

ECONOMIC DIRECTIONS

CENTER FOR ECONOMIC AND POLICY EDUCATION, SAINT VINCENT COLLEGE, LATROBE, PENNSYLVANIA

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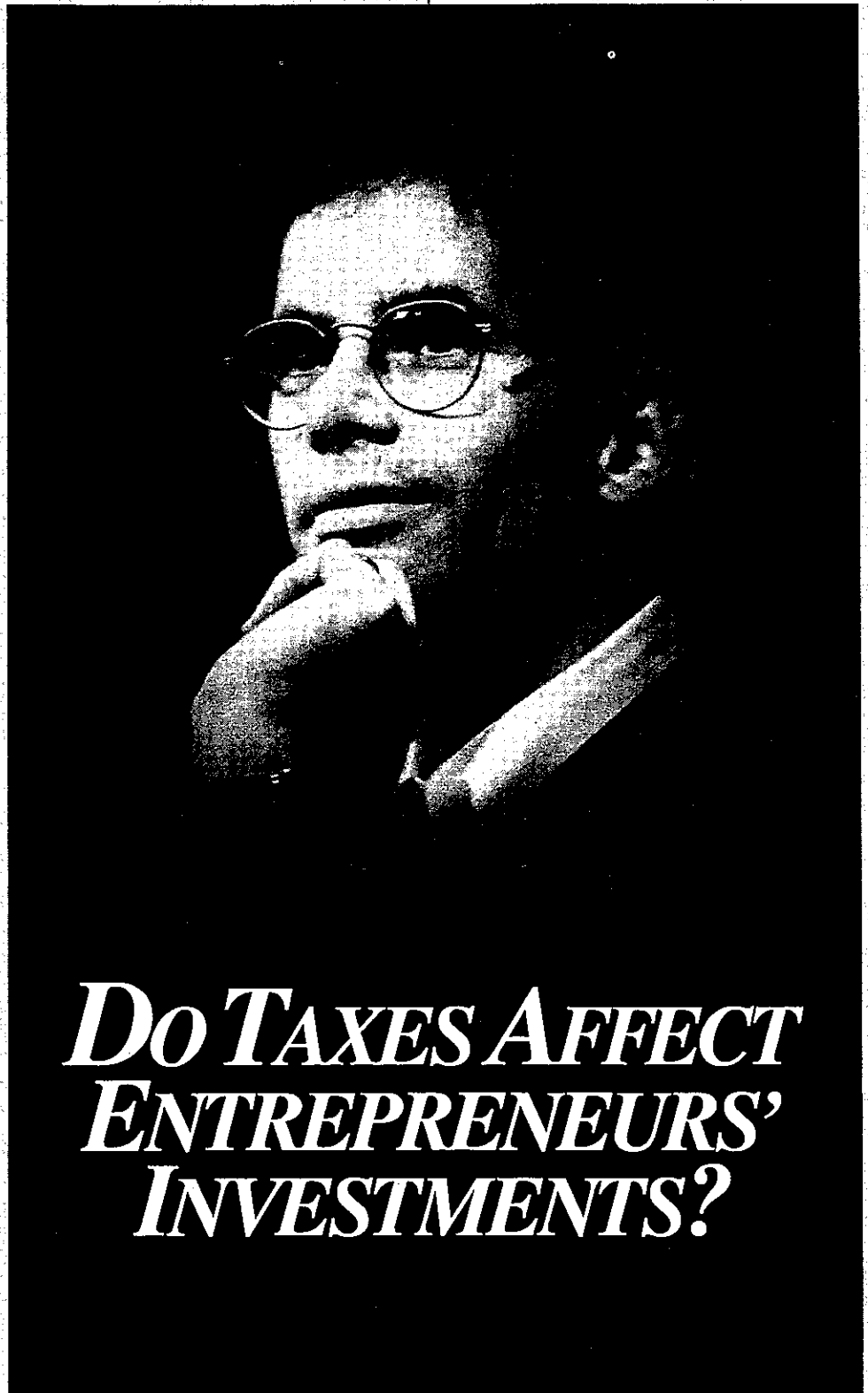
(The following is a lecture delivered by Dr. Harvey S. Rosen, John L. Weinberg Professor of Economics and Business Policy at Princeton University, at Saint Vincent College, Latrobe, Pennsylvania, on March 18, 1998, as the 41st lecturer in the Alex G. McKenna Economic Education Series.)

