

UNIVERSITY OF CALIFORNIA

Los Angeles

Expertise and the Enigma of Policy Influence:
How Interventions in Healthcare and Education Changed
Economics, 1950-2023

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy in
Sociology

by

Zachary W. Griffen

2023

© Copyright by
Zachary W. Griffen
2023

ABSTRACT OF THE DISSERTATION

Expertise and the Enigma of Policy Influence:
How Interventions in Healthcare and Education Changed
Economics, 1950-2023

by

Zachary W. Griffen

Doctor of Philosophy in Sociology

University of California, Los Angeles, 2023

Professor Hannah Louise Landecker, Co-Chair

Professor Aaron L. Panofsky, Co-Chair

This dissertation is the first comparative history of the role economists have played in healthcare and education policy in the United States. It is often assumed that in the realm of social policy, economics has been something of a hegemonic juggernaut led by elite thinkers, but this study demonstrates the unfolding of a more malleable field being steadily remade by lesser-known experts. Drawing on historical developments beginning in the 1950s, the project analyzes the role economics plays as social programs are designed, implemented, and evaluated; and, in turn, how the field is reshaped by this role. It follows the course by which applied methods come to eclipse reverence for economic theory, and research design itself becomes a central object of study for only some at the discipline's core. Debunking the notion that economics has

been engaged in a continuous march toward domination in social policy, it demonstrates that the influence of economics is not necessarily most momentous when conducted prospectively based on theory, but rather in an iterative fashion in which evidence is gathered on the basis of prior policy change, and then used to inform subsequent policy design: *policy-based evidence*, not evidence-based policy. This work better equips us as a society to rethink the enormously consequential economics of social policy.

The dissertation of Zachary W. Griffen is approved.

Elizabeth Popp Berman

Theodore M. Porter

Stefan Timmermans

Hannah Louise Landecker, Committee Co-Chair

Aaron L. Panofsky, Committee Co-Chair

University of California, Los Angeles

2023

Table of Contents

Acknowledgements	x
Vita	xvi
Introduction: Expertise and the Enigma of Policy Influence	1
The Enigma of Policy Influence	1
The Sociology of Economic Expertise	5
Expertise and The Enigma of Policy Influence	13
Methodological Approach	17
Chapter Outline	23
The Economization of Social Policy	36
Toward Social Reporting	36
Economizing the Social	42
<i>This Chapter's Approach</i>	45
Setting the Scene: Social Policy and Institutions Leading up to the 1950s	47
Toward Economization: Economists Discover the Social	51
(Sub)Field Foundations	54
<i>Emergence of the Economics of Education: From Coherence to Stagnation</i>	58
<i>Health Economics: From Fragmentation to Vibrancy</i>	70
Has Social Policy Been Economized? Divergent Trajectories	88
Vibrant Fragmentation vs. Stagnant Coherence: the Social Organization of Economic	
Knowledge	92
The Problem of Cost	95

The Price of Progress: Economics and the Inflationary Welfare State	95
Economic Expertise in the Struggle for National Healthcare	101
Analytical Advances: Cost-Benefit/Effectiveness Analysis	113
Education: Local Policy, Signaling Theory, and Continued Stagnation	122
RANDomized STARs: Experimental Knowledge Production in the Economics of	
Social Policy	129
Laboratories of Evidence-Making	129
The Origins of Policy-Based Evidence in Economics	132
Tracing RCT Trajectories	134
The Economization of Social Problems	135
<i>Cost Sharing and Moral Hazard</i>	135
<i>School Finance and Class Size</i>	139
Implementation: RANDomizing Insurance and STAR's Science of Class Size	143
<i>RANDomized Health Insurance</i>	143
<i>STAR's Science of Class Size</i>	146
The Legacy of Experimentation: Causal Inference and the Rise of the Policy-Based Evidence Paradigm	149
Interlude: Cost-Effectiveness Analysis Redux	154
The Status of Costs and the Costs of Status	163
Toward the Twenty-First Century: Theory's Last Gasp and the Failure of Healthcare Reform	165
"The Golden Chalice, but also Fetishized": Causal Inference and the Production of Policy-Based Evidence in Economics	170

Twenty-First Century Social Policy: Fodder for the Evidence Mill	170
<i>Technocracy From the Right: No Child Left Behind</i>	170
<i>Technocracy From the Left: The Affordable Care Act</i>	174
Policy-Based Evidence Takes Center Stage	177
Causal Inference: “The Golden Chalice, but also Fetishized”	180
Comparative Case Studies in Policy-Based Evidence-Making	184
<i>Value-Based Payment and Value-Added Modeling</i>	186
<i>Medicare Advantage and Charter Schools</i>	193
Do Policies Make Economics? <i>Rigorous Capital and the Production of Policy-Based</i>	
Evidence	200
Returning to the Roots of Causation: A Tale of Two Agencies	205
Coda: The Success of Market Design	214
Reflecting Back: Fragmented or Coherent Social Structure?	218
Conclusion	222
Where Are We Now in the Economics of Social Policy?	222
Transformation in the Microeconomic Habitus	224
State of the Art in Health Economics	229
State of the Art in the Economics of Education	234
Commonalities Across Subfields: The Return of ‘Equity’?	238
COVID-19, Economics in Popular Media, and the Transformation of Governance	239
<i>Post-2020 Currents in the Economics of Social Policy: What is Old is New Again</i>	252
References	260

LIST OF TABLES

Table 1: Expert Interviewee Information	21
Table 2: Toward a Social Report Panelists	38
Table 3: Cases of Policy-Based Evidence	186

List of Figures

Figure 1: Google N-Gram search results	18
Figure 2: The Policy-Based Evidence Field	203

Acknowledgements

As a connoisseur of scholarly acknowledgements sections, I have been anticipating writing this for a long time. While it will never be possible to fully thank everyone who helped and guided me along the road to finishing this dissertation, I am grateful to have this opportunity to try.

When I visited UCLA as a prospective student, I requested that the staff set up a meeting with Aaron Panofsky, who was not even affiliated with the Sociology Department at the time. My request turned out to be a fortuitous one, as I could never have envisioned being mentored by someone with such a specific interest in bringing field theory to bear on the sociology of knowledge and expertise. Since I came to UCLA, Aaron has not only been an outstanding mentor, collaborator, and advocate, but he has also become a close friend. I feel honored and lucky to be the first student for whom Aaron has served as a dissertation co-chair, and for sociology's sake, I hope not to be the last.

I was introduced to Hannah Landecker at the end of my first year at UCLA, and it quickly became clear that she was the primary mentor I was looking for in the Sociology Department. The breadth of Hannah's knowledge and depth of her perception is unmatched, and her forthright intellectual confidence will remain aspirational to me for the rest of my career. I have always felt a certain degree of discomfort with some of the more formulaic parts of sociology, but every meeting with Hannah left me feeling newly invigorated. But most importantly, Hannah's insistence that academic writing can and actually should be a pleasure to read has been a breath of fresh air that I hope I can live up to.

I started working with Stefan Timmermans during my second year in the program. As the most pragmatic member of my committee, Stefan showed me the ropes of the publication process by collaborating with me on a journal article and then employing me as his Editorial Assistant at *Social Science & Medicine*. The opportunity to witness the nuts and bolts of academic publishing from behind the scenes was eye-opening, and gave me a greater appreciation for the human side of what often feels like a total black box. On a day-to-day basis, I am also immensely grateful to Stefan for not only offering me a space to work in his office suite, but allowing me to hang around for a year (or two) longer than I had originally anticipated.

