Steve Pischke

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Ec317
Labour Economics
Problem Set 14

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1. Suppose all workers feel the same about working in a polluted work environment. Their utility function is given by

$$U = \sqrt{w} - 2x$$

where w is the wage rate offered by the job and x is an index of the air quality at the job. There are only two types of jobs, clean jobs ($x = 0$) and dirty jobs ($x = 1$). If the clean job pays £16, what is the market compensating wage differential for dirty jobs?

2. Assume there is a central city school district in which the student population is predominantly black. Surrounding the central city are predominantly white suburban school districts. Together, the central city and the suburban school districts can be thought of as a local labor market for teachers. Other things being equal, black teachers in this labor market are equally willing to work in central city and suburban schools, but white teachers prefer suburban schools and are reluctant to accept jobs in the central city where they have to teach black students. There are too few black teachers to completely staff central city schools and teachers generally have choices in the jobs they accept. (Note: The prejudice of white teachers extends only to students, not to black teachers as co-workers. Note also: the chain of reasoning required in this answer should be made quite explicit in your answer.)

   (a) Will there be a wage differential between black and white teachers?

   (b) If federal law requires equal salaries for teachers of all races within a given school district but allows salaries to vary across school districts, will black teachers earn more, less or the same salary as they would if white teachers were not prejudiced against black students?