There is a public fascination and concern with entrepreneurs which has spilled over into the policy arena. Much of the public policy interest in entrepreneurs has surrounded their putative roles as "creators" of jobs and new products. Government leaders in Washington have wondered how to stimulate such activity, and many of their solutions have focused on tax policy. Specifically, it has been argued that tax policy should encourage entrepreneurs to invest in their businesses. Such arguments influenced the Omnibus Budget Reconciliation Act of 1993, which contained a number of provisions favoring investment in small businesses, including a 50 percent exclusion of long-term capital gains from certain small business investments. At the same time, there are concerns that the high marginal tax rates embodied in existing law have discouraged investment by entrepreneurs. As one business economist opined after high-end personal income tax rates were raised in 1993, "It means their cash flows will not grow as fast, and they will not have as much to plow back into their business."

Does tax policy affect the investment decisions of small businesses? There has been a huge amount of research done on taxes and investment, but it has focused virtually exclusively on investments undertaken by large corporations. There has been little systematic investigation of whether the *personal* income tax environment surrounding an entrepreneur adversely affects his or her investment behavior. This is a serious gap in our knowledge. I would like to tell you about some very recent research that I have done on this topic in collaboration with Douglas Holtz-Eakin of Syracuse University and Mark Rider and Robert Carroll of the US Treasury Department.

Some Theoretical Considerations

Ultimately, a question such as this one has to be settled by appealing to data, but before one starts crunching numbers, it is worthwhile to ask what theory has to say about this issue. Why might taxes matter in this context? Imagine an entrepreneur organized as a sole-proprietor who is considering a new investment in his enterprise. There are two possible ways in which the individual's personal income tax situation could affect this decision. First, taxes affect the cost of capital. Think of the cost of capital as a hurdle rate that a project must meet in order for the entrepreneur to undertake it. If the returns from the project are going to



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be taxed, then the project has to earn a higher return in order for it to be worthwhile to make the investment. And this reduces the number of viable projects. The second channel through which the entrepreneur's tax rate might affect his investment decisions relates to liquidity constraints. An increase in taxes reduces the entrepreneur's cash flow. To the extent that liquidity constraints are present, this leads to a reduction in the demand for capital. The user costs and liquidity constraint stories are not mutually exclusive, and we investigate both of them.

Data Source

I mentioned earlier that there has not been much work done in this area. One of the main reasons is that conventional, publicly available data sets don't really have much information that would be helpful. We have an unusual data source: a panel consisting of over 62,100 federal personal income tax returns for taxpayers who filed in both 1985 and 1988. This choice of years is important, because they bracket 1986. In that year, President Reagan signed into law the landmark Tax Reform Act of 1986 (TRA86), which, among other things, mandated large tax decreases for individuals in upper income brackets. Thus, our data set allows us to observe the same entrepreneurs before and after the tax reform, and we can make an assessment on how it changed their behavior.



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The tax returns, which are on tape, contain detailed information on taxpayers' income and deductions taken from the Form 1040. Our focus is on sole proprietors, who file a Schedule C. While sole proprietors do not report annual investment on their Schedule C, they do report depreciation deductions. Moreover, using the detailed information regarding the computation of these deductions reported on Form 4562 it is possible to identify which of these deductions are associated with capital purchased during the year under consideration.

An important implicit assumption in this discussion is that we can equate sole proprietors with "entrepreneurs." Is this sensible? In the non-statistical literature on this topic, entrepreneurs are typically identified by their daring, risk-taking, animal spirits, and so forth. However, statistical work forces us to settle for more prosaic, observable criteria for classifying someone as an entrepreneur. With tax return data, the most sensible proxy for "entrepreneurship" is the presence of a Schedule C in the return.