Before I even started at UCLA, I read *Trust in Numbers* and began plotting how to get Ted Porter on my dissertation committee. When the time came, I jumped at the chance to take Ted's History of Science seminar and become acquainted with his signature dry wit, which eventually led to him serving as an external member. It still feels surreal to refer to myself as a scholar of quantification who trained under Ted Porter, knowing that Ted practically invented the field himself out of whole cloth.

Finally, while Beth Popp Berman was a late addition to my committee, in practice she was there from the beginning and I arguably discussed my work with her more than anyone else. When I first attended the American Sociological Association annual meetings, the only appointment I set up ahead of time was a sit-down with Beth. Even though we have spent years working not just on similar research topics but often using materials from the same archives, I still learn more from everything she writes. And not only is Beth an exceptional sociologist, but she also truly embodies the spirit of academic generosity—a trait that we could all stand to learn more about.

Before I came to UCLA, I fortuitously took a course with Ignacio Sánchez Prado. And then I took another, and another, and another. It is safe to say that without Nacho's influence and enthusiasm, the entire trajectory of my life and career would be different. Despite my prior academic laziness, Nacho recognized my interest in social theory and shepherded me through an MA program and into the PhD application process. He is a relentless advocate for critical thinking, intellectual responsibility, and the dissection of culture, and I will never stop being grateful that I met him at a pivotal time in my life.

At UCLA, I have been lucky to receive support in two intellectual communities. The first, the Department of Sociology, is an expansive and sometimes challenging environment that has tested my patience at times but ultimately made me into a better scholar. Among current and former faculty, I want to especially thank Stefan Bargheer, Rogers Brubaker, Rebecca Emigh, Jacob Foster, Jeff Guhin, Kevan Harris, Aliza Luft, Bill Roy, Abigail Saguy, Tanya Stivers, and Ed Walker. The Department staff has also been helpful along the way, as Wendy Fujinami and Irina Tauber have answered numerous panicked questions I had about bureaucratic matters over the years.

A special thanks is needed for the numerous friends I made over the course of my PhD. As a graduate student, I was lucky enough to get to know Wisam Alshaibi, Clara Bergen, Michelle Berman, Marie Berry, Juan Delgado, Lleydy Diossa Jimenez, Eduardo Duran, Neil Gong, Liz Gonzalez, Ashley Gromis, Joel Herrera, Andrew Herman, MJ Hill, Nicole Iturriaga, Bernard Koch, Andrew Le, Kyle Nelson, Yotala Ozkay Febres-Cordero, Pei Palmgren, Chris Rea, Carla Salazar Gonzalez, Kevin Shih, Michael Siciliano, Eleni Skaperdas, Michael Stambolis, Lina Stepick, Phi Su, Caroline

Tietbohl, Michael Tran, Ariana Valle, Amber Villalobos, Eli Wilson, and Amy Zhou.

Without you all, I would have given up a long time ago.

As far as academic departments go, the Institute for Society and Genetics is a marvelous oasis in the midst of the UC's vastness, and I cannot imagine my time at UCLA without having had it as my second intellectual home. I am so thankful to the folks at ISG for their commitment to pedagogy and creating a comfortable environment for me to grow as an educator. Special thanks go to Patrick Allard, Nanibaa' Garrison, Chris Kelty, Jessica Lynch, Megan McEvoy, Bharat Venkat, and Ana Wevill.

I am of course also grateful to the numerous economists and policy experts who shared their time, thoughts, and insights about their work with me. While social scientists of different stripes have various disagreements with one another, it was humbling to speak with so many careful thinkers about what makes the field of economics tick. Thanks also to archivists at the LBJ Presidential Library, where I was able to spend several wonderful weeks thanks to a Moody Research Grant from the LBJ Foundation, as well as archival specialists at the JFK, Nixon, and Ford Presidential Libraries. In addition, archivists at the Walter P. Reuther Library at Wayne State University, the University of Chicago Special Collections Research Center, Countway Library of Medicine at Harvard, and the Rockefeller Archive Center provided assistance during the course of my research.

On a personal level, there are two categories of people to whom I owe immense debts but are too numerous to name here: my adopted extended family of fellow Washington University Cross Country alumna (Run Fast Go Bears), and my actual extended family of Websters and Griffens, especially my beloved grandmother and

fearless matriarch Margaret Griffen. To those who went above and beyond in offering me emotional support over the years, you know who you are. I want to make a special acknowledgement of my grandfather Bill Webster, who passed away while I was in college, as well my uncle Kevin Schaefer and grandfather Ward O. Griffen Jr., whom we lost during the course of my progress. All of them are dearly missed. I love and miss my grandmother Pat Webster, who I lived and argued with every day for three years after college, and I dedicate this dissertation to her memory. She probably would have disagreed with everything I wrote.

To the Lane family, Connie, Bill, Gracie, Kate, Ashley and Mike Claire, and Nick Klingler: I look forward to many future Christmases in Concord (and with a much shorter commute!). I have felt so at home with you all for the last eight years, and I consider myself incredibly lucky to have been welcomed so warmly. Gracie, I early anticipate discussing your moving plans in the coming months.

To my siblings, my brother Sammy and my sister Heidi: it was an absolute blast living with you in LA for the last few years and it feels beyond bittersweet to be breaking the band up. The same goes for their partners Lauren Peachey and Jeremy Parel. Hopefully this is just the beginning of the next chapter for all of us. To my mother, Susan Griffen, thank you for being there for all of us, but most of all, for taking care of Dad. Two years into my PhD, I thought we were going to lose Tim Griffen far too young, but he went to hell and came back and I am so grateful for every day I get to spend with him.

Finally, I could never have accomplished any of this without my dear, Selena Lane. She is both my funniest interlocutor and the bedrock of my conscience, and I

wake up every day wondering what I did to deserve having her in my life. In addition to being the sharpest critic of my ideas and writing, she pushed for us to bring Boot and Ting into our lives, and I honestly cannot imagine finishing my dissertation without those cats (even though they have ruined over half of our possessions and have their eyes on the other half). Luckily for me, the four of us will get to keep the show going indefinitely.

Vita

EDUCATION

- 2015 M.A., Sociology, University of California, Los Angeles
- 2013 M.A., International Affairs, Washington University in St. Louis
- 2010 B.A., Economics/Anthropology, Washington University in St. Louis

PEER-REVIEWED PUBLICATIONS

- Griffen, Zachary. Forthcoming. "The Economization of Early Life: Human Capital Theory, Biology, and Social Policy." *Science, Technology, and Human Values*.
- Griffen, Zachary. 2022. "The 'Production' of Education: The Turn from Equity to Efficiency in U.S. Federal Education Policy." *Journal of Education Policy* 37(1): 69-87.
- Griffen, Zachary and Aaron Panofsky. 2021. "Ambivalent Economizations: The Case of Value Added Modeling in Teacher Evaluation." *Theory and Society* 50(3): 515-539.
- Griffen, Zachary and Stefan Timmermans. 2020. "The Cost of Saving Babies: How Economists Justify Policies." *Economy and Society* 49(2): 265-286.
- Griffen, Zachary and Aaron Panofsky, 2020. "VAM on Trial: Judging Science in Teacher Evaluation Lawsuits." *Journal of Cultural Economy* 13(4): 444-460.

