

# **Perspectives on Computational Research**

## **Week 5: Literature Review**

**Xingyun Wu**

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### **Research Topic: the impact of college majors on geographical mobility**

#### **1. Research Question**

My research question is: what would be the impact of college majors on geographical mobility from original location to occupational location. In other words, is there any difference in geographical mobility among college majors? The focuses of this literature review are theoretical foundation and relevant topics of empirical research. Discussions on methodology would be left to methodology and data part in the coming weeks. In the following parts, I would present firstly theories on migration/geographical mobility, secondly existing studies on the topic of education and geographical mobility, then existing studies on the topic of major and mobility, and finally a brief summary.

#### **2. Review on Migration or Geographical Mobility Theories**

The concepts of migration and geographical mobility are different but highly related. Both of them refer to the movement of people from one location to another. But migration concerns moves across a boundary, while geographical mobility concerns short and long-distance moves (United States Census Bureau, 2017). In this study, I would treat migration as a subset of mobility, thus would refer to theories and literatures of both migration and geographical mobility.

This is an important field of demography, economy and sociology. Demographers at the U.S. Bureau of Census have made great contribution to this field (Bogue, 2009), such as Henry S. Shryock (Shryock, 1964; Thomas & Shryock, 1965) and Larry Long (1988). According to Larry Long (1988), Migration studies cares about who moves where, why they move, and how they decide to move or stay, and how they pick one area rather than another.

Theories of migration could date back to more than 100 years ago. E. G. Ravenstein's three articles form the basis of most modern research on migration (Grigg, 1977). He holds a linear theory of migration (Long, 1988). He predicted that most migration would come from rural areas and flow to urban areas, with differences by gender and age (Ravenstein, 1876, Ravenstein, 1885; Ravenstein, 1885). This was supported by a classic statistical study (Weber, 1899). However, later researchers found that migration might also be influenced by other factors, such as shifting economic advantages of different areas (Goodrich et al., 1937), economic crises such as the Great Depression (Thompson, 1937), and features of people (Thomas, 1938). And these findings led to nonlinear theories (Long, 1988).

Since then, most theoretical attention has been shifted from the population of migration to the changing determinants of migration flows (Long, 1988). Currently, from the macro perspective, "push-pull" model still dominates contextual models of mobility, whose process is accompanied by environmental factors (Bogue et al., 2009). And from the micro perspective, the determinants could be gender, age, race-ethnicity, education, marital status, income level, and housing tenure (Bogur, 2009).

However, is the internal mobility within US still worth discussion, since international migration has become a greater concern of not only migration research but also social science research in this early 21<sup>st</sup> century (Korinek & Maloney, 2010)?

Although the internal mobility rates are in a phase of long-term decline (due to aging, urbanization, decreased economic disparities among areas/regions, and technology), the amount of internal migration has a tendency to remain constant or to increase (Bogue, 2009). So it is still worthwhile to discuss the internal migration of the US.

### **3. Review on Education and Geographical Mobility**

The effect of education on individual's mobility has long been discussed, especially social mobility. The classic status attainment model of Blau and Duncan (1967) and following studies indicate that individual's education attainment influences the differences in socioeconomic positions between generations (the father and the individual). However, is education related to individual's geographical mobility? Many studies have discussed this issue and proved that they are related, although the direction(s) of their relationship could be very complex.

An early study finds that part of the monetary return to schooling arises when people with more education could adapt to economic disequilibria more successfully (Bowles, 1970). Migration could be driven by economic incentives, while levels of education are involved in this process by influencing individual's ability of achieving this income gain (Bowles, 1970). However, education could also play a role in making individual stay, through geographic linkage. A more recent study finds a modest link between attending college and working in the same state (Groen, 2004), but it still supports the view that the location of college influences the location of occupation. Some other researches hold a vague attitude towards the question how geographical mobility is influenced by education. For example, a recent population study verifies that internal migration age profiles closely mirror the age structure of key events in the life course, including exit from education and entry to the labor

force (Bernard et al., 2014). This also indicates that education could be closely relevant to internal migration.

Therefore, existing researches support the influence of education on geographical mobility, through ability, geographic linkage, or some other factors.

#### **4. Review on Major and Mobility**

We have known from the previous part that education matters. But does majors of higher education matter? Generally speaking, returns to different college or graduate school majors are different (Altonji et al., 2015).

According to existing researches, college majors matters, but mainly from the perspective of social mobility rather than geographical mobility. Earning is a significant way of social mobility. Individuals may consider future earning-streams when making education investments in general (Berger, 1988), although the effect of expectation of earnings could be differentiated by gender (Eide & Waehrer, 1998; Montmarquette et al., 2002) and race (Montmarquette et al., 2002). Researcher has also found large differences in earning premiums among people from different majors, with natural science and business majors enjoying higher earning premiums (Arcidiacono, 2004). Actual earnings could be influenced by whether the occupation is related to major (Robst, 2007), but again, major matters for social mobility through earnings.

To express this issue in a more theoretical way, college major affects individual's placement on and movement along the social ladder, by inhibiting the degree to which people's education attainment allows them to be socially mobile (Wolniak et al., 2008). And this pattern persists. According to a more recent research, STEM and business-related majors still lead the way (Altonji et al., 2015). Thus, for college

attendants, the choice of major is an important issue for their mobility, more specifically social mobility. However, none of these researches above have referred to geographical mobility.

## **5. A Brief Summary**

The importance of studying internal migration does not decrease with the rise of importance of immigration studies. Education, among several demographic or social factors, is an important determinant of migration or geographical mobility. Existing empirical researches have supported that education influences geographic mobility, and that major of higher education influences individual's social mobility. But studies about education and geographic mobility do not analyze the effect of majors in higher education, while studies about major and mobility mainly concern social mobility and ignoring geographical mobility. None of them seems to have taken a further step to examine whether major matters for individual's ability in geographic mobility.

Therefore, I would take this further step, by analyzing whether major of higher education influence individual's geographic mobility. To be more specific, this study would concern whether is any difference between individuals with different majors in geographic mobility.

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