A Preliminary Look at the Data

Let us take a quick look at some tabulations from the data. Table 1 focuses on individuals who were sole proprietors in both 1985 and 1988. Each entry in the matrix compares combinations of filing status and investment decisions in 1985 (rows) with corresponding measures for 1988 (columns). Consider, for example, the entry in the upper left hand cell. It indicates that 1,705 sole proprietors made no investment in either 1985 or

Table 1
Investment among Sole-Proprietors
in 1985 and 1988*

		1988	
		No Investment	Investment
1985	No Investment	1,705 (0.788)	459 (0.212)
	Investment	609 (0.463)	707 (0.537)

*The first entry in each cell is the number of observations. The second entry is the number of observations as a fraction of the total number of observations in the corresponding row.

1988, and this constitutes 78.8 percent of all the sole proprietors who made no investment in 1985. (The other 21.2 percent made investments in 1988.) Fifty-four percent of those who invested in 1985 also did so in 1988. Thus, there appears to be substantial persistence in the propensity to invest. Another critical implication of this panel is that only a relatively small proportion—about a third—of the sole proprietors make any capital investments. This is consistent with earlier findings using different data sets which suggest that most small enterprises have no capital at all.

In Table 2, we divide our entrepreneurs into two groups, those with "lower" tax rates in 1985 (below 34 percent) and those with "higher" rates (34 percent and above). Relatively affluent people in the upper tax brackets received the largest tax rate reductions under TRA86. Hence, if there is anything to the story about higher tax rates discouraging entrepreneurs from investing, then we would expect those individual who were initially

Table 2

Investment Decisions and Tax Rates*

(a)			
Lower Tax Rate in 1985			
		1988	
		No Investment	Investment
1985	No Investment	923 (0.813)	213 (0.187)
	Investment	263 (0.557)	209 (0.443)

(b)			
Higher Tax Rate in 1985			
		1988	
		No Investment	Investment
1985	No Investment	782 (0.761)	246 (0.239)
	Investment	346 (0.410)	498 (0.590)

*See note to Table 1. Panel (a) includes all sole proprietors with 1985 marginal tax rates below 34 percent. Panel (b) contains the remainder.

in the higher brackets to have the largest increase in their propensity to make capital outlays. The figures in Table 2 appear to be consistent with this story. Of the sole proprietors who had no investment and lower tax rates in 1985, 18.7 percent made capital purchases in 1988. For those with higher tax rates in 1985, the figure was 23.9 percent. Similarly, 55.7 percent of the lower tax rate sole proprietors who had capital expenditures in 1985 had no investment in 1988, while for the high-tax rate sole-proprietors, the figure was only 41.0 percent.

Multivariate Analysis

Of course, a bit of thought suggests that investment decisions depend on the user cost of capital, of which marginal tax rates are only one component. TRA86 affected not only marginal tax rates, but also depreciation allowances and the investment tax credits. Further, variables other than marginal tax rates might influence an entrepreneur's propensity to invest, and some of these could be correlated with marginal tax rates. Hence, while the results in Table 2 are suggestive, a multivariate approach, which *simultaneously* takes a number of variables into account to find the *independent* effect of taxes, is required.

What other variables do we take into account? Basically, we are constrained to information that is included on tax returns (or that can be easily found given the individual's social security number). These include the individual's age, marital status, and number of dependents. All of these could be related to his attitudes toward risk. We also have a measure of assets (capital income), which should affect investment decisions in the presence of liquidity constraints. Finally, we have the principle business codes, so we can control for industrial classification. These are intended to take into account the fact that the capital-intensity of the production technology differs across industries.



