

Chapter 5 Answers

1. Consider Table 5-1 and compare the fatality rate of workers in the mining, construction, manufacturing, and financial industries?

(a) What would the distribution of wages look like across these four industries given the compensating differential they might have to pay to compensate workers for risk?

Construction would pay the highest compensating differential, followed by manufacturing and then the financial industry.

(b) Now look at average hourly earnings in 2006 by industry as reported in Table 614 of the 2008 *U.S. Statistical Abstract*. Does the actual distribution of wages reinforce your answer to part (a)? If not, what else might enter the determination of median weekly earnings?

Average hourly earnings by industry in 2006 were: \$20.02 in construction, \$16.80 in manufacturing, and \$18.80 in finance. Thus, the distribution of wages does not perfectly reflect the compensating differential story. Many other factors than risk, however, probably explain the wage structure, including preferences (family farmers), unions (manufacturing), required skills and education, and the length of the average work week

2. The EPA wants to investigate the value workers place on being able to work in “clean” mines over “dirty” mines. The EPA conducts a study and finds the average annual wage in clean mines to be \$42,250 and the average annual wage in dirty mines to be \$47,250.

(a) According to the EPA, how much does the average worker value working in a clean mine?

The average value is $\$47,250 - \$42,250 = \$5,000$.

(b) Suppose the EPA could mandate that all dirty mines become clean mines and that all workers who were in a dirty mine must therefore accept a \$5,000 pay decrease. Are these workers helped by the intervention, hurt by the intervention, or indifferent to the intervention?

All except the marginal worker are hurt by the intervention. The workers who sort themselves into the dirty jobs are those workers who prefer to work in a dirty mine rather if they are to be paid \$5,000 more than they would be paid in a clean mine. These workers, in essence, value working in a dirty job at more than \$5,000. (Similarly, if all of the workers in the clean jobs were forced to accept dirty jobs for \$5,000 more, all of them except the marginal worker would be hurt as they all value working in a clean job at more than \$5,000.)

