

Educational Expansion, Increasing Private Returns, and Unemployability

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- Evidence for a number of countries: As educational expansion has taken place and the labor force has gotten better educated, private returns to education have increased.
- A number of other countries: private returns have decreased.
- (Note: Many of these are returns on the benefit side only - “Mincer returns”, not “internal rates of return”).

- An example of increasing returns: Australia in the 2000s, from 10% per yr of educ to 14% (Montenegro and Patrinos, 2014).
- Another example of increasing returns: U.S. from 1964 to 2009: (Acemoglu and Autor, 2011). Their principal findings in this regard:
 1. College and post-college wages rose relative to wages for those without a four-year college degree.
 2. The major proximate cause of the growing college/high school earnings gap is not steeply rising college wages but rapidly declining wages for the less-educated.

Trying to understand increasing private returns using a standard multimarket textbook model:

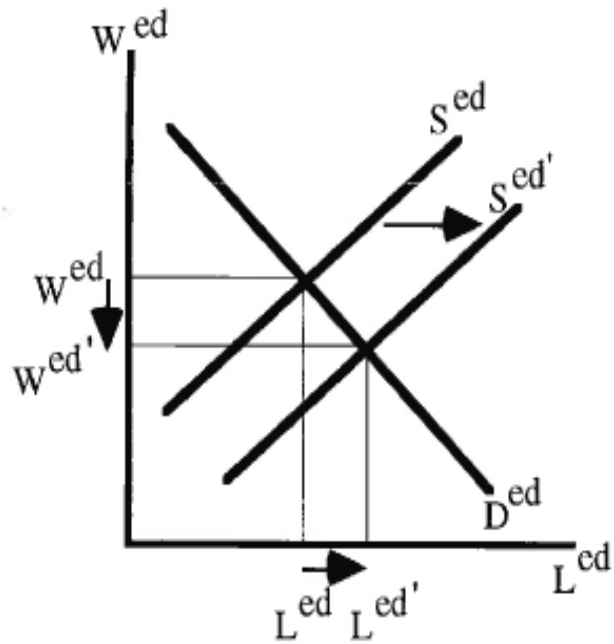


Figure 1.a.
Educated Persons'
Labor Market

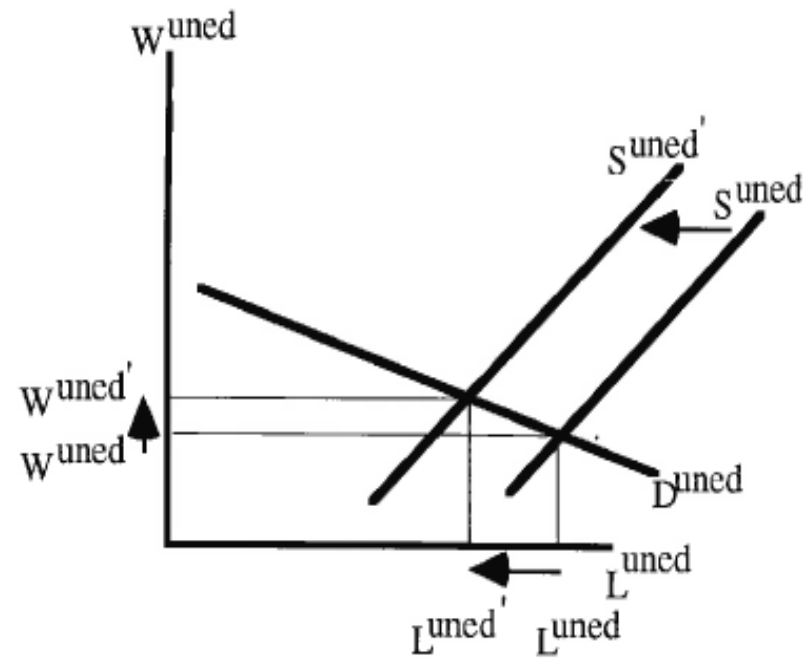


Figure 1.b.
Uneducated Persons'
Labor Market

- The model in Figure 1 doesn't work to explain increasing private returns to education. It has returns to education falling as more people get educated.
- What could produce increasing returns: shift D^{ed} rightward and D^{uned} leftward by enough.
- One explanation in the literature: skill-biased tech change.
- This explanation works through the D side of the L mkt.

