

Basic Skills or Major-Specific Knowledge? Sources of Wage Penalties for Working Outside the Major Field of Study

Background: This paper examines the sources of wage penalties for working outside the major field of study. Recent research shows that workers in a job unrelated to their major field of study experience significantly lower wages than those in a related job. A substantial amount of human capital may be underutilized. Identifying the sources of the wage penalty is important in terms of how to decrease the inefficient use of human capital, students' college major choice, and type of human capital accumulated in college.

Methods: I use the 1993 National Survey of College Graduates and the O*NET to divide the sources into basic skills and major-specific knowledge. I assume that every occupation can be conducted by a combination of basic skills and that major-specific knowledge helps a worker organize the skills well in a related job.

Results: The results show that, on average, most of the wage penalty remained after controlling for individual characteristics can come from the mismatch in underlying basic skills although individual characteristics mostly explain the raw wage penalty. For those with a professional degree, the raw wage penalty is huge, more than 36%, and the mismatch in major-specific knowledge accounts for around half of it.

Conclusion & Discussion: As long as individuals work in a job that requires a combination of basic skills similar with their related jobs, they suffer less from wage loss.

Interdisciplinary Reflection: Skills accumulated depending college majors is analyzed from an economics perspective, allowing for a more fruitful understanding of the role of college majors.