OTHER PUBLICATIONS

- Griffen, Zachary and Aaron Panofsky. 2023. "Fields of Expertise: Analytical Approaches and the Question of Autonomy." Pp. 279-298 in *The Oxford Handbook of Expertise and Democratic Politics*, eds. Gil Eyal and Thomas Medvetz. Oxford, UK: Oxford University Press.
- Griffen, Zachary. 2022. "The Organizational Character of Statistical Expertise," Review symposium for Emmanuel Didier, *America by the Numbers: Quantification, Democracy, and the Birth of National Statistics* (Cambridge: MIT Press, 2020), *Journal of Cultural Economy* 15(1): 130-132.

MANUSCRIPTS IN PREPARATION

- Griffen, Zachary. "The Golden Chalice, but also Fetishized': Causal Inference and the Emergence of Policy-Based Evidence in Economics." Working paper.

Griffen, Zachary. "A Tale of Two Critiques: What QuantCrit and the Social Studies of Quantification Can Learn from Each Other." Working paper.

Griffen, Zachary. "Our Money or Our Lives: How Competing Fields Make Claims on Public Health." Working paper.

FELLOWSHIPS AND AWARDS

2022-2023	UCLA Sociology Meier Dissertation Fellowship
2021-2022	UCLA Sociology Department Fellowship
2019	Social Science History Association Student Travel Award
2018	LBJ Foundation Moody Research Grant
2016-2017	UCLA Graduate Research Mentorship
2016	Social Science Research Council Dissertation Proposal Development Fellowship
2015	UCLA Graduate Summer Research Mentorship
2014-2015	UCLA Center for American Politics and Public Policy Marvin Hoffenberg Fellowship
2014	UCLA Graduate Summer Research Mentorship
2013-2014	UCLA Department of Sociology Fellowship
2012	Washington University University College Dean's Scholarship

TEACHING EXPERIENCE

Instructor

2020-2022	Integrative Approaches to Society and Genetics (Society and Genetics 5), University of California, Los Angeles (Online)
2018-2019	Integrative Approaches to Society and Genetics (Society and Genetics 5), University of California, Los Angeles (In-Person)
2017	Sociology of Education (Sociology M175), University of California, Los Angeles (In-Person)

EDITORIAL EXPERIENCE

2017-2021	Editorial Assistant, Sociology Office, <i>Social Science and Medicine</i> (Senior Editor Stefan Timmermans)
-----------	---

PROFESSIONAL SERVICE

2021-2022	Elected Student Representative, Science, Knowledge, and Technology Section, American Sociological Association
-----------	---

Introduction: Expertise and the Enigma of Policy Influence

“The philosophers have hitherto only interpreted the world in various ways. The point, however, is to change it” Karl Marx (1845)

“Practical men, who believe themselves to be quite exempt from any intellectual influence, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back” John Maynard Keynes (1936)

“Economists have the least influence on policy where they know the most and are most agreed; they have the most influence on policy where they know the least and disagree most vehemently” Alan Blinder (1987)

The Enigma of Policy Influence

Type “the architect of Obamacare” into a search engine and it will invariably return a series of results for economist Jonathan Gruber. While the “architect” label is something of a gross exaggeration, Gruber, a professor at MIT and one of the leading health economists in the U.S., did indeed consult with the Obama Administration as well as various Democratic congressional committees during the drafting of the Affordable Care Act (Rampell 2012). In the early 2000s, Gruber had also contributed to the effort to create the “Romneycare” health system in Massachusetts, which increased statewide healthcare coverage by imposing an individual mandate on the population that penalized those who failed to sign up for insurance on an annual basis. During the political battle over the ACA and in the years that followed, the legislation’s use of a similar mandate and Gruber’s own expertise became lightning rods for public contestation (Irwin 2014). Political commentary was particularly focused on several key elements of the legislation: for example, Obamacare’s own individual mandate, as well as the so-called ‘Cadillac tax’ on high-deductible insurance plans.

Ironically, despite the frequency with which folks equate conservatism with neoliberal economics (Mirowski and Plehwe 2009; Peck 2010; Harvey 2005), these provisions were also considered key to the legislation's success by the Ph.D.-wielding, center-left technocrats advising the Obama administration (Nikpay, Pungarcher, and Frakt 2020). Democrats cited a slew of studies by Gruber and other economists purporting to show that these features of the ACA were technical necessities if the legislation was to increase healthcare coverage, whereas Republicans argued that these features of Obama's signature legislative accomplishment infringed on individual rights. Both the individual mandate and Cadillac tax had decades-old origins in economic theory: adverse selection in insurance markets (Akerlof 1970; M. Rothschild and Stiglitz 1976), and excise taxes to discourage high-cost insurance plans (Feldstein 1973), respectively. Economics, in other words, was central to the legislation's success.

Or was it? When Donald Trump and the Republicans gained unified control of the U.S. government in 2017, one of their major policy priorities was to pare back the ACA. While their efforts to "repeal and replace" the entire legislation failed dramatically when Senator John McCain joined the Democrats in voting against that bill, the GOP went on to use the 2017 Tax Cuts and Jobs Act to eliminate the penalty for failing to comply with the mandate, rendering it toothless. Then in 2019, a bipartisan bill written by Democrats officially ended the Cadillac tax, the implementation of which had already been delayed for several years. Contrary to the assurances of economists, studies have subsequently shown that removing these supposedly essential provisions of the legislation has had almost no effect on insurance coverage (Kliff 2020). In other words, despite widespread

consensus that the individual mandate and Cadillac tax were key to the ACA's success, their disappearance had barely any discernable policy impact.

This dissertation argues that episodes such as this represent the enigma of economists' policy influence. Despite economics being institutionalized in the U.S. policy process, both in terms of what sort of discourse carries authoritative weight as well as which kinds of experts populate government agencies, on many of the questions that economists are most interested in, their alleged preferences fail to move the policy needle. The relationship between economics and the policy process—at least when it comes to social policy issues—emerges not from economics' apparent status as a hegemonic juggernaut led by elite thinkers and a powerful theoretical arsenal, but rather due to how historical events and policy decisions have been shaped by the gradual collection of data and accumulation of economic work often done by lesser-known experts who have steadily remade the field of economics. In the case of the ACA, while the theory-inspired individual mandate and Cadillac Tax received much of the initial attention, the legislation's most robust policy changes came through the expansion of the Medicaid program in dozens of states nationwide. And on this topic too, there is plenty of economic research supporting the decisions of policymakers (Finkelstein, Hendren, and Luttmer 2015; Donohue et al. 2022; Currie and Duque 2019; Finkelstein, Hendren, and Shepard 2019). However, unlike some of the best known provisions of the ACA, the economic evidence on the effects of Medicaid expansion is not as straightforward an application of economic theory, but rather has emerged piecemeal as states have experimented with expansion and generated massive troves of data for use in experimental and quasi-experimental research. The process by which policy change

leads to the creation of these data, which in turn become the pillars upon which economic research is conducted, is what I call the *production of policy-based evidence*, following the economist John List (2022). This dissertation argues that the history of the economics of social policy is a story about the emergence of a policy-based evidence paradigm and its consequences.

