Caroline M. Hoxby (1966–)

In a research career that began in the mid-1990s, Caroline M. Hoxby has established herself as one of America's foremost experts on the economics of education. Applying sophisticated econometric techniques to mountains of data, she has published numerous papers on a host of interrelated topics such as the efficacy of vouchers, the pros and cons of financing public education with local versus centralized systems, and the impact of teachers' unions on student academic achievement. Her studies are comprehensive, her insights often counterintuitive, and her conclusions usually controversial but never boring. She is one of the brightest stars in the constellation of economists making their mark in the twenty-first century.

BIOGRAPHY

Caroline Minter Hoxby was born in 1966 in Cleveland, Ohio, and grew up in the suburb of Shaker Heights. Her father, Steven A. Minter, is president of the Cleveland Foundation, and her mother, Delores Minter, is a homemaker. Hoxby graduated from Shaker Heights High School in 1984 and went to Harvard University, where she earned a B.A. in economics in 1988, graduating summa cum laude. At Harvard, she was inducted into Phi Beta Kappa and won the Hoopes Prize for Best Thesis in Economics.

After leaving Harvard, Hoxby was a Rhodes Scholar at the Oxford University (1988–90), earning an M.Phil. in economics in 1990. At Oxford, she received the award for Best Master of Philosophy Thesis in Economics. Over the next four years, Hoxby was in the graduate economics program at the Massachusetts Institute of Technology, where she received her Ph.D. in 1994. From 1990 to 1993, she held a National Science Foundation graduate fellowship, and in 1993–94, she received the Spencer Foundation Fellowship for Research Related to Education. Her Ph.D. thesis won the National Tax

Association Award for Best Dissertation in Public Economics in 1994. In May 1993, she married Blair Hoxby, a professor of English literature at Yale University.

Hoxby began her teaching career in 1994 as an assistant professor of economics at Harvard University. She became Morris Kahn Associate Professor of Economics in 1997 and was promoted to full professor at Harvard in 2001. Hoxby serves as a senior adviser to the Brookings Institution's Brown Center for Education Policy. She is also a MacArthur Foundation fellow, a distinguished visiting fellow at the Hoover Institution, and program director of the Economics of Education Program at the National Bureau of Economic Research. She has had a Ford Foundation fellowship (1993–94), a National Science Foundation grant (1995–98), and is working with a National Institute of Child Health and Development grant (1998–2003). In 2000–2001, Hoxby was a Carnegie Scholar. Since 1996, she has advised and/or given testimony for several state legislatures and courts on school finance equalization, charter school legislation, and federal tax policies for higher education.

CONTRIBUTIONS

Hoxby has studied the economics of education at all levels, including higher education ("Tax Incentives"), but the bulk of her research has dealt with primary and secondary education. Her research efforts have been divided between school finances and school efficacy as reflected in student academic achievement. She published her first major paper in 1996, examining the efficiency/equity trade-off associated with local versus centralized financing systems. Prior to her research, the prevailing notion was that the local financing of public education was efficient but not necessarily equitable, while centralized financing was fair but not necessarily efficient. "As this paper will explain, however, equating local finance with efficiency and centralized finance with equity is incorrect and greatly exaggerates the real efficiency-equity tradeoff that faces us" ("Are Efficiency and Equity," 51–52).

In her analysis, Hoxby investigated allocative efficiency, productive efficiency, and equity, where "Allocative efficiency is getting the *amount* of education right. Productive efficiency is getting it at the least cost. Equity is applying this standard of optimality to everyone, regardless of family background or income" ("Are Efficiency and Equity," 54). She argues that the current predicament of school finance is one of productivity (student outcomes) and not the level of spending. From this, she posits that local financing is more likely than centralized financing to improve student achievement, and to do so effectively, efficiently, and fairly. This conclusion was reinforced in her subsequent research that viewed schools as local public goods producers ("Productivity of Schools"). According to Hoxby, the key insight of the paper is that "when the Tiebout process functions with local property tax finance, it can generate verifiable demand information that can be used to manage the productivity of local public goods providers" (28). The "Tiebout process" to which Hoxby refers is associated with a paper by Charles Tiebout that appeared in the *Journal of Political Economy* in 1956.

