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The changing focus of public economics research, 1980 - 2010

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Raj Chetty and Amy Finkelstein*

The NBER’s Program on Public Economics (PE) has covered a very wide range of topics since the last program report six years ago. Rather than attempting to summarize the entire corpus of work that has been done by this program in the past few years, this report provides a bird’s eye view of some of the major changes in the field from two perspectives. First, we quantify the main trends in public finance research at the NBER over the last thirty years, drawing on statistics from the database of NBER Working Papers. Second, we qualitatively summarize some of the emerging themes of recent research, both in terms of topics and methods.

A Statistical Perspective

The Public Economics Program began as the Business Taxation and Finance Program, which held its first meeting under the direction of David Bradford in December 1977. It was renamed the Taxation Program in 1980, to reflect the broader research interests of its affiliated researchers. To recognize the importance of expenditure as well as tax research, the program was renamed “Public Economics” in 1991, when James Poterba succeeded David Bradford as Program Director.

In the last two decades, the research conducted by the Public Economics Program has changed dramatically in volume, methodology, and topics. To broadly characterize some of the main trends, we downloaded all of the Working Papers in the Taxation Program in 1990 and in the Public Economics Program in 2000 and 2010, and classified them in various ways, which we summarize in Table 1, on page 3.

*Chetty and Finkelstein direct the NBER’s Program on Public Economics. Chetty is a professor of economics at Harvard University. Finkelstein is a professor of economics at MIT. They are grateful to Annetta Zhou for excellent research assistance. The numbers in parentheses throughout this report refer to NBER Working Papers.
The number of Public Economics (PE) papers per year has grown over time from 55 in 1990 to 183 in 2010. This appears to primarily reflect the growth in the number of Program members; over the same period, the total number of NBER affiliates has also increased; and the Public Economics share of NBER Working Papers has not shown any pronounced trend. However, the activities of the PE Program have branched out in part to related programs, including Children, the Economics of Education, Aging, Health Economics, and Health Care. The papers in these programs collectively account for over 40 percent of NBER Working Papers in 2010.

The typical methodology used in papers in the PE Program also has changed over time. In 1990, about 30 percent of papers listed in PE were purely empirical; by 2010 that number had grown to about 50 percent. Much of this growth is likely due to the greater availability of micro data that permit rigorous empirical analyses of questions that cannot be answered purely based on theory. We expect this growth to be even more rapid in the coming years, as researchers gain access to large administrative panel databases that permit even finer analysis.

The topics analyzed by public economists have changed as much as the methods used. Although public finance traditionally has been associated with government spending and taxation, our analysis of papers listed in the PE Program shows a marked trend over time toward a broader definition of what constitutes public finance. The share of papers listed in the PE Program that are not directly related to government spending or taxation rose from 30 percent in 1990 to over 60 percent in 2010. Common topics for these other papers include macroeconomics, regulation (environmental, housing, financial and so on), and papers on educational productivity and outcomes. Another metric of this broadening of focus is the increasing share of PE papers that are cross-listed in another field, from about 30 percent in 1990 to about 90 percent in 2010.

There also has been a marked shift in research from the analysis of taxation to the analysis of government expenditures. In 1990, less than 10 percent of PE papers on taxes or spending dealt exclusively with spending; in 2010 that number was about 55 percent. Part of this increase is related to the fact that the nature of government expenditure today is more amenable to economic analysis: economists have less
to say about the best way to build bridges than about how to design social insurance programs. But another likely reason for the shift is that the varied nature of expenditure programs at the state and local level creates many important and interesting questions that researchers can investigate using modern quasi-experimental techniques.

There also have been important changes within the sub-field of taxation. Most notably, research has focused increasingly on issues of individual taxation. The share of tax-related papers that deal exclusively with individual taxation has risen from almost 50 percent in 1990 to about 90 percent in 2010. We believe that part of this trend is related to the availability of excellent microdata and identification strategies that are useful in analyzing individual tax and spending programs. Corporate taxation is thus an area that appears ripe for additional work using modern theoretical and empirical methods.