The rest of this introduction accomplishes four primary tasks. First, I provide an overview of the sociology of economic knowledge and situate my analysis of the economics of social policy within that tradition. I then proceed to outline my argument, explaining how this study will push forward research in this area. Following that, I outline my methodological approach, which primarily relies on interpretive analysis of a wide array of documentary sources as well as interviews with several dozen economic experts. Finally, I outline each of the five chapters to come, which include four empirical chapters comparing the history of health economics to the economics of education, chronologically organized, and a concluding chapter that theorizes the present state of play in the economics of social policy. The study is not an exhaustive history of these two subfields in economics—that sort of account is commonly found in the more internalist ‘History of Economic Thought’ tradition. Instead, leveraging the logic of comparison, I use the economics of health and education as a lens into which we can make sense of the enigma of policy influence: how economics can at once appear hegemonic to everyday observers while remaining mired in arcane technical disputes largely divorced from political concern, and how the social organization of economic expertise is affected by the policy domains that feed into the production of knowledge.

The Sociology of Economic Expertise

While in many ways still a minor and relatively new area of inquiry, the sociology of economic knowledge can nonetheless arguably be traced back to Marx. *Capital* may be most commonly known as a foundational work in social theory, but—as indicated by the book’s subtitle—Marx intended his magnum opus to be thought of as an immanent critique of the *method* of political economy (Marx 1867; Postone 1993; Harvey 2017). Marx sought to historicize the categories of analysis used by classical political economists; in other words, to demonstrate how those categories were the results of the social conditions of their production. While sociologists in the early years of their field’s formation were sympathetic to Marx’s critique of political economy, they gradually became contented with disciplinary boundaries that allowed sociologists to ignore many economic issues and focus on other areas of inquiry (Young 2009). Until the emergence of economic sociology in the 1980s, the project of understanding the origins and trajectory of economic knowledge was largely carried out by scholars from outside sociology (Coats 1993).

For much of the twentieth century, economic knowledge was most commonly considered an object of inquiry by specialists in the “History of Economic Thought,” a subfield of the economics discipline that was gradually marginalized and in the last several decades all but eliminated from academia in the United States (Blaug 2001). Representative of this line of thinking is the work of economists-turned-historian such as Deirdre McCloskey, who has analyzed economics as a discursive endeavor (McCloskey 1985), and Philip Mirowski, who argues that economics is patterned on physics’ fundamental conservation of energy principle (Mirowski 1989). History of economic

thought has had an uneven relationship with the broader history of science tradition and has never really fit in (Schabas 2002; 1992), mirroring the relationship between the economics discipline itself and the natural sciences. More recently, much creative new research on the production and circulation of economic knowledge has come not just from card-carrying historians of economic thought, but also from anthropologists, philosophers, and—most importantly for the sake of this dissertation—sociologists (Fontaine 2016; Fourcade-Gourinchas 2003).

In the 1980s, as economic sociology and science studies were both crystallizing into defined fields of study, economic knowledge itself was also taken up as an object of sociological research. This research included studies of the transnational circulation of Keynesian economic theory (Hall 1989), the professionalization of economics as an academic discipline (Coats 1993), and the expansion of economic thinking to traditionally ‘social’ topics (Ashmore, Mulkay, and Pinch 1989). In recent years, the sociology of economics has matured as a distinct area of inquiry at the intersection of economic sociology and science studies. While it is most similar to history of economic thought in terms of objects of analysis, the sociology of economic knowledge is both theoretically and methodologically much closer to science studies. Since the publication of *The Laws of the Markets* (Callon 1998), a niche for the study of economic knowledge has been carved out in economic sociology, though this research (“social studies of finance”) is mostly about understanding how financial instruments and technologies format social life (Knorr-Cetina and Preda 2012). My interest in economic knowledge—and I would argue that this is true of the sociology of economics in general—is not just

in economic models, but also how the social authority of economists is established, organized structurally, and ultimately maintained.

A key question for sociological research on economic knowledge is how the category 'economic' is constituted in the first place. This theme appears frequently throughout the history of sociological thinking: it is present in Marx's (1867) exposition of the logic of capital, Weber (1978, 63–68) tried to define "economic action" as a distinct type of social behavior, in Parsons (1956) economic activity became its own "subsystem" of society with an entirely different set of rules, and for Granovetter (1985) economic action was "embedded" in social structure. In recent years, sociological research has approached questions about the category of the 'economic' through the object of 'The Economy': how did this object become solidified and measurable, differentiated from 'natural' and 'social' phenomena (Schabas 2005; Foucault 2008; Mitchell 2002; D ppe 2011)? Answers to this question usually refer to *expertise*, by arguing that 'The Economy' became a well-defined socio-technical object because an academic field, economics, developed means of collecting national income data and mathematically modeling this object in a standardized way that gradually became stable over the first half of the twentieth century (Eyal and Levy 2013; Hirschman, n.d.; Breslau 2003; Shenk 2022).

In this dissertation, I am interested in examining how economists have pushed the boundaries of their discipline *beyond* 'The Economy' as it is quantitatively defined in monetary terms. At the same time as 'The Economy' was stabilized as a socio-technical object in the mid-twentieth century, economists also began expanding the use of econometric techniques and economic theory to encompass 'social' domains that had

usually been considered outside the bounds of 'The Economy' (Fleury 2010). This project will trace how economists brought the methods and categories of economic analysis to bear on the social domains of education and health, and thereby how these domains became subjected to interventions that would bring them closer in line with the rest of 'The Economy.' More specifically, I draw on sociological ideas about economics as a professional field of scientific research and as a means of political intervention in social life, a schema which I outline below.

Over the last several decades, research in the sociology of economic knowledge has proliferated in several forms. In this project, I emphasize core themes stemming from this body of research: the social organization of economic knowledge in academic and public life, processes of 'economization' or ways in which objects are constituted as economic, and the 'performativity' of economic knowledge as it is used to intervene in social policy. None of these theoretical objectives is completely inseparable from the others, but they are nonetheless distinct aspects of the project that build on important themes in the sociology of economics. In particular, as will become apparent in the next section, my argument both builds on this literature while also departing from it in key ways, as the 'performativity' of economics I am most interested in actually occurs in *reaction to* policy, rather than as a means of promoting any particular agenda.

While scholarship has generally focused on economics as a growing, "imperialistic" field of knowledge production (Lazear 2000), less attention has been paid to dynamics that have developed internal to the field that mediate its relationship to the broader academic and political world in which economics is enmeshed, affecting the questions asked, methods used, and objects studied. Critics of economics often argue

that as the intellectual focus and thematic priorities of the field expands, it is consistently able to claim and enforce jurisdiction over policy matters in domains of social action that are increasingly distant from its disciplinary core. Yet Bourdieu (1975, 19) notes that scientific fields are both “fields of forces” and “fields of struggles” to conserve or transform these forces and redefine disciplinary boundaries that can be affected by lesser-known experts as a field grows. Building on this idea, Cambrosio and Keating (1983) examine how *subfields* emerge as scientists struggle to establish positions and stake out new territory that might expand the boundaries of these fields. As education and health were gradually incorporated into the expanding economics field in the second half of the twentieth century, what struggles internal to the discipline did this entail? How did the growing emphasis on social policy as an engine of economic growth in the U.S. national political environment (Berman 2012) affect the content of economics?

