

**Is the Economic Way of Thinking Regarding  
the Environment Mainstream for Teachers in Public  
and Private Schools?**

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Debates in environmental economics often focus on free markets versus the heavy hand of government. We take the view that the economic way of thinking is a better description for referring to our interest in environmental efficiency. Disagreements about the environment might better be described as light hand of government versus the heavy hand of government. When wielding a heavy hand, government seeks a substitute for the role of markets as it imposes a quantity regulation, such as bans on lawn watering or car washing or on the killing of certain species. When wielding a light hand, the government seeks to complement the market by inserting only what is missing, and then letting the market work. In environmental economics, what is usually missing is a key property right, leading inevitably to prices that do not reflect the opportunity cost of resources.

This paper presents some empirical results regarding whether high school teachers take the economic way of thinking seriously as they approach environmental issues. The paper reports on the results of asking certain questions of high school teachers in both private and public schools in Wisconsin. We have two purposes. First, we

wanted to explore the extent to which high school teachers prefer the economic way of thinking by embracing property right/pricing solutions versus non-economic ways of thinking by embracing government impositions of quantity solutions. Second, we wished to study the differences in their responses between private and public school teachers.

Anderson and Shaw (2000) argue that the economic way of thinking approach can help teachers prepare students to tackle environmental issues. They cite studies suggesting that many parents think that environmental teaching in schools exaggerates environmental problems. They note studies that criticized textbooks for being simplistic and leading children toward political actions without encouraging them to understand the complexity of the problem.

Arora, Holahan, and Schug (2000) conducted a telephone survey of Wisconsin public high school social studies and science teachers in Wisconsin. That survey indicated that the teachers were not generally supportive of the economic way of thinking approach toward the environment. This may be due in part to the way that many decisions that affect the lives and careers of teachers are made:

- § Public schools tend to be heavily regulated and bureaucratic (certification rules, teacher training rules, academic standards, state imposed assessments).
- § Compensation is based on a negotiated salary scheduleBa system insensitive to market conditions.
- § Unions routinely oppose economically oriented reforms the increase competition in education such as voucher programs and charter schools.

This raises the question: Do high school social studies and science teachers who work in private schools differ in their attitudes toward market solutions to environmental problems than their colleagues in public schools? Or, conversely, are teacher attitudes the same in either public or private schools? Does exposure to more market forces in private schools change teachers' attitudes toward the environment?

### **Telephone Interviews**

In our original study, we interviewed 157 public school teachers of social studies and science. To add private school teachers to that sample, we contacted nearly every private high school in Wisconsin resulting in telephone interviews with an additional 78 science and social studies teachers. Teachers were interviewed during prep hours and before and after school. The interviews lasted from 10 to 20 minutes.

A series of 13 statements were used as the basis of the interview (the survey is available from the authors). A script with the statements was read to the teachers. The teachers were asked to rate their responses using a Likert scale. Teachers in our sample were asked if they strongly agreed, agreed, were undecided, disagreed or strongly disagreed with each statement. The interviewers posed questions regarding:

- \$ Attitudes towards market approaches (8)
- \$ Factual questions about environmental improvements (4)
- \$ Doomsday orientation (1)

Attitudes toward market approaches were measured by two sorts of questions: Market and non-market. Questions oriented toward market statements were ones where a market solution was proposed and teachers were asked to rate their response to it from agreement to strong disagreement. Market solutions were those

where the laws of supply and demand, establishing market prices, or recognizing the importance of incentives would be viewed positively as a way to address an environmental problem. An example of a market question was:

- §     Allowing the forces of supply and demand to set the price of natural resources like copper, oil, aluminum, and other minerals helps insure protection of resources into the future.

Non-market statements were ones where a non-market solution was proposed and teachers were asked to rate their response to it from agreement to strong disagreement. Non-market solutions were ones that favored government action and setting rules as the means to address an environmental problem. An example of a non-market question was:

- §     In times of drought, imposing bans on car washing, restricting the watering of lawns, and other similar rules are effective ways to conserve water.

Additional statements in the interview inquired about factual information regarding environmental improvement. One statement was regarded as a Adoomsday@ statement which asked teachers to agree or disagree with the predictions of Thomas Malthus. Taken as a whole, these questions might be regarded as how negatively or positively teachers regard current environmental conditions.