### A Qualitative Perspective

While the descriptive statistics above provide a broad sense of the major shifts in the field, there are many thematic and methodological changes that require a more nuanced reading of the literature. We briefly review what we view as some of the most important themes that have emerged over the past decade of work and highlight areas that are likely to be very active in the coming years. Naturally, the summaries below neglect a far larger fraction of research than they cover; no brief review could do justice to the breadth and depth of work done by the PE group over the past five years. For most of the major points we make we try to list a few illustrative examples from recent working papers, but do not attempt a comprehensive reference list. We apologize to researchers whose work and topics of focus we have been unable to cover here because of space constraints.

### Connecting Theory to Evidence

Prompted by the growth in empirical work documented above, researchers more recently have begun to seek methods of connecting empirical findings back to the theoretical models that formed the core of public finance research in the 1970s and 1980s. The explosion in empirical research in the 1990s and 2000s was largely driven by studies that documented the causal impacts of tax policies or expenditure programs on economic behavior. For instance, a large empirical literature estimated the

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**Table 1 — Overview**

<table>
<thead>
<tr>
<th></th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total # of NBER Working Papers</td>
<td>398</td>
<td>665</td>
<td>1025</td>
</tr>
<tr>
<td>Total # of Working Papers in Public Economics</td>
<td>55</td>
<td>153</td>
<td>183</td>
</tr>
<tr>
<td>Share of Working Papers in Public Economics</td>
<td>13.8%</td>
<td>23.0%</td>
<td>17.9%</td>
</tr>
</tbody>
</table>

**Public Economics Working Papers by Methodology**

<table>
<thead>
<tr>
<th>Methodology</th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empirical</td>
<td>29.1%</td>
<td>46.4%</td>
<td>52.5%</td>
</tr>
<tr>
<td>Theory</td>
<td>38.2%</td>
<td>37.3%</td>
<td>30.1%</td>
</tr>
<tr>
<td>Both</td>
<td>29.1%</td>
<td>11.8%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Other (survey of the literature, research methodology, etc)</td>
<td>3.6%</td>
<td>4.6%</td>
<td>12.1%</td>
</tr>
</tbody>
</table>

**Public Economics Working Papers by Topic**

<table>
<thead>
<tr>
<th>Topic</th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax</td>
<td>63.6%</td>
<td>28.1%</td>
<td>15.3%</td>
</tr>
<tr>
<td>Spending</td>
<td>5.5%</td>
<td>13.7%</td>
<td>20.8%</td>
</tr>
<tr>
<td>Tax and Spending</td>
<td>0.0%</td>
<td>7.8%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Other (Education, Regulation, etc)*</td>
<td>30.9%</td>
<td>50.3%</td>
<td>62.8%</td>
</tr>
</tbody>
</table>

* WPs on education factors and their productivity, such as teachers’ value added and school choice mechanisms, are categorized under “other” while WPs on the financing of public education are categorized under “spending.”

**Public Economics Working Papers on Taxation: Corporate vs. Individual**

<table>
<thead>
<tr>
<th>Type</th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>47.1%</td>
<td>79.2%</td>
<td>88.9%</td>
</tr>
<tr>
<td>Corporate</td>
<td>41.2%</td>
<td>13.2%</td>
<td>7.4%</td>
</tr>
<tr>
<td>Both</td>
<td>11.8%</td>
<td>7.5%</td>
<td>3.7%</td>
</tr>
</tbody>
</table>
impacts of income taxation on labor supply and reported taxable income (7512, 15012, 15583). These studies generally have found significant impacts of taxes on reported taxable income, particularly for high income individuals and over longer horizons when individuals have had sufficient time to adjust labor supply. Estimates of the taxable income elasticity vary, but are generally between 0.25 and 0.5 excluding top income earners (15616). An equally large number of studies have measured the impacts of social insurance and welfare programs on many behaviors (12865, 14306, 15589, 17049). Again, there is consistent evidence that these government expenditure programs affect behaviors around labor supply, savings, and healthcare expenditures. Many of these studies used quasi-experimental methods that permit convincing identification of the causal impacts of policies under relatively weak assumptions.