One goal of this project is to examine how economics has become internally differentiated based on subfield identity and interest in affecting policy, even as the discipline has become more aligned on certain basic theoretical questions (Van Gunten, Martin, and Teplitskiy 2016). Should the economics of education and health economics be thought of as microcosms of the larger field of academic economics, as Fligstein and McAdam’s field theory would suggest (Fligstein and McAdam 2012, 58–60), or are these subfields of inquiry distinct enough from ‘Economics’ broadly construed that their origins merit detailed empirical investigation? I argue that the “logics of practice” (Bourdieu 1990) that developed in the economics of health and education are closely related to each other and reflect the growing emphasis on empiricism in economics as a

whole, but that they also diverge in important ways when they interact with the U.S. policy process, and are therefore worth exploring in greater detail. As Bourdieu (1996, 223–27) notes, “the growth in the volume of the population of producers is one of the principal mediations through which external changes affect the relations of force at the heart” of any given field. In economics, the greater proliferation of experts in health and medicine has made the subfield more vibrant and epistemologically flexible than the economics of education, the logic of which is more highly codified but less permeable to the policy world.

The question of how boundaries are defined and enforced in economics as a disciplinary field brings me to another issue: the expansion of economic ways of thinking and the spread of professional economic expertise to various settings (Fourcade 2006; Fourcade, Ollion, and Algan 2015; Markoff and Montecinos 1993; Reay 2012). This line of research is not just about the *diffusion* of ‘Economics,’ narrowly construed as an abstract scientific paradigm, but also what it means to be an economist in the first place—a social position that has varied historically across different national contexts (Coats 1993; Fourcade 2009; Montecinos and Markoff 2009). How are issues related to education or health brought into the realm of economics, and how does this affect what kind of knowledge economists produce? The dissertation comparatively examines processes of “economization” (Berman 2014; Çalışkan and Callon 2009; Griffen Forthcoming; Murphy 2017; Kenny 2017), which are attempts by economists to render aspects of education or health as technical objects for economic analysis and intervention. Unlike previous work on economization, which has focused mostly on *marketization* processes (Çalışkan and Callon 2009), this project investigates how

economic expertise is constructed to measure profoundly social domains, each of which is characterized by heavy government expenditures and regulation. Education and health are interesting sites at which to observe the application of economic expertise not just because their persistent growth as service-heavy sectors makes them vital to overall economic conditions (Baumol and De Ferranti 2012), but also because the difficulty of producing economic knowledge in these areas frequently leads to contradictory claims and contestation.

Finally, sociologists have also been interested in studying the *effects* of producing economic knowledge, and this dissertation is no different. There is a great deal of research on the “performativity” of economics (Callon 1998; MacKenzie 2006; MacKenzie, Muniesa, and Siu 2007), as well as studies that consider how economic experts contribute to the production of policy-knowledge (Berman 2014; Breslau 1998; Hirschman and Berman 2014). The initial articulation of the “performativity thesis” was a response to Granovetter’s notion that economic action is “embedded” in social structure (Granovetter 1985). Callon noted that perhaps it is that economic action is embedded in “economics, in the broad sense of that term, [which] performs, shapes and formats the economy” (Callon 1998, 2). The performativity thesis has been thoroughly criticized in science studies, both for being insufficiently critical of the role that economics plays as an instrument of power (D. Miller 2002) as well as too simplistic in its description of the messy reality of economics intervening in the world (Mirowski and Nik-Khah 2007). A much more robust version of the performativity thesis was put forward by MacKenzie (2006), who developed a typology of different kinds of performativity that would take into account the extent to which economics is actually able to remake the world to align with

economic theory. In most cases, the performative effects of economics are what MacKenzie terms “generic” or “effective” performativity: these comparatively weaker processes indicate ways in which economists can affect their objects of study but perhaps with unintended consequences not predicted by models or theories. While I find evidence of these weaker performative processes in the economics of social policy, I also develop an alternative account of performativity: the production of policy-based evidence as a kind of performance that economists engage in to further their own interests as a *response* to policy change.

Overall, this dissertation builds on each of these prior lines of research, considering both how economics has expanded its jurisdiction to encompass education and health, how economists render objects and processes in these fields as ‘economic,’ and the performative effects of this knowledge. Research on performativity and the policy effects of economic knowledge has largely failed to consider how economics is socially organized as an academic field. Likewise, scholarship on what the disciplinary field of ‘economics’ consists of has not always analyzed how economists insert themselves into the policy-making process. I examine the emergence and institutionalization of education and health economics, two policy-relevant subfields, to analyze how performative effects are enabled or constrained by academic autonomy. Both subfields appear similar to other “interstitial” social spaces located between different fields of expertise (Medvetz 2012a; Panofsky 2014; Stampnitzky 2013), in this case the academic and policy field. I extend this research by focusing on how economists use scientific tools—theories, methods, and epistemological stances—to strategically maintain academic legitimacy in the economics discipline while

simultaneously establishing relevance as policy experts. How economists have comparatively adapted these tools and applied them to education or health comprises the data on everyday scientific activity that will shed light on the broader institutional and policy effects I am most interested in.

Expertise and The Enigma of Policy Influence

The goal of this dissertation is to expand on the aforementioned work in the sociology of economic knowledge by synthesizing and expanding upon recent arguments about the expansion (Berman 2022), flexibility (Reay 2012), and indeed failure (Rilinger 2022) of economics as a source of policy expertise. First and foremost, I build on the notion that an “economic style of reasoning” emerged as a powerful source of influence in U.S. policymaking beginning in the mid-twentieth century and then diffused widely across the federal policy process (Berman 2022; Hirschman and Berman 2014; Appelbaum 2019). In the 1960s, economists extended their analytic toolkit to incorporate social policy topics such as education and healthcare but also including crime, poverty, housing, and urban development (Fleury 2010). As Berman has convincingly argued, contra much of the literature on the intellectual history of neoliberalism (Burgin 2012; Mirowski and Plehwe 2009; Harvey 2005; Peck 2010), the rise of economics as a conduit for policymaking was facilitated not only by political conservatives, but (arguably more successfully) by the Democratic Party and the U.S. center-left (Berman 2022). The *economization* of policy that the Democrats came to embrace during the 1960s occurred both in the realm of macroeconomic management (Mudge 2018; Bernstein 2001) and in microeconomic analysis of social policy programs

(Griffen 2022; Laruffa 2022; Griffen and Panofsky 2021; Berman 2022, 98–128), reflecting a broader turn toward economic reasoning as a means of policy decision-making during the neoliberal era (Çalışkan and Callon 2009; Murphy 2017; Berman 2014; Livne 2021).