## **Results**

We conducted four types of analysis on the data (tables reporting the results are available from the authors). First, the percentage responses to the statements were inspected. Second, a series of t-tests for equality of means were run to check for aggregate differences between the attitudes of teachers in public and private schools regarding the 8 market and non-market questions. Third, t-tests were run to check for differences in the teachers' responses to the categories of statements labeled as doomsday statement (1 statement) and the factual statements (4 statements). Finally, additional t-tests were conducted to check for differences in the teachers' responses to individual statements.

No significant differences exist between the attitudes of public and private school teachers on the 8 market and non-market statements. It appears that when it comes to market oriented and non-market oriented solutions to environmental problems teachers' attitudes are essentially the same whether they work in public or private schools. For example, large majorities of teachers (96.8% of public and 89.7% of private) favor imposing non-market bans on car washing during droughts. Large majorities favor current rules that reduce private property rights as provided by the Endangered Species Act (70.7% of public and 62.8% of private). Just under half of the teachers (46.2% of public and 47.4% of private) agree that an excess profits tax should be placed on oil companies if the price of oil rises.

The percentage responses suggest that teachers are inconsistent in their views of market-oriented solutions. For example, a majority (57.1% of public and 51.3% of private) disagreed with allowing the legal hunting of some species as an effective way to protect endangered species. However, teachers were evenly divided in their attitudes regarding whether the laws of supply and demand should set the price of natural resources, with just over 40% agreeing with allowing market forces to operate and just over 40% disagreeing. A majority of teachers (66.7% of public and 61.5% of private), however, agreed that an effective way to encourage water

conservation would be to charge water users a market price for water usage.

We ran t-tests on the mean scores for the responses to the other categories of statements. These tests revealed significant differences in the responses to the doomsday statement, the factual statements, and for the combined responses to all the questions. Private school teachers appear to have less of a doomsday orientation than do the public school teachers. When asked if Thomas Malthus was essentially correct in predicting that as world population grows, we will eventually experience widespread starvation, 50.0% of the private school teachers disagreed while a large majority of public school teachers (65.0%) agreed.

The responses to the factual statements appear to follow the same pattern as the doomsday statement. For example, private school teachers correctly disagreed more often than did public school teachers with statements claiming that the air and water are more polluted today than 25 years ago.

We decided to check the responses for differences between public and private school teachers in the individual statements. We found significant differences between the teachers on 5 of the 13 statements. For example, public school teachers more often favored non-market bans on car washing in times of drought than did private school teachers. Private school teachers had somewhat more confidence than did public school teachers that legal hunting might help endangered species, although was the weakest of the differences. Private school teachers were more accepting of the fact that as people in a nation become wealthier they place greater value on clean air and water than were public school teachers. Private school teachers disagreed more frequently than did public school teachers that the water in the United States is more polluted today than it was 25 years ago.

## **Conclusions**

This study has numerous limitations. Our sample of teachers was selected from one state. It could be that teachers in other states might have different attitudes, such as in western states where environmental issues loom large. While we had a good response rate (55% among public school teachers and 66% among private school teachers), we had hoped to speak to more teachers during the interview period. Moreover, it is possible that some of our questions were flawed. Our use of the term 'effective' in the statements might not be measuring market or non-market attitudes so much as thoughts about whether the policies being asked about really work or not, regardless of the principles upon which they rest.

This study, despite its limitations, represents an initial effort to gain an understanding of what teachers think about applying an economic way of thinking to environmental issues. Based on the responses of teachers in this study, we conclude that teachers, whether they work in public or private schools, have essentially the same attitudes when it comes to market oriented approaches toward the environment. Neither group is generally supportive of the economic way of thinking approach to the environment.

However, teachers' responses are not consistently opposed to the economics approach. Some significant differences emerge between public and private school teachers. Private school teachers, for example, have less of a doomsday orientation and have a somewhat better understanding of the facts regarding the environment than do public school teachers.

Our results are somewhat optimistic for teacher training. The attitudes of public and private school teachers were somewhat inconsistent, perhaps reflecting a lack of knowledge about what economic ideas might contribute to a better understanding of environmental issues. Private school teachers, given their weaker doomsday orientation and somewhat better factual understanding, may be more predisposed to market approaches. While teachers

generally supported non-market solutions, they were nearly evenly divided on some questions regarding market solutions.



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