This body of empirical work has advanced enormously (and continues to advance) our understanding of policy impacts. For instance, several studies have demonstrated convincingly that social security programs have significant effects on retirement decisions (7830, 8658, 17320). Yet in many cases, it has been difficult to translate these findings into assessments of the efficiency or other economic effects associated with social security programs. Theoretical studies on social security (10260, 16503) have characterized the efficiency consequences of program design under specific assumptions about various parameters. However, the implications of the empirical findings for the parameters that entered these theoretical models were often unclear.

Recent work in the PE group has connected the earlier theoretical literature with modern empirical evidence more directly. Researchers used two types of methodology to accomplish this goal. The first is to build structural models that are calibrated to match empirical estimates (9183, 13228, 13375, 17338) and then to analyze policy using these models. This structural approach offers a versatile tool for making quantitative predictions about how particular measures of household welfare could be affected by policy changes in a variety of settings. The second is to derive formulas for policies that meet specified criteria — such as maximizing individuals' utility or welfare — from standard theoretical models that can be expressed in terms of the high-level reduced-form parameters estimated in modern empirical work. This latter technique, which has come to be known as the "sufficient statistic" approach, is less dependent on the specification of a particular model of underlying behavior, but is more limited in the set of questions it can answer.

Both of these methodologies have allowed PE researchers to start to assess how various policies affect a number of criteria that might be used for policy analysis. For instance, researchers have provided numerical characterizations of how a utilitarian social welfare criterion would be affected by various degrees of progressivity of the income tax schedule (7628, 7708, 17616), of the level of unemployment benefits that maximizes individuals' expected utility (12618, 13967), of the tax rate on capital gains that maximizes net surplus (17642), and of the welfare costs of adverse selection in health insurance or annuity markets (13228, 14414). These approaches have in turn helped to refocus the empirical literature on estimating the parameters that matter most for policy analysis. There are many areas of the field in which work connecting theory to data is only now beginning, such as the analysis of social security and disability insurance programs or the analysis of education policies. We expect much more research in these areas using the tools that have been developed in recent research.

**Behavioral Public Finance**

Public economics has been quick to draw upon the insights of other fields and to understand their implications for policy analysis. One of the most important transformations in public economics over the past decade has been the incorporation of lessons from behavioral economics. While traditional public economics often starts from potential market failures that might motivate government intervention — such as asymmetric information or externalities due to incomplete markets — behavioral models open up a new class of potential motives and considerations for government policy. When individuals do not optimize, there may be a rationale for government intervention even in well-functioning markets, for instance by requiring that individuals who underestimate risks buy health insurance or by forcing myopic agents to save for retirement.

A key challenge in this nascent literature has been to understand how to do welfare analysis when agents do not optimize. Public economists have leaned very heavily upon the tools of revealed preference in order to analyze policy. By recovering individual preferences from choices, one can proceed to identify policies that maximize the individual's welfare. But when individuals do not optimize, their choices no longer reveal their true preferences, and it becomes much less clear what the government's objective should be. Recent work has made several productive strides in tackling this issue, ranging from defining welfare criteria when agents make specific mistakes (13976, 15328) to developing robust methods of welfare analysis that acknowledge choice inconsistencies (13330, 13737).

Partly because welfare analysis in behavioral models is complex, much of the growth in the behavioral public economics literature has been in positive empirical work. A recurring finding of these studies is that while traditional economic incentives do matter on the margin, other aspects of policies — such as framing, information, or the decision environment — often have much larger impacts. Researchers have demonstrated that behavioral considerations play a first-order role in an array of settings, including the role of defaults in retirement savings contributions (12009, 13352, 14859), the role of salience in tax policies (12924, 13330), and the impacts of information provision tax and transfer programs (14836, 17287).
agents do not optimize. We expect to see much more research in this area in the coming years.

**New Dynamic Public Finance**

Just as public economists have drawn inspiration from work in behavioral economics, research on dynamic macroeconomic models also has had a significant influence on the field. While many of the theoretical models studied by public economists in the 1980s and 1990s were static, macroeconomists were developing dynamic models with forward-looking agents who anticipated changes in future government policies. This style of work now has informed research on public finance, with a large and robust literature dealing with policy problems such as capital income taxation and social insurance in dynamic models. These problems are technically very challenging, because dynamic models are generally much less tractable than static models.