Where this dissertation departs from previous scholarship is in its focus on *changes* in the economic style of reasoning that have occurred alongside the transformation of the U.S. welfare state. In an interview, one prominent economist of education announced right off the bat, “I don’t know what economics is anymore” (Economist #28). This is in part the result of advances in computing power that have enabled the development of increasingly novel methods for performing applied econometric analysis (R. E. Backhouse and Cherrier 2017a), as well as the creation and expansion of infrastructures that house administrative data on the effects of social programs (Hutt 2017; Currie, Kleven, and Zwiars 2020; Hoeyer, Bauer, and Pickersgill 2019). These changes have contributed to what is referred to by participants in the field as the “credibility revolution” in empirical microeconomics: an increasingly dominant paradigm that focuses on identifying the causal factors underlying social outcomes with use of experimental and quasi-experimental research design (Panhans and Singleton 2017; Angrist and Pischke 2010). The credibility revolution has also led to the decline in importance of economic theory relative to factors such as the “cleverness” of research design, a point both articulated by my interview subjects and substantiated in the literature (Biddle and Hamermesh 2017; Angrist, Azoulay, et al. 2017a).

The growing status of scholarship dedicated to causal inference relative to theory has had less effect on the internal hierarchy of economics, which remains tightly

controlled by the most elite departments (Fourcade, Ollion, and Algan 2015), than on the relationship between economics as a form of technocratic expertise and the policy domains within which it is enmeshed. If the field of economics and the welfare state are “co-produced” (Jasanoff 2004) and exert influence on one another over time, then it is increasingly less due to the theoretical ideas peddled by economists than because of the common set of methods deployed in social policy analysis. Whereas earlier research found that the social authority of economics was predicated on the “flexible unity” of its theoretical orientation (Reay 2012), I argue that it is in the realm of *methods* that economists have been most successful in exerting expert influence over policy discourse. The insistence on the superior ‘rigor’ of applied microeconomic tools gives economists a unifying paradigm that can span the heterogeneous ideological views across varying structural positions in the field (Van Gunten, Martin, and Teplitskiy 2016).

As the use of econometric methods for establishing causal inference has become widespread, research deploying these methods has come to rival contributions to economic theory as a strategy for accruing “scientific capital” (Bourdieu 1975). Yet as Berman (2022) meticulously shows, the economic style of reasoning has been institutionalized beyond the economics discipline in professional schools of public policy, education, public health, law, and business. Indeed, much of the recent influence emanating from economics has come not from the direct involvement of economists positioned at elite research institutions, but rather through the diffusion of ‘Econ 101’ language throughout the U.S. policy process (Rilinger 2022). Thus even as economists express dismay at their inability to influence policy outcomes, many outsiders to the field

and adjacent experts characterize it as a source of social power in a variety of domains: the “twofold truth” of economics, as Bourdieu (1977) would have it.

The account given in the rest of this dissertation is sympathetic to these other arguments that have been made about the influence of economics on policy: 1) that an “economic style of reasoning” has diffused throughout the U.S. policy process, 2) that the “flexible unity” of economics has proven adaptable to different social positions, and 3) that the “discursive multivocality” of economics has given it influence as a rhetorical force, even in situations where economists are unable to directly move the policy needle. However, moving beyond these accounts, I argue that a fuller sociological picture of the field needs to account for how the methodological changes brought about by the so-called “credibility revolution” have inverted the status hierarchy in economics in a way that is central to the field’s relationship to social policy.

Drawing on field theories of knowledge production (Bourdieu 1975; Panofsky 2014; 2011), I propose that we understand the logic of practice in empirical microeconomics as one dedicated to the production of policy-based evidence, through which political forces are mediated and repurposed as the ingredients for constructing academic arguments. While the methodological toolkit that enables the kind of causal identification economists are interested in emanates from an elite disciplinary “core-set” (H. M. Collins 1981), access to and understanding of these tools has been expanded to applied policy settings, including schools of public policy, public health, education, and think tanks. What unites experts across these institutional spaces is a habitus that has become aligned with the pursuit of *rigorous capital*, which enables a common methodological approach that bridges status and attention divides. When it comes to

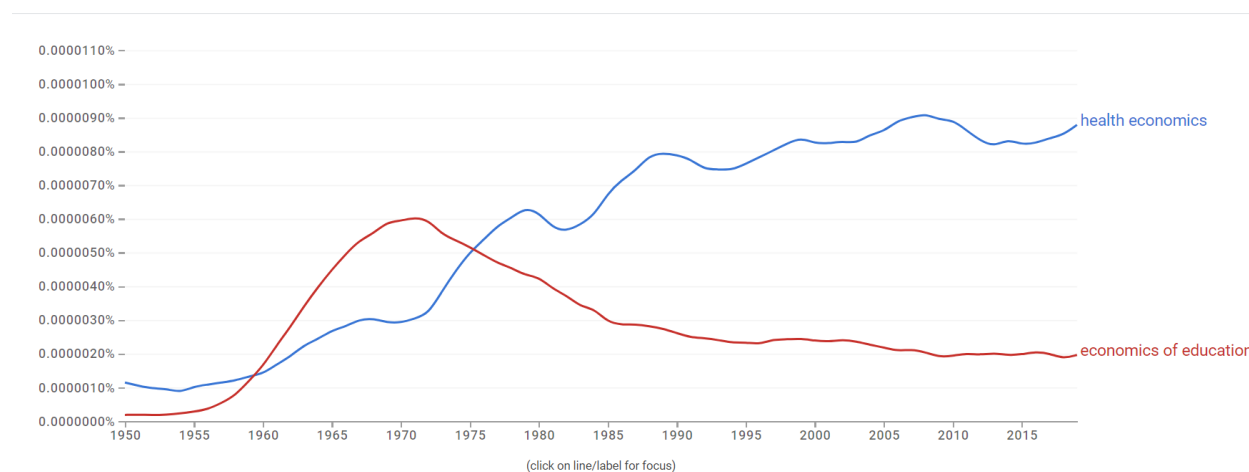
policy, regardless of personal preferences, economic experts claim legitimacy by appealing to the discourse of scientific ‘rigor,’ which is narrowly defined in economics as a set of well-codified tools for establishing causal inference (Cartwright 2021; 2019). Maintaining a shared understanding of ‘rigor’ is key to the production of policy-based evidence in economics and helps to enforce boundaries between elite economists and the broader networks of expertise that emanate from the field’s core, so the rest of the project will explore what this looks like in practice.

Methodological Approach

Health economics and the economics of education both emerged in the mid-twentieth century U.S. as part of a turn toward social policy topics that was driven in part by demand for technocratic expertise from federal agencies in the executive branch (Berman 2022, 98–128; Fleury 2010). While foundational developments in economic theories of health (Pauly 1968; Arrow 1963; Grignon et al. 2018; Mushkin 1962b; Feldstein 1995) and education (Becker 1964; Hanushek 1968; Schultz 1961; Holden and Biddle 2017) occurred in the 1960s, in interviews economists generally point to the 1990s as the moment when these subfields became firmly cemented in the discipline in terms of self-professed, domain-specific areas of expertise. In particular, it was not until recent decades that PhD programs trained economists specifically in health or education (as opposed to labor, industrial organization, or public finance), and these (sub)fields were only added to the Journal of Economic Literature’s influential classification system in 1991 (Cherrier 2017).

While the economics of health and education emerged over a similar time period (see Figure 1 below) and their analytic toolkits have mirrored one another, reflecting broader developments in applied microeconomics, differences in how these tools have been deployed and were received by policy actors contributed to the divergent influence of these subfields as sources of policy expertise. My analytic approach is informed by sociological research that makes use of archival and interview data to *compare* how social scientific knowledge develops in different domains over similar time periods (Fourcade 2009; Schweber 2006; de Souza Leão 2022; Ringer 1992). Following Abbott (2005) and in particular Eyal and de Souza Leão (2019), I trace how in both health economics and the economics of education, transformations in methodology used to produce economic evidence served as “hinges” that connect experts to relevant social policy fields.

