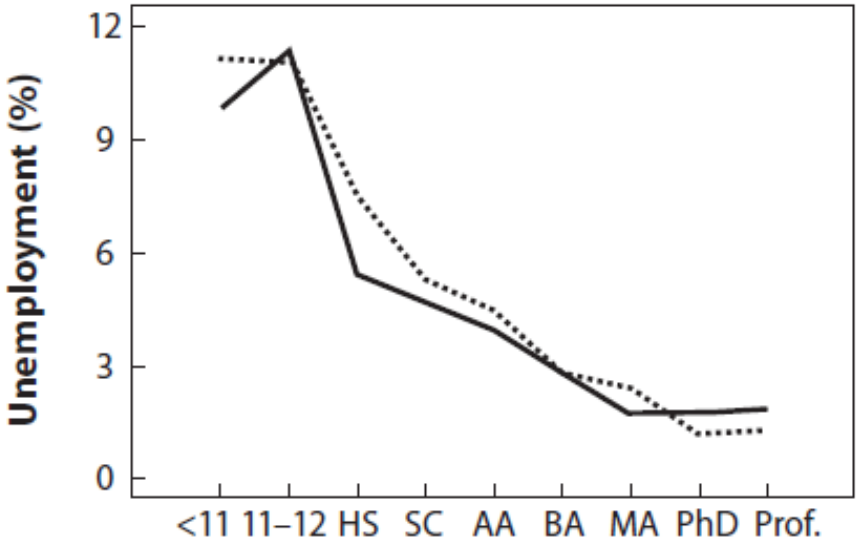
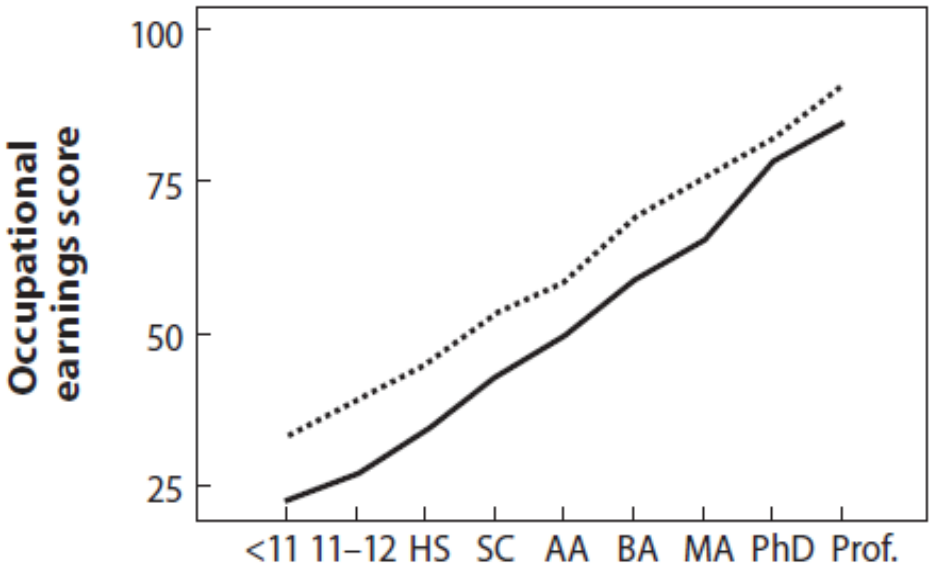