Researchers have made considerable progress in facing these technical challenges and have begun to obtain some interesting findings. For example, several studies have suggested that there may be a role for capital taxation even in infinite-horizon economics, contrary to the results of classic papers that made stronger assumptions about the set of policy instruments available to the government (10792, 16619, 13720, 17642). Other work has shown that in an environment without liquidity constraints, the path of unemployment benefits that maximizes expected utility is constant over time (11689).

An interesting direction for further work in this area is combining the insights of behavioral models with dynamic models. Most dynamic models assume that agents are forward looking, rational agents, contrary to the lessons from the behavioral literature summarized above. One early example along these lines is work showing that constraining agent’s savings decisions when individuals have self-control problems can increase utility (10151). Another interesting direction for further work will be to tie the new dynamic models more closely to empirical evidence, as is now common in the analysis of static problems.

**Lab and Field Experiments**

While a great deal of the new empirical work in public finance exploits large observational datasets, public economists also run experiments and collect new data to use in analyzing economic policies. An active literature uses lab experiments to investigate economic policies. An active literature uses lab experiments to study economic decision making in a variety of domains. These include classic topics such as public goods (15967) and the endowment effect, and reference-dependent behavior (16715), as well as newer areas of inquiry such as the impact of matching grants on charitable giving (13728) and the effect of campaign finance regulations (17384). Other recent work has tested the internal consistency of economic choices and has attempted to explain which types of agents are most rational in their behavior (16791).

Researchers also have turned to field experiments to tackle a broad range of questions because of concerns about the external validity of lab experiments (12992, 14356). Field experiments have been used to analyze the role of ballot secrecy in voter turnout (17673), motives for charitable giving (17648), the long-term impacts of early childhood education (16381, 17533), the effects of information provision on Medicare Part D prescription drug insurance plan choices (17410), and the consequences of using various strategies to address the needs of poor individuals in developing countries (15980). The breadth of these studies, relative to traditional public finance topics, illustrates both the expansion of the field as discussed above and the fact that field experiments allow researchers to tackle questions that could not be answered with standard observational datasets.

As with empirical work using observational data, recent research has begun to integrate more closely the findings from experiments with theoretical models (17047). Several studies involve the design of experiments that directly test the predictions of standard models. For instance, recent work has tested theoretical predictions about observational learning (13516), analyzed whether neoclassical models of tax evasion are good descriptions of taxpayer behavior (15769), and investigated whether individuals’ utility depends upon absolute or relative income (16396). Other studies have estimated the parameters needed to calibrate models for policy analysis, such as the price elasticity of charitable giving (12338).

**Social Insurance**

The growth in research on expenditure programs documented above is driven primarily by research on major social insurance programs, particularly Social Security and Disability Insurance, Medicare and Medicaid, and Unemployment Insurance. These programs make up over half of federal expenditures and are expected to grow rapidly over the coming decades as the baby boomers age and medical costs continue to grow. In the 1980s and early 1990s, empirical work tended to focus on the distortionary consequences of social insurance programs, particularly for labor supply, but also for other behaviors such as savings and health expenditures. While important advances continue to be made in this area, we have also seen an increasing focus on formalizing and quantifying the benefits of these programs. For example, recent work has examined the potential benefits that unemployment insurance may provide by giving unemployed workers access to liquidity (11689, 11709, 13967); one of the central findings of this new vein of research is that access to liquidity during unemployment may be one of the most important functions of unemployment insurance. In the area of health insurance, while interest continues in the impact of Medicare and Medicaid on health spending, research also examines the potential benefits of these programs not only for health outcomes but, increasingly, for risk spreading (16155, 17190), where evidence suggests health insurance may play an important role in reducing the risk of large out-of-pocket medical expenditures or medical debts.

