

A Note on the “Union Effect” in VSL Studies

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Abstract

Viscusi and Aldy (2003) observe that “most studies of the U.S. labor market find that union affiliation is positively correlated with a greater wage-risk tradeoff while international evidence is much more mixed.” They provide several arguments as to why the risk premium might be higher for union members (marginal versus average worker preference, the quasi-public good nature of workplace safety, and better safety information for the unionized). An alternative explanation—concentration of union membership in undesirable locations—can account for both the apparent higher risk premium in union jobs in the United States and the failure to find that gap in the international setting. Moreover, the explanation advanced here can account for the anomalous finding in several papers that non-union workers appear to have *negative* compensating differentials for risk.

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Union members in the United States appear to have much higher VSL's, value of statistical lives, than do non-union members (see particularly Thaler and Rosen 1975, Viscusi 1980, Olson 1981, Dorsey 1983, Dorsey and Walzer 1983, Dillingham and Smith 1984, Gegax, Gerking, and Schulze 1991, and Dorman and Hagstrom 1998). Viscusi and Aldy (2003) summarize a number of plausible explanations for why union members might experience equilibrium risk premiums that exceed those of non-union members.

If the marginal workers require less compensation for risk, perhaps because they are younger, less experienced, and poorer than the average worker, then the firm might provide suboptimal levels of safety. This would provide a rationale for labor unions to add safety to the list of benefits to bargain over (see Viscusi 1980 for further details). Additionally, as emphasized by Dillingham and Smith (1984) a "safe environment" has a quasi-public good nature that might result in under-revelation of demand via usual free riding arguments in non-union shops, with collective action internalizing the externalities a la Coase. Finally, unions might have more accurate information regarding on-the-job risks, along with the means to more efficiently transmit that information to workers (see Viscusi 1979, Olson 1981). These arguments taken together would seem to provide a rationale for the pervasive findings of a large union wage-risk premium.

But, there are troubling anomalies associated with relying entirely on these arguments, and indeed it is possible that there is no union wage-risk premium at all. First, there is a frequent, and theoretically disturbing, finding that non-union workers actually have *negative* risk compensation, suggestion that risk of death is a positive job trait. Second, the apparent large impact of unionization largely disappears in international studies. Some studies find no significant effect (e.g. Marin and Psacharopoulos 1982, Arabsheibani and Marin 2000), some

find a larger union wage-risk premium (e.g. Siebert and Wei 1994), and yet others find a larger *non-union* wage-risk premium (e.g. Sandy and Elliot 1996, Sandy et al. 2001).

Graves, Arthur, and Sexton (1999) provide an argument, not directly related to VSL, that renders coherent the preceding—seemingly inconsistent—facts. Within the United States, unions are far stronger in their historical origin areas, primarily the so-called “rustbelt,” than they are in the sunbelt areas of the West and South. There is convincing and growing evidence that climate amenities matter greatly to households, with desirable regions receiving in-migration (see Graves 1979) and undesirable regions experiencing regional decline. The in-migrants drive up rents by increasing the demand for housing and drive down wages by increasing the supply of labor; in principle, the in-migration will continue until households receive the same level of utility in all locations (see Roback 1982 for the theoretical arguments and Blomquist, Berger, and Hoehn 1988 for empirical estimates of “quality-of-life” measured by the full price paid for amenities in the land and labor markets).

How much of the value of any particular amenity that becomes a “wage differential” versus a “rent differential” depends on many things. If a household amenity is also a firm amenity, the value of that amenity will appear largely in rents, with an ambiguous wage effect (since firm in-migration raises the demand for labor, potentially offsetting the labor supply increases to the nice areas by households). If the amenity or disamenity is highly concentrated in nature (e.g. ocean access on the one hand or a hazardous waste dump on the other), it might also be largely valued in land markets.

Many amenities are, however, broadly dispersed (e.g. sunshine or humidity) and these amenities might be expected to be largely capitalized in labor markets. Graves et al. find, in a large county-level study using Blomquist et al.’s amenity compensation data, that unions have

been receiving credit for wage gains that are, to a substantial degree (nearly fifty percent in plausible specifications, but large in all specifications), due to compensation for undesirable amenity levels in areas of union strength. This result is robust to inclusion of occupation variables and dummy variables for region.

The hedonic wage relationships that underlie the VSL literature are very likely, in other words, to suffer from omitted variable bias, failing to include amenity variables that are correlated with union membership. How does this explain the anomalous findings at the outset?

First, the apparent union wage-risk premium for the United States is likely to be an artifact of omitted variable bias; the higher wages are being credited to compensation for risk of death rather than to climate disamenities. Holding constant amenities would almost certainly eliminate the dramatic differences in VSL between union and non-union jobs reported in Viscusi and Aldy's Table 9a.

Second, the international studies have been conducted in countries with either far less variation in amenities over space (e.g. the U.K. studies cited earlier) or the population is distributed so as to minimize the variation that would otherwise exist (e.g. the clustering of Canadian population along the Northern border of the United States, all with similar latitudes).

Finally, the strange finding for the United States that non-union workers appear to find on-the-job risk of death to be an amenity, with negative wage compensation, also stems from omitted variable bias. Wages are lower in nice places, places where non-union workers are preponderant, and those wages will still be low, even in higher risk jobs, when compared to wages in similar jobs in the undesirable locations dominated by unions. Moreover, since migration is selective of younger households, the marginal worker hypothesis of Viscusi 1980 is strengthened.

To obtain accurate VSL measures in future work, greater attention will need to be given both to omitted variable bias in single-market (e.g. wage differential) studies but also to the role of housing market equilibrium and its interaction with labor markets.

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