Figure 1

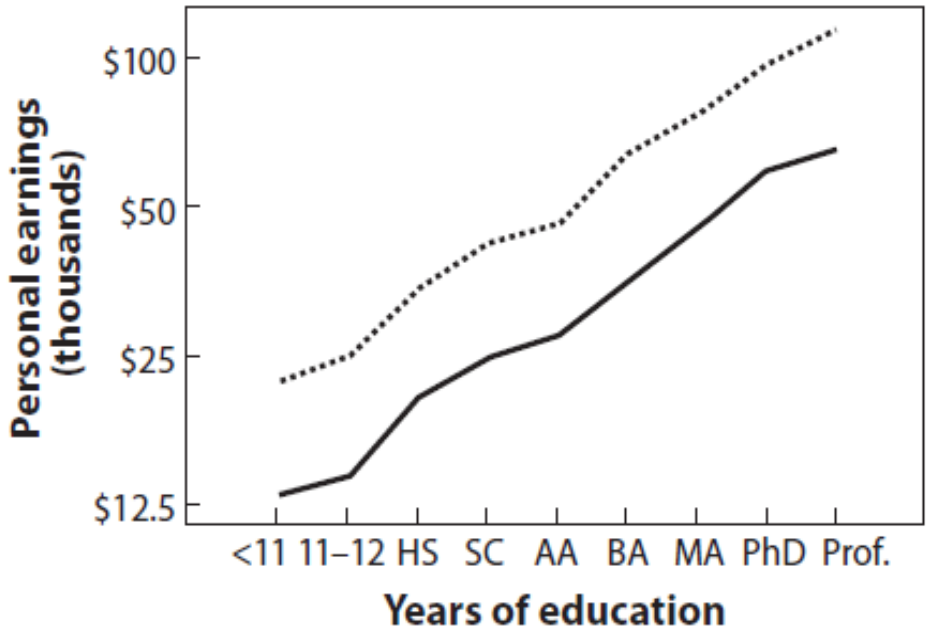
Occupational earnings score, personal earnings, family income, and unemployment by years of education and gender: United States, 2007–2009. Incomes were adjusted for inflation using the consumer price index for urban households (CPI-U) and are expressed in 2009 dollars on a ratio scale (i.e., doublings from $12,500 to $25,000 to $50,000 to $100,000 appear as equal intervals). Key to education labels: <11 = 0–10 years completed, 11–12 = 11 or 12 years completed but no diploma, HS = high school diploma, SC = some college, AA = two-year degree, BA = four-year degree, MA = master's degree, PhD = doctoral degree, Prof. = professional degree (e.g., JD, MD, DDS). Source: author's calculations from the US Census Bureau's *March Current Population Survey*, persons 30–54 years old (see King et al. 2010).



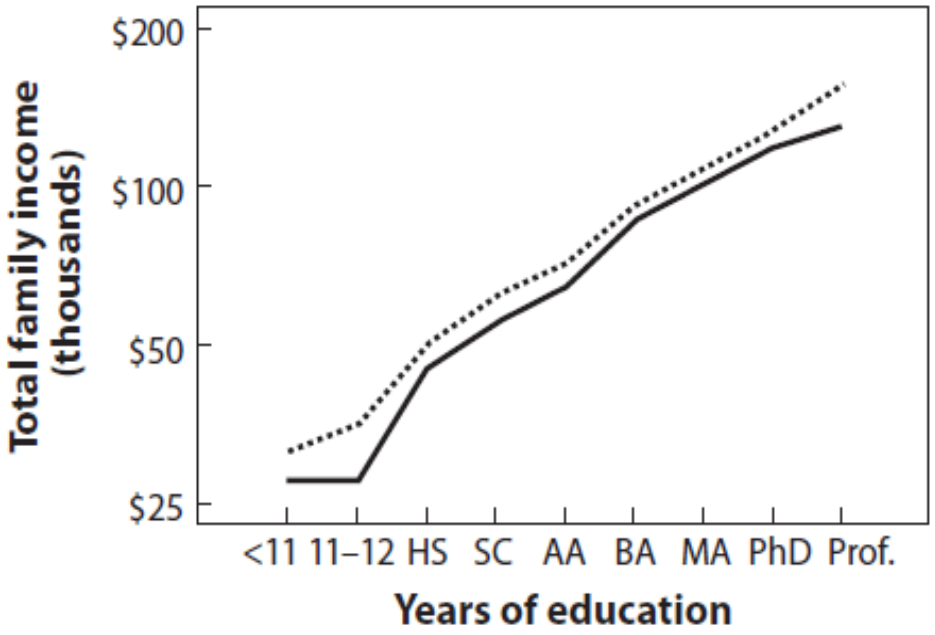
The least-educated prime-age workers were almost four times more likely than college graduates to be unemployed during the recession. Prime-age workers with no credentials had an unemployment rate of 11% over the 2007–2009 period compared with 7.4% for prime-age men and 5.2% for prime-agewomen with high school diplomas, 2.8% for prime-age college graduates, and less than 2% for prime-age workers with advanced degrees.



People with more education also had more desirable jobs. I scaled occupations according to the percentage of people in the occupation who had annual earnings above the national median; the pattern would be the same if we used any reasonable score



College graduates made more money as well. Men's and women's annual earnings during their prime working ages rose roughly 20% for each educational level. Further analysis shows that men's tendency and/or opportunity to work more hours explains almost half of the gender difference in annual earnings.



