PROPOSAL: UNDERSTANDING THE CONTRIBUTIONS OF CHANGING COLLEGE MAJOR CHOICES ON THE COLLEGE WAGE PREMIUM, BLACK-WHITE AND GENDER WAGE GAPS

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College wage premium (the ratio of average college wage over the average high school wage) has increased systematically since 1970s. Typically this has been explained by so-called skill biased technology progress. This literature does not differentiate any differences among college majors and do not pay particular attention to how different majors are assigned to different occupations. In this project I would like to investigate how much of the changes in college wage premium could in fact be attributed to the changes in the major choices of the college students; and how much can be attributed to the change in the mapping between college majors and occupations. Typical data sets used to analyze college wage premium (such as CPS) does not contain information about college students' major choices. I will use string together four detailed data sets about post-secondary schooling, (1) National Longitudinal Study of the High School Class of 1972 (NLS-72); (2). High School and Beyond (HS&B-80); (3). National Education Longitudinal Study of 1988 (NELS: 88/2000); (4). Baccalaureate and Beyond Survey (B&B): 93/94/97 to string together four more or less even distributed periods to address the above question.

The student will help organize the data from the four surveys and perform summary statistics.

It will be essential that the student have working knowledge of Excel and STATA. Knowledge in other programming languages such as Matlab will be desirable, but not required.

The primary benefits to the student of this research experience will be to learn how to organize and use large data sets, to learn to work with statistical software packages, and to learn how to apply a wide array of statistical techniques to an important and socially relevant economic problem.

SUMMARY

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In this project Professor Fang wants to investigate how much of the changes in college wage premium could in fact be attributed to the changes in the major choices of the college students; and how much can be attributed to the change in the mapping between college majors and occupations. This is a large project and involves four major data sets about post secondary schooling: (1) National Longitudinal Study of the High School Class of 1972 (NLS-72); (2). High School and Beyond (HS&B-80); (3). National Education Longitudinal Study of 1988 (NELS: 88/2000); (4). Baccalaureate and Beyond Survey (B&B): 93/94/97.

I was responsible for studying the NLS 72 data set and was required to create several new variables from the above data set which would later be used to carry out regression analysis. I

was also responsible to create four detailed tables from data sets published in the Digest of Education Statistics going as far back as 1970. These tables and their titles are:

1. Bachelors Degrees conferred by degree granting institutions by Discipline Division 1970 to 2002
2. Bachelor's degrees conferred by degree-granting institutions, by racial/ethnic group and sex of student: Selected years, 1976-77 to 2001-02
3. Bachelor's degrees conferred by degree-granting institutions, by sex and major field of study 1970 to 2002
4. Bachelor's degrees conferred by degree-granting institutions by racial/ethnic group, and major field of study 1988 to 2002

In carrying out the above tasks, I made use of statistical software such as STATA. The tables were created in EXCEL. To make the tables I had to collect some data from material in MUDD library, so some time was spent in searching for the correct data from the library.

I found this project to be a good learning experience. It gave me a chance to build upon my knowledge of STATA (which initially was very rudimentary). I am sure that my comfort level with STATA has grown considerably after working on this project. The project also gave me a chance to work on an extremely large data set. It appeared to be a daunting task at first, but having gone through this experience would certainly help me in being mentally prepared for the challenges I would face in writing my senior essay.

ROME is a wonderful research opportunity for undergraduates. However, I would like to point out that students who chose to do ROME come with the expectation that they would be working ‘with’ a professor, but it turns out we end up working ‘for’ the professor. This is something that should be looked into by the people organizing ROME.