Figure 1: Google NGram search results



Drawing on a large corpus of qualitative material, this research excavates the documentary record, delving into executive branch records, federal government reports, oral histories, and both published research and archival documents from economic

experts to reconstruct, in sociological terms, the role economics plays as social programs are designed, implemented, and evaluated. While disciplinary economics is characterized by a distinctive, hierarchical organizational structure that is tightly regulated by members of the profession (Fourcade, Ollion, and Algan 2015), sociologists of economic expertise have frequently used a more expansive, practice-oriented definition of the field (Callon 1998). Building on Berman’s argument that the “economic style of reasoning” has diffused over decades throughout U.S. policy spaces (Berman 2022), in this study I have deliberately sought to identify *variation* in economic expertise by tracing the tension between the academic and policy fields that economic experts navigate. In Bourdieu’s (1975) terms, I argue that we should understand economics as both a “field of forces” and a “field of struggles,” in which economic experts are consistently policing both the boundaries of the disciplinary field and the subfields internal to it, while also negotiating more nuanced technical debates over methodology and theory.

Documents from archives, libraries, and digital repositories served as the bulk of the evidentiary materials for much of the dissertation, and for Chapters One and Two in particular. I first traveled to the Rockefeller Archive Center in New York, where many records of early efforts to fund and institutionalize the economics of social policy are housed—in particular, I discovered extensive evidence that organizations such as the Ford Foundation and National Bureau of Economic Research were essential to the creation of these new research subfields. To make sense of how economists were initially enrolled in the process of evaluating social policy beginning in the 1960s, I visited the JFK, LBJ, Nixon, and Ford Presidential Libraries. Because debates over

healthcare reform and the prospect of establishing universal healthcare were central to policy battles in the 1960s and 1970s, I also spent time at the Walter P. Reuther Library at Wayne State University, which houses materials documenting the historical relationship between left-leaning economic experts, the Senate office of health reform advocate Ted Kennedy, and the United Auto Workers. Finally, I also spent time at the Countway Library of Medicine at Harvard and University of Chicago Special Collections to view the papers of individual economists whose work was vital to the creation of the economics of health and education, including Rashi Fein, Margaret Reid, Theodore Schultz, Mary Jean Bowman, and (quantitative sociologist) James Coleman. Throughout these records, I was also able to trace the presence of a number of other key figures—both notorious individuals such as Nobel winners Kenneth Arrow and Gary Becker as well as lesser-known experts including Dorothy Rice, Selma Mushkin, Barbara Cooper, and Richard Rorem.

In addition to archival and other written sources, I also conducted semi-structured interviews with economic experts (n=46) who use experimental and quasi-experimental methods in their research as they attempt to identify causal factors that contribute to social policy outcomes in healthcare and education. Interviews ranged from 30-90 minutes and consent was attained verbally as per study guidelines reviewed by the UCLA IRB (#22-000612). Some basic descriptive characteristics of interview subjects are depicted in Table 1.

Table 1: Expert Interviewee Information

	Health	Education	Total
Specialty	26	20	46
PhD from Econ Dept?	20	15	35
Women	10	7	17

In soliciting interviews, health economists generally proved to be easier to identify and were more accessible (perhaps reflecting in part the larger size and overall greater policy impact of health economics). While the majority of the experts I spoke with have PhDs from an economics department, I also interviewed experts who use econometric methods in their research but received their formal training in policy, public health, or education departments. I have also included descriptive statistics on the proportion of my interview subjects who are women; while women only comprise around 22% of tenured and tenure-track professors of economics in the U.S., their representation in subfields devoted to social policy is somewhat higher (CSWEP 2021). Across all of these categories, I sought out interview subjects who come from different locations in the economics disciplinary hierarchy: 1) economists situated in elite academic departments, 2) researchers working on the margins of economics or in schools of health policy or education, 3) think tank experts whose work is predicated on securing government contracts, and 4) economists who have served atop key government agencies including the Council of Economic Advisers, the Assistant Secretary for Planning and Evaluation (ASPE) in the Department of Health and Human Services, the

Agency for Healthcare Research and Quality, the Congressional Budget Office, and the newly-created Office of the Chief Economist in the Department of Education.

Interview subjects were initially selected based on my knowledge of the field as well as from specialty journals (the *American Journal of Health Economics*, *Health Services Research*, *Education Finance and Policy*, *Economics of Education Review*, etc.) and looking through lists such as the NBER group membership logs. Snowball sampling allowed me to identify additional researchers working in more applied policy spaces such as think tanks, public policy schools, and the like. At the conclusion of each interview, I asked for suggestions and was able to identify a number of experts amenable to talking with me in that fashion as well. Taking an abductive analytic approach (Timmermans and Tavory 2012), I was able to update my interview coding over time to allow for “surprising” findings that guided further recruitment and alterations to the interview protocol. These data were later triangulated with archival and document analysis to develop a fuller depiction of the role methodological transformations have played in mediating academic economics and the social policy field.

As a final methodological note, I want to clarify my use of the terms “field” and “subfield” throughout the dissertation. Within academic economics, the classification of research has been an intensely contested issue for nearly a century (Cherrier 2017), consistent the hierarchical structure and internal power dynamics of economics departments in the academy (Fourcade, Ollion, and Algan 2015). As an emic matter, the term “field” is most commonly used to denote to which of the *Journal of Economic Literature’s* research codes a particular paper is assigned; this information is reported across journals and conference proceedings. The umbrella *JEL* code for health

economics and the economics of education is actually lumped together: code *I* refers to Health, Education, and Welfare. Cherrier (2017, n53) notes that the clustering of *JEL* codes conflicts with the habitus of many applied microeconomists, whose own understanding of their work conveys an “aspiration for independence.”

To that end, following the field-theoretic framework outlined earlier in this introduction, I have elected to break with the internal nomenclature favored by economists. Throughout the rest of the dissertation, I typically refer to economics as a “field,” whereas health economics and the economics of education are referred to as “subfields.” While this may not be a perfect solution considering the ubiquity of these terms in both self-referential statements by economists and in the sociology of knowledge, in the spirit of reflexive sociology, I decided early on in the project that such as “epistemological break” was the most parsimonious solution to this conundrum (Bourdieu and Wacquant 1992).

Chapter Outline

The rest of this dissertation is divided into five substantive chapters, organized roughly chronologically. The first four chapters each tackle an overlapping series of developments in the economics of social policy during which a new set of research problems and techniques to analyze them emerged, with varying consequences for U.S. healthcare and education policy. These are: 1) the initial crystallization of the economics of health and education into research subfields with theoretical cores and practical applications (1950s-1960s); 2) an explosion of concern with the cost of the newly expanded welfare state as an economic problem (late 1960s-1980s); 3) recognition that

social policy could be analyzed and intervened in with experimental methods drawn from the biomedical and psychological sciences that would place economics on more empirical footing (1970s-1990s); and 4) full emergence and diffusion of the “credibility revolution” that has devalued the role of economic theory and elevated a sense of nonpartisan evidence-mining (1990s-2010s). The concluding chapter then takes stock of the state of the art in the economics of social policy, reflecting in particular on what questions economists are most intent on pursuing today and how the COVID-19 pandemic has reassembled the relationship between economics, social policy, and governance.