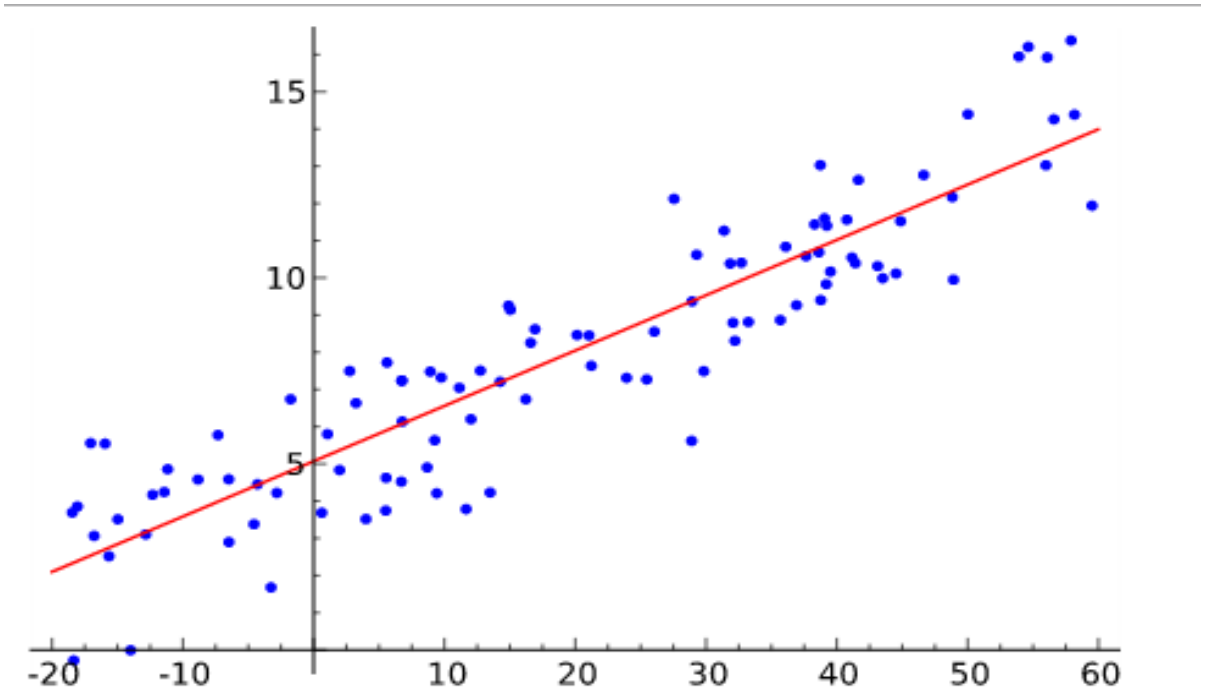
Family incomes combine educational differences in marriage and economic outcomes. That makes family income ill-suited for an analysis that seeks to parse the separate causal contributions to economic inequalities. But it also makes family income an interesting and useful summary measure of education's combined Potential.

KAYMAK (2009): Without statistical controls or carefully chosen comparisons, it is hard to say if getting more education causes pay to increase or spuriously reflects the influence of abilities correlated with getting more education

GANGL (2010): The burden of proof is much higher in a causal statement than in a descriptive one. The first step is to base comparisons on situations in which everything but education is equal by controlling for observable differences that correlate with education.

Instrumental variables

- People born at the beginning of the year
- People sent to fight in Vietnam
- People who live far from the university



Attewell & Lavin (2007) tracked women from the first cohorts of students who entered the City University of New York (CUNY) under its open admissions policy. They compared women who would have been rejected under the previous admissions policies with those who would have been admitted under those policies and with a nationally representative sample of women.

Bowen & Bok (1998) studied students who gained admission to 28 of the nation's most selective liberal arts colleges and research universities; all the schools used some form of racially sensitive affirmative action to increase student body diversity.

Maurin & McNally (2008) compared French college students from the cohort of 1968 with those in cohorts before and after this year because themass protests ofMay 1968 disrupted college entrance exams and allowed students who might not have done well on such exams to gain university admittance.