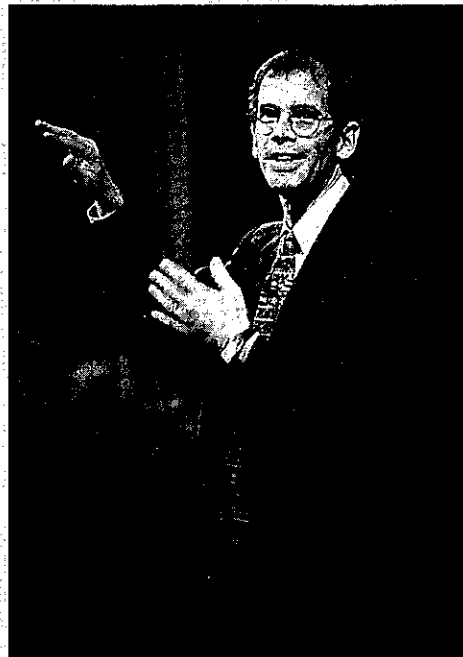
Welcoming Dr. Harvey Rosen to Saint Vincent were, (left to right): Dr. Andrew R. Herr, Fellow in Economics and Policy, Center for Economic and Policy Education; Eric A. Kowalski, a senior political science major from Indiana; Dr. Harvey Rosen; Nicholas M. Racculia, a junior economics major from Greensburg; and Troy A. Ovitsky, a junior economics major from Mt. Pleasant.

What is the bottom line? The story embodied in Table 2 continues to hold even after taking all these other variables into account—tax rates, working through the user cost of capital, *do* have an affect on the likelihood that an entrepreneur undertakes an investment. On the basis of our estimates, we did the following simulation—we took each person's 1988 marginal tax rate and raised it by 5 percentage points. According to our estimates, this would have reduced the average probability of investing from 0.335 to 0.300, a decline of 10.4 percent. We also studied the amount of investment as well as the probability of doing investment. The same five percentage point increase in marginal tax rates would lead to a 9.9 percent decline in mean investment expenditures. In short, our estimates imply that changes in the user cost of capital induced by increases in marginal tax rates have a substantial impact on entrepreneurs' investment behavior.

Conclusions

No single piece of empirical work in economics is ever definitive, so I do not want to say that my co-authors and I have settled this important question forever. But I would like to conclude with some thoughts about the policy implications if our results really are correct. As I noted at the beginning, from time to time, politicians in both parties try to think of tax policies to help small business. These policies often take the form of special breaks for capital gains on stocks in small businesses, although other policies also exist. Typically, these policies are very narrow and very complicated—they have to be, because otherwise it is possible for large companies to create scams. (For example, they could spin off subsidiaries and call them "small" businesses.) I sometimes think that the main beneficiaries of these policies are the lawyers who help the relevant businesses configure their operations so as to qualify for the tax breaks. Further, most micro-businesses have not even gotten to the stage where they have issued stock. They are financed from the savings of the entrepreneur and his or her family. If our results are correct, it suggests that complicated, narrowly

targeted policies that leave out micro-enterprises are inferior to a simpler policy that would have many other benefits as well—just reduce marginal tax rates on everyone.



George Washington Fellowship

The Center will sponsor several fellowships for political science, economics and public policy at Saint Vincent College. Students will spend one year reading various public policy reports and associated literature, attend at least one major conference related to their topic, and give a presentation that summarizes their learning experience. More specifics related to the Fellowship are provided at the Center's website www.stvincent.edu/cepe.

Congratulations to the Following Student Staff Members:

