**Skill Mismatch in the United States**

In this project I try to look at mismatching between college majors and the choice of careers among American workers.

My questions are:

1. What causes mismatching?

* Is it more common among blacks for examples?
* Does access to college advisors improves it?
* Date of graduation as a proxy for financial situation of the economy
* High school counselors
* Is there peer effect?
* Role models
* Parental education
* Siblings’ education
* Credit constraint
* Tracking (especially if I want to do cross-country analysis)
* Job market signals (how well informed students are with respect to job prospects of their majors)
* At what year students choose their major (the later the lower the mismatch is)
* The major studied. If choosing majors that are mickey mouse majors.
* Studying minors
* not being able to find the job that matches skills due to reasons such as economic conditions
* Millenials might have more options so there is more likely to switch jobs.
* lacking the experience or qualification to find work in one's field.
* choosing non-related job for financial reasons
* major is too general or useless
* living in urban versus rural areas (Research by Abel and Reitz)

1. Are earnings lower for those who mismatch?
2. Do those who have minors have better job growth (good when we have data on earnings for more than one point in time)?
3. Is there more job growth if students graduate from majors that teach them skills rather than any specific thing? Physics versus statistics
4. If mismatching causes lower wages, what is the overall cost to the society as a result of mismatching?
5. Do models of mismatching suffer from OVB? If you only include mismatching index as the explanatory var and not the quality of education or ability or other factors, are you really capturing the effect of mismatching?
6. If a person who graduates in physics but does finance, should we really call it a mismatch?
7. What is the effect of mismatching on job satisfaction.

At the end I would like to outline the ways we can improve matching skills and education:

1. Better counseling
2. Alternative education and credentials (<https://www.census.gov/prod/2014pubs/p70-138.pdf>).
3. Online education

Read the papers that have cited Robst’s paper.

**Introduction**

The relationship between college education and wages has long been studied and there is a general consensus that college, in general and broad terms, pays (mention BLS on college pays). It has been reported that college increases chances of getting a job and job satisfaction. A recent report by Bureau of Labor Statistics (BLS: <http://www.bls.gov/careeroutlook/2014/data-on-display/education-still-pays.htm>), represented in Table 1, shows that those with a bachelor’s degree earns on average $457 less weekly and have 3.5 percentage points less unemployment. More complicated analysis on the effect of education on earnings, too, reveals a significant impact of college degree on individuals’ incomes.

Table 1: Unemployment rate and earnings for different educational groups

|  |  |  |
| --- | --- | --- |
| **Education level** | **Unemployment rate (%)** | **Median weekly earnings ($)** |
| Doctoral degree | 2.2 | 1,623 |
| Professional degree | 2.3 | 1,714 |
| Master's degree | 3.4 | 1,329 |
| Bachelor's degree | 4.0 | 1,108 |
| Associate's degree | 5.4 | 777 |
| Some college, no degree | 7.0 | 727 |
| High school diploma | 7.5 | 651 |
| Less than a high school diploma | 11.0 | 472 |
| All workers | 6.1 | 827 |

Source: BLS, 2013

One should keep in mind that education alone does not guarantee success in the job market. The chosen major studied in college and quality of education (traditionally measured as reputation of college attended but also other factors) are known to impact earnings and unemployment as well.

However, much of the research relies on traditional measures of educational attainment such as having a college degree and quality of education measured in terms of university rankings, GPA, years in college, etc. (cite papers here). In recent years, there has been an attempt to look at the link between college education and labor market outcomes from a different perspective: mismatching.

Mismatching is defined as blah blah. In this research, I attempt to look at what factors cause mismatch between education, skills, and jobs and revisit the ways mismatching affects individuals’ job market prospects.

Also talk about signaling effect of college degree. So in overall, we have three factors: whether you have a degree (that’s the signaling effect), matching, where you got your degree as an indicator of quality but also as an indicator of signaling. Your grades too as a quality factor. In overall try to figure out all the ways a college degree affects income.

**Definition of mismatch**

A portion of observed mismatching can be due to the frictions in the labor markets even when unemployment is low. This phenomenon increases mismatching even more during the times of economic recessions because of the “domino effect.” For example think of the academic job market when universities prefer to freeze expansion of faculty members due to budgetary reasons. This means that fewer Ph.D. graduates will land a job in universities and colleges and will choose to work either in industry, government sector, or community colleges. Consider those who choose to teach at community colleges. Knowing that it used to be common for community colleges to hire those with master’s degree as faculty, this means job applicants with master’s degree will be less appealing for community college. As a result, some may choose to teach in primary and secondary education which again make it harder for other applicants to apply for teaching jobs.

“Highly educated job seekers may settle for jobs below their education level due to the frictions in the job market even when the unemployment is low, leading to a high degree of overeducation in the labor market and crowding out job seekers who have lower level of education. This means many jobs could be filled by overqualified candidates leading to possible inefficiencies in the economy. “

**Literature Review**

A good literature review in Lamo and Messina (“Formal education, mismatch and wages after transition”).