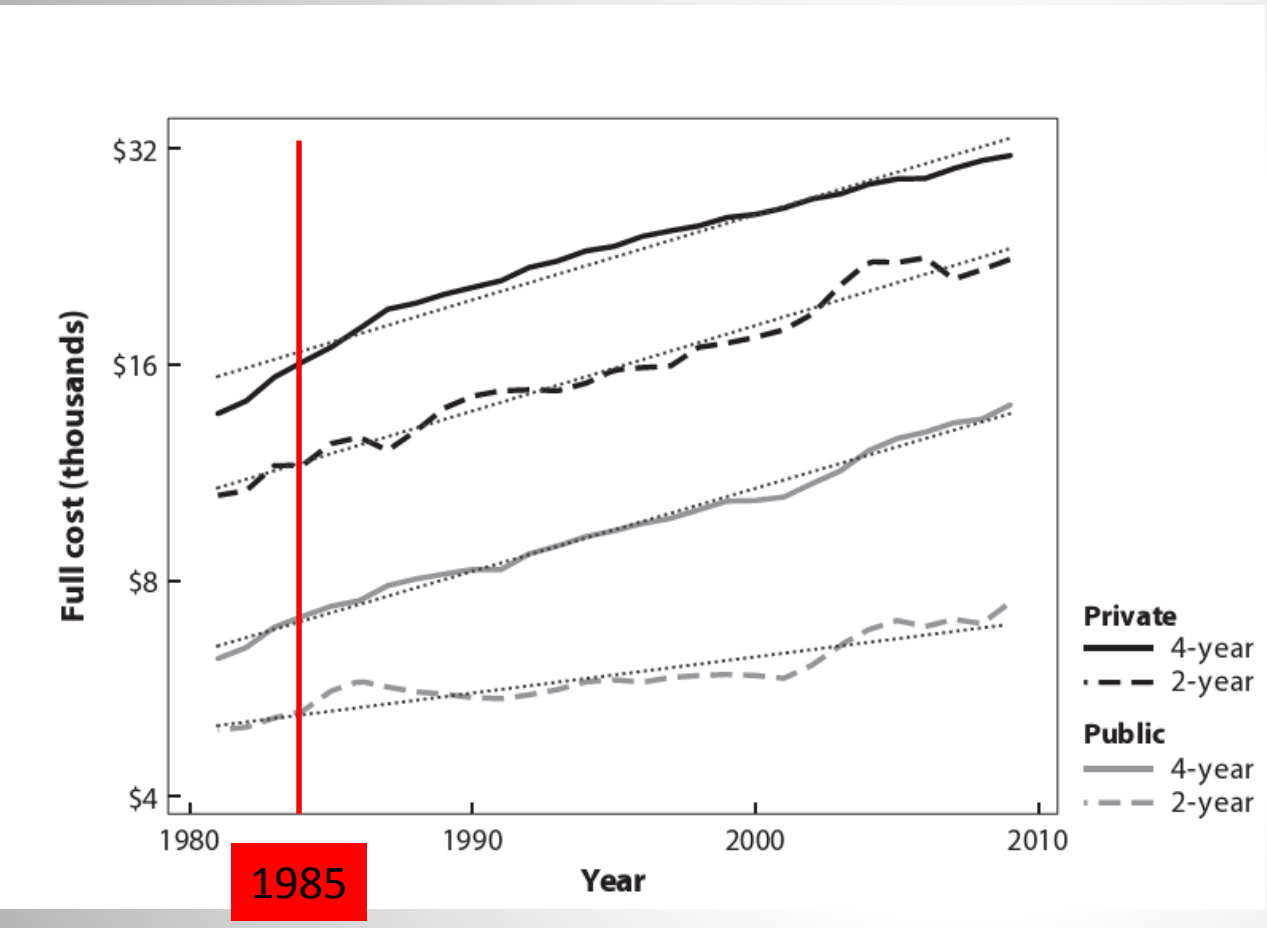
Brand & Xie (2010) used two American data sets to make matches and estimate the effect of education this way. They found that the effect of education was biggest for students who were least likely to go to college and smallest (though still significant and substantial) for students most likely to go.

Young people with the most abilities may learn and ultimately earn the most, but their education augments their success less than it augments less-able people's success (in the range, roughly, from the median to the top of the ability distribution). Secondary education makes the biggest difference for people with modest abilities, and that is probably true of college, too.

EUROPE Inflation on Educational Credentials (IEC)	**VS**	USA Skill-Biased technological change (SBTC)

Can the Positive Returns to Education Offset Escalating Costs?