Ronald Baker has been accepted to Indiana University at Bloomington's PhD Economics program with a full assistantship (\$10,000 plus a tuition waiver). Li Chenghui was accepted to both Indiana University with a full assistantship (\$10,000 plus tuition waiver) the University of Albany's PhD Economics program with a full assistantship (\$8,000 plus a tuition waiver). Nicholas Racculia will intern with the Center this summer and attend a fully funded Institute for Humane Studies Seminar this summer at Emory University. Richard Kessler will intern with the Philip M. McKenna Foundation. Robert McBride, has received a Carol Pollock and Harold Grey Fellowship in Economics-Botany Studies to study at PERC this summer. Eric Kowalski and Jennifer A. Miele will both participate in PERC's Student Seminar on "Free Market Environmentalism" this summer. Eric has also received a \$1900 scholarship from The Fund for American Studies to attend the 1998 International Institute for Political and Economic Studies in Athens, Greece. William Karazsia has been accepted to the Hastings College of Law and Johns Hopkins Advanced International Affairs Program. Jaime Kochis accepted a position with Owens Corning as an auditor I. Finally, congratulations to a past member of the student staff, Dr. Frank Gamrat who completed a PhD in economics at Clemson University in December of 1997.

Congratulations to our program coordinator, Rosey Doelling and husband Andrew, on the birth of their first child, Michael Andrew, on April 15, 1998.

Our New Website

For up to date information about the Center, check out our website at www.stvincent.edu/cepe.

T. William Boxx and Gary Quinlivan's newest edited collection, *Toward the Renewal of Civilization: Political Order and Culture*, will be published by Eerdmans this July, ISBN: 0-8028-4534-7. Contributors include: Hilton Kramer, Claus Ryn, Joyce Little, Charles R. Kesler, William B. Allen, Stephen J. Tonsor, III, Elizabeth Fox-Genovese, Robert P. George, Hadley Arkes, Martha Bayles, Dinesh D'Souza, and Ralph McInerney.

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About the Series

The Alex G. McKenna Economic Education Series is presented by the Center for Economic and Policy Education at Saint Vincent College. These periodic lectures are open to the general public and their purpose is to explore the role of free markets in solving many of the social problems confronting the United States and the world today. Dr. Gary M. Quinlivan, professor of economics at Saint Vincent, directs the series.

The Alex G. McKenna Economic Education Series is made possible by grants from the Alex C. Walker Foundation, Massey Charitable Trust Committee, and the Philip M. McKenna Foundation, Inc.

CALENDAR OF EVENTS:

September 17, 1998, Government and Political Education Series. Dr. Ralph A. Rossum - Salvatori: Professor of Government, Claremont McKenna College, *Constitution Day Lecture*.

September 30, 1998, Alex G. McKenna Economic Education Series. Dr. Jeremy J. Siegel - Department of Finance, Wharton School, University of Pennsylvania, Financial Investments.

October 7, 1998, *The History of Economic Thought Conference*
Dr. Peter Boettke - Professor of Economics, Manhattan College, Marxist economics.

Dr. Samuel Hollander - University of Toronto, Classical economics.

Dr. Charles Rowley - Professor of Economics, George Mason University, Public Choice economics.

Dr. Anna Schwartz - President of the NBER, Monetarist economics

Dr. Hans Sennholz - Past President of the Foundation for Economic Education, Austrian economics.

Dr. James Tobin - Nobel Laureate, of Yale University, Keynesian economics.

October 21, 1998, Civitas Forum on Principles and Policies for Public Life: *The State of American Civilization at the End of the American Century*.

Dr. Angelo Codevilla - Professor of International Relations, Boston University.

Dr. Paul Rahe - J.P. Walker Professor of American History, University of Tulsa.

Dr. Glenn Thurow - Professor of Politics, University of Dallas.

Dr. David Walsh - Professor of Politics, Catholic University of America.

November 4, 1998, Alex G. McKenna Economic Education Series

Dr. Joseph M. Terza - Professor of Economics, Penn State University. Healthcare Economics.

November 18, 1998, Government and Political Education Series.

January 27, 1999, Alex G. McKenna Economic Education Series

Dr. Robert J. Shiller - Professor of Economics, Yale University, Financial Investments.

February 17, 1999, Government and Political Education Series.

March 10, 1999, Dr. Richard Stroup - Montana State University, environmental economics.

March 24, 1999, Government and Political Education Series.

April 15 - 17, 1999, The 1999 Culture and Policy Conference: *Public Morality, Civil Virtue and the Problem of Modern Liberalism*.

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