> The strength of local, property tax-based school finance is its ability to achieve a high level of allocative efficiency, even though schools are publicly provided. This ability is due to the Tiebout . . . process in which people move to another school district if, in their district, the marginal utility of school spending gets out of balance with its price. Intuitively, the combination of local finance and the Tiebout process provides a mechanism that, despite using public funding, relinks the marginal costs and marginal benefits of schooling. The most realistic versions of this mechanism that achieve allocative efficiency are those in which public schools are financed by a property tax and the Tiebout process capitalizes the value of local public schools into local house prices. In such models, inequality between the intrinsic value of a district's schools and the per-household cost in property taxes induces movement between districts, until the households within each school district have the same demand for schooling and all households consume the amount of schooling they find (privately) optimal. ("Are Efficiency and Equity," 56)

The Tiebout process coupled with greater parental choice led Hoxby to conclude that competition via charter schools or vouchers, even if the vouchers are limited to use in the public-school system, is likely to enhance student academic achievement ("The Effects of Private School Vouchers"; "Does Competition"). As she puts it, "In general, the results suggest that choice, which would give parents' preferences more relative to those of teachers and administrators, would not undermine academic and disciplinary standards in U.S. schools. On average, parents appear to choose higher academic standards and stricter environments than do school staff. This is not the same as saying the teachers and administrators, as individuals or parents themselves, do not value good academic work or good behavior. The difference in attitude between parents and staff may be due to the fact that it is the staff who have to enforce higher standards in schools, and so they give more weight to the effort that enforcement activities require" ("The Effects of School Choice," 312).

In 1996, Hoxby published a monumental study on school efficacy. The motivation for the study was her desire "to explain why measured school inputs appear to have little effect on student outcomes, particularly for cohorts educated since 1960. . . . This study is motivated by two related empirical puzzles. The first is that student-level and school-level data often show little evidence of a relationship between student performance and school inputs, after controlling for the student's background. . . . The second is that metropolitan areas with few opportunities for competition among public schools tend to have more generous school inputs—including higher per-pupil spending, higher teacher salaries, and lower student-teacher ratio—but also tend to have worse student performance" ("How Teachers' Unions," 671).

Hoxby considered many candidates to explain this double conundrum in an applied econometric study that used the *Census of Government* and the *Census of Population* for a twenty-year period for some 10,500 school districts in the United States, about 95 percent of the country's total in 1990. Her conclusion: ". . . the results indicate that teachers' unions succeed in raising school budgets and school inputs but have an overall negative effect on student per-

formance" ("How Teachers' Unions," 708). Among the many reasons for this is Hoxby's assertion, supported by the empirical evidence, that "rent-seeking" and not "efficiency-enhancing" behavior drives teachers' unions; that is, self-interest is more important to teachers' unions than the pure maximization of student achievement (675–76).

As controversial as that conclusion may be, Hoxby has generated other results equally challenging to common myths about primary and secondary education. She has, in another of her signature empirical studies, challenged the notion that student academic achievement is inversely related to class size. She analyzed "the effects of class size on student achievement using longitudinal variation in the population associated with each grade in 649 elementary schools" and concluded "class size does not have a statistically significant effect on student achievement" ("The Effects of Class Size," 1239). In a similar vein, she has shown that, relative to income, spending per pupil in Massachusetts, Illinois, and California remained constant during the twentieth century, rather than being directly related to per-capita income, as is generally assumed ("How Much"). In this and related studies, Hoxby suggests that improvements in student outcomes are not related solely to policy choices. She sees the teaching-learning process as an immensely complicated phenomenon for which no silver bullet or single change—such as smaller classes or greater expenditures per student—will bring immediate and measurable improvements.

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