College costs increase



Type	Year	Cost
Private (127% increase)	1981	13,700 $
	2008-2009	31,300 $
Public (125% increase)	1981	6,200 $
	2008-2009	14,100 $

Some points about figure

main cause -> Tuition hikes

Room and Board increased at roughly the rate of overall inflation

Data is an average, most of the students pay less

There are financial aids, scholarships and grants based on **academic performance** and/or **financial need** that causes the overall cost to reduce to 64 % of total

[Room and board]

- in exchange for money, labor or other considerations, a person is provided with a place to live as well as meals
- In some countries this is translated literally as "room and food".
- [Costs an average $9,999 in 2014-2015 (according to U.S. News data)]

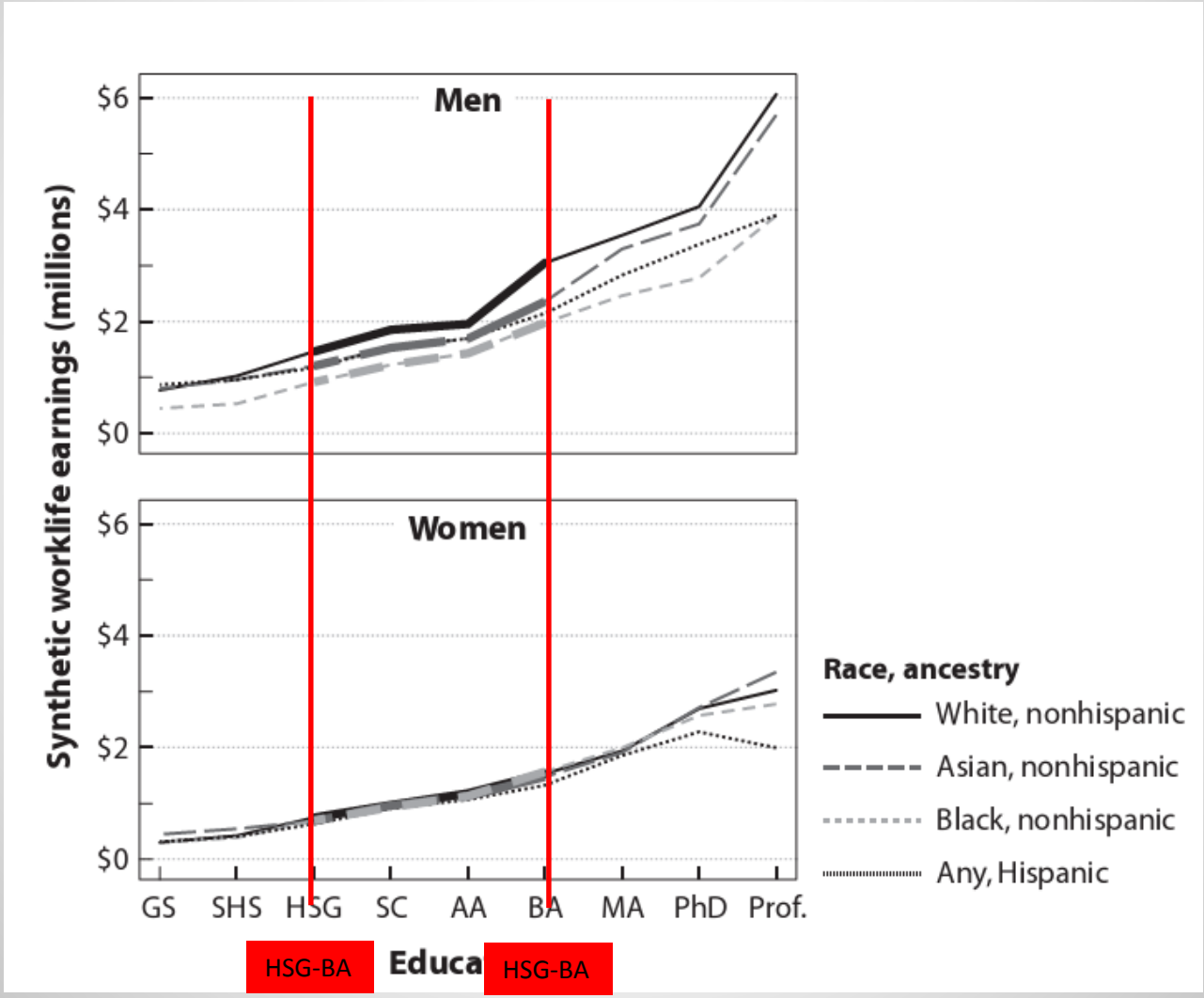
- Full cost of private and public higher education rose more or less in tandem throughout the 30-year period.
- Private education's cost rose slightly faster than that of public education in the 1980s
- Public education's cost rose slightly faster than that of private education in the most recent decade
- Only the public, two-year (community) colleges held tuition down for a significant period; the full cost of a community college education rose only as fast as other prices for the 15 years from 1985 to 2000.