**Mismatching**

Based on the U.K. Office for National Statistics, in 2013, about half of employed college graduates were working in a job in which the associated task does not normally require any knowledge and skills necessarily developed through higher education. The increase in this share from 37% in 2001 to 47% in 2013 clearly shows the new phenomenon of overeducation as a form of mismatch.

Based on a Pew Research Center report, most workers believe that their education has been at least "somewhat helpful" on the job. Around 47% of college graduates ages 25 to 32 reported that their schooling has been "very helpful" in graduating them ready for a job or career. However, I believe that the sense of helpfulness is a subjective concept. There is ambiguity as to how much college education improves individuals’' non-cognitive abilities (including ...). How should we go about finding the link in a more quantitate way? Or have a better quantitative understanding of measuring helpfulness? How do we measure skill mismatch between college education and careers? also there might not be a good sense of counterfactuals. I studied physics and worked in the financial sector and I call my college education helpful but as opposed to what? What if I studied financial engineering in college instead of physics?  
  
  
The self-reported perceived mismatching is higher among those who studied liberal arts, social sciences, and education compared to those who studies science and engineering.   
  
"Even though the current Millennials ages 25 to 32 are better educated than the generations of young adults who preceded them, the survey found only one significant generational difference in the overall perceived value of their education in  
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preparing them for a job and career—some 41% of Millennials ages 25 to 32, 45% of Gen Xers and 47% of Baby Boomers say their schooling was “very useful” in getting them ready to enter the labor force. A somewhat larger share of Silents than Millennials say their education prepared them very well (50% vs. 41%)"  
  
"According to U.S. Census Bureau data, the share of 25- to 32-year-olds with a college degree increased from 13% in 1965 to 34% in 2013."  
  
"Turning to demographics, Millennial college graduates are significantly less likely than older generations to currently have a job “very closely” related to their major (36% for Millennials vs. 54% for older adults)."  
  
Based on the same report, around 29% of college graduates say that if they selected a different field of study they would have been more prepared fot eh kind of job they wanted.   
  
Although Pew studies are not reliable, they are good to raise questions. For instance, surveys based on self reports rely on subjective understanding of mismatch.

Is there any statistics as to how many people change their major in grad school? This is a good measure of mismatch!  
  
  
be careful that job is different than career.  
  
Tehre is large ethnical differnces on skill mismatch. It's a good topic to talk about when talking about the causes of mismatch.  
  
Minortiy college graduates are more likely to believe a different major would have better prepared them for the type of job they wanted. (39% versus 26% of whites)

**Why is mismatching important?**

Part of the mismatch is due to the educational system. The problem is that the system is not in sync with employer needs. The growing increase in corporate training programs supports this hypothesis. This might have a cost on the society in efficiency terms.

The mismatch is arguably more common among students coming from lower-income families. As a result, we can think of mismatching in education and skills as a cause of income inequality.

Mismatching not only has economic impacts on it also has significant impacts on happiness and job satisfaction.

One evidence to support this hypothesis is that those who hold a graduate or professional degree are the most likely to be very satisfied with their current jobs than undergraduates (cite Pew Study again). I believe the fact that those continuing to a graduate degree make a more informed and conscious decision about their field explains this satisfaction. The other reason of course is that they tend to earn more (or have more benefits), which translates into more happiness. Another reason might be that individuals' favorable judgment about the usefulness of their education for their career increases as the get more education. also higher education gives them more power to choose the type of job they want.

“Lower job satisfaction and higher turnover may reduce formal training and lower labor productivity and so firms' profits”

job turnover is another consequence of mismatch.

**Policy proposals**

“Skills mismatch on the job can be a temporary phenomenon: sometimes, for example, the demand for skills takes time to adjust to the fact that there is a larger pool of highly skilled workers available. At the same time, the mismatch between workers’ skills and their tasks at work can also adversely affect economic and social outcomes. Over-skilling can be a problem because it may lead to skills loss and a waste of the resources that were used to acquire these skills. In addition, over-skilled workers earn less than workers who are well-matched to their jobs and tend to be less satisfied at work. This situation generates more employee turnover, which is likely to affect a firm’s productivity. Under-skilling is also likely to affect productivity and slow the rate at which more efficient technologies and approaches to work can be adopted.”

While vocational training can potentially be one of the best approaches in skills development, it is undoubtedly perceived as less valuable by employers. This perceived value of such programs depends among different societies depends on quality of those programs and the cultural attitudes towards more practical education. While we have a long way to have an ideal high quality and more directed vocational training, we can improve the public perceptions of those programs by providing more information about such programs.

More focus on internship programs in colleges and schools.

**Data**

Talk about the problems with O\*Net data: one of the problem is that with jobs with workers with less education there might be less knowledge about what is needed for the job.