Another welcome development in this area has been the creation of compel-
ling research designs to use in investigating the impacts of uniform national programs. Historically, much of the empirical work on social insurance has focused on unemployment insurance or Medicaid, both of which are state level programs, therefore offering potential “natural experiments” as different states have adjusted these programs in different ways at different points in time. Much of the empirical work on important national social insurance programs — such as Social Security, Medicare, and Disability Insurance — was limited to time-series comparisons as the programs expanded or to cross-sectional comparisons about individuals whose incomes gave them access to different benefit levels. Increasingly, however, researchers have been able to draw on other empirical strategies — sometimes in other countries and often drawing on large administrative databases — to shed light on the impact of these important social insurance programs. In the United States, for example, recent studies have used the discontinuity in Medicare eligibility at age 65 to study the impact of Medicare on health care utilization and health outcomes (13668, 10365). One paper presented at the Spring 2011 NBER Public Economics Program Meeting uses the quasi-random assignment of disability applicants to examiners with different degrees of leniency in judging disability to examine the impact of disability insurance receipt on labor supply. The authors find that the receipt of disability insurance reduces labor force participation more for those who are estimated to have less severe disabilities.

In addition to examining the impacts of social insurance, a growing body of empirical research has investigated some of the underlying economic rationales for these social insurance programs, focusing particularly on the existence and nature of selection in private insurance markets for annuities and health insurance (12289, 14414, 15326) as well as the impact of public policy in selection markets (16977). The emphasis on developing techniques for detecting selection and then applying them has generated interesting and at times surprising insights about the nature of selection and the implications for public policy in annuity and health insurance markets. Several papers include examples in which rather than adverse selection — where those who have private information that they are at high risk select more insurance — there is evidence of advantageous selection — in which those who have private information that they are at low risk will select more insurance. This has raised the possibility that there may be insurance markets in which private information results in too much rather than too little insurance coverage.

**Research influences from the financial crisis and current macroeconomic events**

One of the strengths of the PE program is that the research it produces quickly responds to important economic events. Recently, the financial crisis has touched almost all aspects of American life and society. Thus, we have seen a remarkably quick and direct influence of the macroeconomic situation and the public policy questions it has generated on research in the PE program. Two topics in particular have generated such a concentrated burst of related research that we organized mini-symposia around the topics.

One research topic concerns the varying economic effects of unemployment insurance over the business cycle (16526, 17173, 17534), and the potential implications of such variation for program design. These studies have analyzed, among other things, the extent to which unemployment benefit extensions have increased unemployment rates, and whether this effect is smaller or larger in recessions. In the spring of 2011, we organized a symposium around this topic.

Another question concerns the nature, mechanism, and magnitude of the fiscal multiplier. One day of the July 2011 Summer Institute was devoted to six papers on this topic. Mankiw and Weinzierl (17029) provided a theoretical framework for analyzing the optimal response of monetary and fiscal policy to aggregate demand shocks. Nakamura and Steinsson (17391) provided empirical estimates of the impact of regional shocks to public expenditures on economic activity, and a framework with which to use such estimates to try to inform one’s sense of the standard closed-economy aggregate multiplier. The program that day also featured several papers that estimated the fiscal multiplier using quasi-experimental designs, such as those induced by the stimulus bill (the American Reinvestment and Recovery Act), by the changes in federal spending in localities brought about by decennial updates to the population estimates, and by the performance of state pension fund investments. Other program meetings have featured NBER Working Papers related to the impact of fiscal stimulus as well, including an analysis of the impact of the “Cash for Clunkers” program on the economy (16351) which concluded that almost all of the additional car sales induced by this program represented moving forward sales that otherwise would have occurred within the year anyway.

The interest in analyzing fiscal stimulus is one example of a broader trend toward analyzing issues that have been tackled historically using macroeconomic approaches rather than microeconomic methods. Another example of the use of quasi-experimental methods is work estimating the marginal propensity to consume out of windfall cash grants (16684, 14753).

While the character of public economics research at the NBER has changed dramatically over the past three decades — as any healthy and active area of research should — the fundamental goals of the field remain much the same: to provide careful, rigorous economic analysis that bears on the most important government policy questions of the time. The NBER’s PE program has made significant contributions toward achieving this goal over the past decades and is well poised to continue to do so in the years to come.

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