Inspiring questions

- Are these increases offset by the returns students can expect?
- Are today's full costs too much to pay up front for an uncertain increase to lifetime earnings?

- Academic researchers have given the difference between investment and return surprisingly little attention.

Work-life earnings by education, race, ancestry, and gender: United States 2006–2008



Why there is more differences for men compared to women?

Cost and returns of education

- **Even the most cautious reading** of the evidence confirms that earning a college degree will pay back the cost of obtaining it several times over.
- In a 40-year work life, men with college degrees can expect to earn $1.1 million **more than** high school graduates.
- Women with college degrees can expect to earn $636,000 **more than** high school graduates over their lifetimes.
- Average **male** college graduate's degree will yield roughly 7.7 times what it might have cost
- Average **female** college graduate's degree will yield 4.1 times what it might have cost

- The census figures for both college graduates and high school graduates assume a 40-year work life; the time out of the labor force while in college is offset by a later retirement age for college graduates in these calculations.

- Kane (1999) argues for excluding room and board from calculations like these, reasoning that people have to pay for food and shelter whether they enroll or not. Removing living expenses would further increase the estimated return on educational investment.

Limitations of The US Census Bureau's estimates

- Lifetime earnings were extrapolated from a single year's earnings of men and women at different ages.
- The earnings of today's older men and women may or may not predict the earnings today's young people will have in the future.
- Offsetting the uncertainty is the fact that these patterns have grown clearer over the past 25 years.
- In conclusion, the returns to higher education are large enough to offset even the full costs students now face.

The Benefits of Elite Colleges

- Students strive for famous colleges.
- At the most prestigious and probably throughout the range of selective colleges and universities, applications have risen rapidly, whereas the **number admitted has increased much less**.
- Highly selective, elite colleges offer two important benefits to students: graduation is more certain and investment per student is higher
- Hoxby calculated that the well-endowed, expensive universities actually invested $15,000 more per student each year than they charged.

- Finding an effect of graduating from an elite college on earnings has been surprisingly difficult.
- Literature has as many null findings as positive ones.
- Dale & Krueger (2002) studied college freshmen who were admitted to an elite, selective university. Freshmen who chose to enroll at a less selective university—despite admission to the elite one—subsequently earned as much as those who actually enrolled at the elite school (Dale & Krueger2002). **That is the strongest null evidence.**

- If earnings correlate with attributes of the **schools people did not attend as well as the one they attended**, then selectivity is probably telling us more about the students than their schools.
- Dale & Krueger (2011) interpret this pattern as evidence of unobserved student abilities.

Does higher college quality = higher earnings?

- Graduates from colleges and universities that were in the **top 5% of the quality distribution** earned an average of 12% more per hour than graduates of average-quality universities. The 12% boost was statistically significant but disappointing next to the 56% investment advantage that they received.
- And Black & Smith's (2006) results do not control for the quality of universities that students applied to but did not attend, so they could not control for unobserved abilities as surely as Dale & Krueger (2011) did

Marriage prospects

- A degree from an elite college increases marriage prospects.
- For women, graduating from an elite college or university increases the probability of marrying a man with a high income
- For men, graduating from an elite college or university increases the probability of marrying a woman from a privileged background
- These patterns might well increase family income, even if the elite college does not increase earnings.

Origin, Education, and Opportunity

- The opportunity to pursue an advanced education is profoundly and persistently unequal.
- This fact alone has made some sociologists skeptical of the **efficacy of education**.
- But that skepticism misses a key point. Education's role in transmitting the advantages of social origins depends on **inequality of educational opportunity** as well as on the **economic value of education**

Simple version of Blau-Duncan model

education (E) depends on socioeconomic origins (X), abilities (A), and variation in education that is uncorrelated with either family socioeconomic status or academic ability (ζ):

$$E_i = \beta_{10} + \beta_{11} X_i + \beta_{12} A_i + \zeta_i. \quad 1.$$

person's success in the form of a desirable job, salary, etc. (Y) depends on socioeconomic origins, abilities, education, and the myriad causes of success that are uncorrelated with origins, abilities, and education ()

$$Y_i = \beta_{20} + \beta_{21} X_i + \beta_{22} A_i + \beta_{23} E_i + \epsilon_i. \quad 2.$$

The correlation across generations

$$r_{xy} = \beta_{21} + \beta_{22} r_{ax} + \beta_{23} (\beta_{11} + \beta_{12} r_{ax}). \quad 3.$$

If education has no net effect on the outcome of interest after controlling for socioeconomic origins and abilities, then $\beta_{23} = 0$, and all the terms involving education drop out of Equation 3

Thus, education is not the key to persistent inequality unless it directly affects jobs, pay, and other outcomes.