Toward an alternative class of multimarket models:

- An alternative explanation pursued here: Hold the D side of the L mkt constant. Educ expansion can produce increasing returns to educ through the workings of the supply side of the L mkt, keeping the D side of the L mkt unchanged.
- The key mechanism at work here: Preferential hiring of the better-educated. “Bumping”

- An example of such market-level effects: Studies in U.S. – “The Downward Ramp” – The New York Times, June 10, 2014: Drying-up of cognitively-demanding jobs is having a cascade effect → College graduates are forced to take jobs beneath their level of educational training → This cascade eliminates opportunities for those without college degrees who would otherwise fill those jobs → These displaced workers are then forced to take even less well-paying jobs → At the bottom, the unskilled are pushed out of the job mkt altogether

INFORMATION AND THE CHANGE IN THE PARADIGM IN ECONOMICS

Nobel Prize Lecture, December 8, 2001

by

JOSEPH E. STIGLITZ

Education as a screening device

The newly independent Kenyan government was asking questions that have never seemingly been raised by their colonial masters, as it attempted to forge policies which would promote their growth and development. How much should it invest in education? It was clear that a better education got one better jobs – the credential put one at the head of the job queue. Gary Fields, a young scholar working at the Institute of Development Studies there, developed a simple model [subsequently published as Fields (1972)] suggesting that the private returns to education – the enhanced probability of getting a good job – differed from the social return; and that it was possible that as more people get educated, the private returns got higher (it was even more necessary to get the credential) even though the social return might decline.

Beaudry, Green, and Sand, JOLE, 2016

“Having a college degree is only partly about obtaining access to high-paying managerial and technology jobs—it is also about beating out less educated workers for barista and clerical-type jobs.”

The analysis here:

- The general class of models used:
 - Micromotives and macro behavior (Schelling).
 - Corner solutions and interior solutions.
- Start with a dualistic L mkt with better jobs and poorer jobs. Terminology I'll use: “Modern sector” and “agriculture”.
- Begin with the Harris-Todaro model. HT had all workers identical.
- The extension here: some workers are better-educated (“educated”) than others (“uneducated”).
- Educational expansion in models with preferential hiring of the better-educated: as more workers are educated, not only do the L mkt outcomes for educated workers change but the L mkt outcomes for less-educated workers change.

- Three models developed here: educational expansion in models with educational differentials among workers and “bumping”.
- All involve a negative externality of education, unlike the usual positive externalities of education emphasized in the literature.
- Three variants – differ in terms of what is going on in agric:
 - Model 1 – Unlimited fallback options in agriculture at a constant wage
 - Model 2 – Unlimited fallback options in agriculture at a changing wage
 - Model 3 – A limited number of fallback jobs in agriculture owing to a rigid wage above the market-clearing level
- The equations of the model: see the paper handout.

- Three zones: what's going on in general.
 - Zone I: One more person is educated. The number of better jobs does not increase one-to-one. Preferential hiring of the better-educated has adverse consequences for the less-educated.
 - Zone II: There now are so many better-educated persons that when there are more of them, they all find it advantageous to try to get hired in the better-jobs sector. Educated unemployment increases. But as a consequence of this behavior of the better-educated, the size of the less-educated labor force decreases, with the possibility (in some models) of the less-educated workers doing better than they had previously.

- Zone III: Now, there are even more better-educated persons – so many, in fact, that they start using their education to get hired preferentially for lower-level jobs – think barista, for example. Workers who lack this level of education now stand less of a chance of being employed in lower-level jobs. Some or all of them may be rendered unemployable.

- Result of Model 1: no increasing returns, no unemployment
- Models 2 and 3: zones with increasing returns
- How educ expansion can lead to falling expected wages for the uneducated while retaining full employment (Model 2)
- How to get literal unemployment (Model 3)

Conclusion

- Principal contribution of this paper
 - Put into the literature a class of models in which, as more people get educated, the private return to education rises.
 - This happens only in certain zones. Non-monotonicities abound.
 - Explanation offered here: “bumping”.
 - As more people are educated, more preferential hiring takes place, leaving fewer jobs for those without education.
 - The expected labor market returns from being uneducated thereby fall, possibly reaching zero in the limit (“unemployability”).
 - The economy may move to a corner solution in which everybody wants education, because employment prospects are so dismal for those who don't have it.

- Promising direction for future research: Build a model of “employment twist” in favor of the well-educated due both to changing occupational demand structure and to the relatively greater supply of highly-educated people.
- What this paper has been about: private returns to education. Another important direction for future research: social returns to education, using multimarket models of this type.

Postscript - A standard syllogism:

1. Throughout the world, workers with more education on average earn more.
2. An individual can get ahead by getting more education.
3. As a matter of social policy, educational systems should be expanded to enable more individuals to get ahead.
4. Plus, an extra bonus: the benefits of a well-educated populace.

Problems with the standard syllogism:

- Is there a causal relationship, i.e., does more education cause an individual to get ahead, and if so, by how much?
- Toward a better B-C analysis:
 - Need to consider costs and not just benefits.
 - Need social B-C analysis, not just private B-C analysis.
- Lack of market-level effects – the focus of this paper.