Skeptics and Critics

limits of mass education

- Some serious sociologists noted **how few of the skills** that define academic success translate to skills used on the job.
- The disjuncture led them to doubt that education caused success.
- Instead, education represented to them a tool elites used to **limit opportunity to people like them**.

Collins (1971)

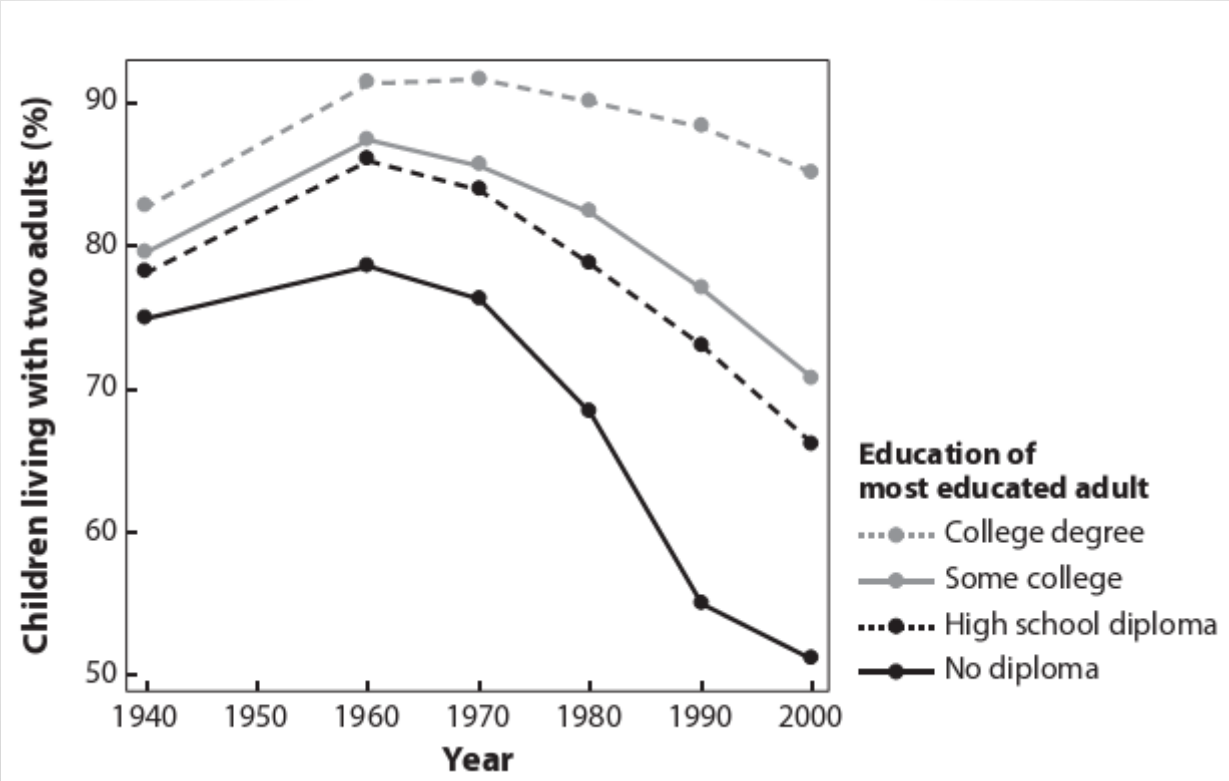
- 3. "The main activity of schools is to teach particular status cultures, both inside and outside the classroom. In this light, any failure of schools to impart technical knowledge (although it may also be successful in this) is not important; **schools primarily teach vocabulary and inflection, styles of dress, aesthetic tastes, values and manners**"
- 4. Education allows employers to select workers deemed to be appropriate on the basis of status group membership and **then teach the job skills on the job**. "Educational requirements for employment can serve both to select new members for elite positions who share the elite culture and, at a lower level of education, to hire lower and middle employees who have acquired a general respect for these elite values and styles"

My Conclusive Remarks

- This paper takes "meritocracy" in society for granted, we know that it is not the case in most of the countries and situations
    - As an example high school graduates and drop outs earning more because of their family relationships … or the matter of heritage without qualification …
- In some parts of labor market, higher degrees are not being hired because of the higher expectations they have and higher costs they can bring to employers (little difference of B.S and M.S in engineering
- Refer to Oscar Luis's idea of "Culture of Poverty"; lower class children cannot postpone their current needs in hope to achieve higher tomorrow (an egg today or a chicken tomorrow ?) (**even though they would know its benefits**)
- Due to mismatch in skills needed in labor market and skill-set of graduates, some employers prefer to hire them at lower ages to have more time for during job training to nurture their skills (they are less firm-minded and more ready to learn new skills)

- “Those who know more about these things pull farther ahead, all else being equal. An educated person invents things, works around tough problems, understands directions, documents tasks, misses less work, and puts in a more nearly full day on the job—in short, educated workers possess the cognitive and non-cognitive skills that employers value”
- “Metropolitan areas, states, and nations gain from having educated populations.”;
    - Do they ?
- “Higher education causes good things to happen.”
- All above quotes seem prescriptive and emotional to me !

- Why is all of them decreasing?
- Can be all due to another variable not being considered here?
- Possibly using an IV (Instrumental Variable) could shed some light…



Health outcomes

- Is this claim based on subjective health or objective measurements?
  - What about stress, insomnia and sleep quality indexes, smoking habits, …?

Social capital and morale

- College graduates participate more fully in civil society and politics
- The question is whether education actually increases participation or **perhaps educated people just have an attribute that increases both their education and their participation**.
- I think his question here, can be asked throughout the paper itself

Social returns

- What are we talking about?
- the main underlying idea is that “all gain when more are educated”
- Education as a positive externality

Social returns to education. Four dimensions

- Community
- Family
- Health
- Social capital and morale

The impact of education on community

- Moretti (2004): increasing wages of high school graduates and high school dropouts with increasing proportion of college graduates
- Need to control for the presence of unobservable characteristics of individuals and cities that may raise wage and be correlated with college share (ability bias, city-specific shocks)
- Two IVs: lagged city demographic structure (1970 age structure) and presence of a land-grant college
- Estimated effects: a percentage point increase in the supply of college graduates raised high school dropouts' wages by 1.9%, high school graduates' wages by 1.6%, and college graduates' wages by 0.4%

The impact of education on community. Explanation of the results

- Spillover effect - productivity gains
- Main mechanisms under these productivity gains:
- social pressure
- stimulation of coworkers by highly productive workers
- learning by observing
- repeated interaction
- Murdock et al. (2003): returns to higher education in Texas equal to $4 for every $1 invested
- Brady et al. (2005): returns to higher education in California equal to $3.65 for every $1 invested

The impact of education on community. A general conclusion

- In presence of such productivity gains, having a more educated population, with increasing educational attainment, might be a key causal factor in overall economic growth
- At the macrolevel, “metropolitan areas, states and nations gain from having educated populations”

Education and family

- Children whose mother is a college graduate have higher chances to live with two adults than children whose mother is a high school dropout
- Issues of causation and selection. It is difficult to separate causal effects of school on fertility and vice versa
- Brand and Davis (2011): propensity score to estimate the effect of education on fertility
- Results: causal heterogeneity. Entering college at age 19 reduces the total number of children born, especially for those women traditionally unlikely to enroll in college
- Does education increase the stability of marriages? Educational homogamy ---> reduced probability of divorcing

Education and health

- Are college graduates helathier than others?
- Issues of reverse causality
- Lleras-Muney (2005): a study based on the use of state-to-state variations in mandatory schooling as IV to capture the impact of education on mortality. More education lowers the risk of premature death
- Education increases prevention

Education and social capital

- Milligan et al. (2003): IV estimates. More education increases voter registration in the U.S.
- Hauser (2000): education stronger than abilities for young people's social capital
- Brand (2010): college degree increases the civic participation. Causal heterogeneity: the effect is stronger for non traditional graduates.

Conclusions

- Centrality of education in the process of acquiring skills
- The causal impact of education is now known. What about the causal mechanisms of education? A focus on the variety of educational experiences
- Interaction between ability and education. Important policy implications deriving from the negative selection hypothesis. The desirability of Obama's administration goal of seeing half American young people succeed in college

Thanks for your attention