The first chapter, beginning in the late 1950s, examines how economists first made jurisdictional claims over healthcare and education policy and began incorporating these domains into the field. The historiography generally marks the publication of Kenneth Arrow’s famous 1963 paper on “Uncertainty and the Welfare Economics of Medical Care” as the origin of health economics, while emphasizing the subsequent work of James Buchanan, Mark Pauly, and Martin Feldstein on moral hazard and excise taxes as key theoretical developments. By contrast, I uncover the importance of figures such as Dorothy Rice, whose 1964 report “Health Insurance Coverage of the Aged and Their Hospital Utilization in 1962” was instrumental in the passage of the 1965 Social Security Amendments that established Medicare and Medicaid. Rice, who did not possess an advanced degree in economics, was part of a cohort of research analysts including Barbara Cooper, Agnes Brewster, Ida Merriam, and Mollie Orshansky, who were tucked away in little-known but generative offices of the Social Security Administration at the Department of Health, Education, and Welfare.

Their pioneering work may not have received the same scholarly attention as Nobel Prize winners like Arrow, but what this style of analysis lacked in economic theory was made up for in its careful assessment of statistical data. Occasions such as the 1964 President's Commission on Heart Disease, Cancer, and Stroke highlighted the importance of such analytical work, prefiguring what economics would come to look like in later decades. Introducing a theme that will span the length of the dissertation, I argue that the paradoxically more fragmented structure and lack of intellectual coherence in health economics gave experts more opportunities to guide policy than the economics of education.

On the education side, the first chapter takes up the consensus argument from historians of economics, which similarly elevates the work of a handful of influential individuals. In particular, the trio Jacob Mincer, Theodore Schultz, and Gary Becker, each of whom contributed to the formation of human capital theory, have been lauded as founding figures in the economics of education. At the same time, other, more routine data analysis work would lay the foundation for much of the field's future productivity. For example, *Equality of Educational Opportunity*, colloquially referred to as the "Coleman Report" after its primary author James Coleman, dramatically expanded the realm of the possible in educational data analysis (Coleman et al. 1966). Produced under the auspices of a team at the National Center for Educational Statistics led by statistician Alexander Mood, the *Report* painted a descriptive portrait of U.S. public education as a vast system of social inequalities. In the late 1960s, NCES added an Economic Analysis Branch that collaborated with economists at prominent institutions such as Harvard and Stanford. The expertise of these researchers was

called upon not just to promote the *Report's* findings but to assess its methodological shortcomings and spur research on new topics including cost-benefit analysis of public education funding and the development of 'education production functions' for the economic evaluation of education as a broader system of inputs and outputs. Ironically, as economists at elite institutions began producing work on the education system, their work actually became less consequential for the practical purposes of making policy.

The second chapter contextualizes how macroeconomic problems brought about by the 'Stagflation' crisis of the early 1970s contributed to heightened concerns about the growing U.S. welfare state, which the theoretical apparatus of microeconomics was well-equipped to address. Techniques such as 'cost-effectiveness analysis,' originally developed by engineers and later adapted in the push for policy experts to adopt 'systems analysis' at the RAND Corporation (Berman 2022; T. M. Porter 1995; 1992), increasingly circulated within the economics of social policy. In healthcare policy, cost-effectiveness analysis quickly became a common methodological strategy for economists, who collaborated with others in the interdisciplinary 'health services research' space that had been recognized as a funding priority by the Johnson administration when it established the National Center for Health Services Research and Development to "produce greater efficiency in the delivery of health services."¹ Health economists also contributed to the governance of cost inflation in healthcare by devising new schemes for administering public health insurance, including Health Maintenance Organizations (Falkson 1980), managed competition (Enthoven 1978a; 1978b), and maximum liability insurance that would essentially establish a national

¹ Typescript of Volume 1, Parts I-III, Administrative History of the Bureau of the Budget, 1970, Box 1, Bureau of the Budget Administrative History, LBJ Presidential Library Archives, Austin, Texas.

healthcare system focused exclusively on catastrophic coverage (Feldstein 1973; 1971a). These approaches to healthcare reform were devised by experts aligned with the policy approach of the Nixon and Ford administrations in reaction to the concerted push by center-left political operators to establish a more comprehensive system of universal health coverage in the U.S. While these efforts were ultimately unsuccessful, they spurred a considerable amount of theoretical innovation in health economics and certain ideas from this era formed the basis for future attempts to reform the entire healthcare system (Woolhandler and Himmelstein 2017; Dolan 2018).

Tools such as cost-effectiveness analysis were slower to develop in education policy, though some studies of educational cost-effectiveness did emerge from the RAND Corporation and Brookings Institution around the same time (Carpenter and Haggart 1970; Levin 1970). Instead, after the initial explosion of interest in research on human capital development and educational production, the economics of education experienced a period of stagnation during the 1970s. This was in part due to the emergence of ideas such as ‘signaling theory,’ which held that educational credentials served a purely functional purpose largely decoupled from policy decisions, as well as the shift in focus from state officials toward the legal arena, which became the locus of policy action in battles over education finance and desegregation. Nevertheless, the domain of public education, as well as healthcare provision, experienced significant inflationary pressure in the late 1960s and early 1970s that affected the questions economists were interested in investigating with respect to social policy.

Chapter Three picks up this thread by explicating how economists responded to the turn to austerity politics with the creation of new analytic tools adapted from

experimental methods in the biomedical sciences and psychology. In healthcare, a major effort to evaluate the effects of patient cost-sharing on health outcomes was instigated in 1971 and spearheaded by the RAND Corporation in collaboration with the Department of Health, Education, and Welfare. From 1974-1982, the RAND Health Insurance Experiment was carried out on thousands of patients spread throughout six states, in an attempt to measure what economists began referring to as “overutilization” of healthcare services (Newhouse 1993). The HIE, which was the largest and most expensive social scientific experiment ever conducted at the time of its completion, heralded the forthcoming “credibility revolution” in applied microeconomics, as health economics shifted toward the carrying out of practical, empirical research at the expense of more abstract theoretical work. Contra the received wisdom among historians of economics, I argue that this type of research actually built logically on not just the first two decades of theory development in health economics, but also the applied tradition represented by Dorothy Rice and colleagues in the Social Security Administration. The success of the HIE is reflected not just in its influence on U.S. health policymaking, which has continued to emphasize the importance of cost-sharing mechanisms due to the robustness of the experiment, but also in the explosion of health economic research on applied topics that followed its completion, the legacy of which is the creation of a “hinge” (Abbott 2005; de Souza Leão and Eyal 2019) between the health policy field and academic economics that is explored in the following chapter.

On the education side, the third chapter examines a comparable randomized controlled trial, Project STAR, that similarly catalyzed the production of new applied knowledge in education policy debate beginning in the 1980s. While economists had

been involved in the genesis and administration of the RAND experiment from the beginning, they became enrolled in the process of analyzing Project STAR's results after the experiment had concluded. This is not altogether unsurprising, as the economics of education had been something of an intellectual backwater for two decades following its institutionalization in the 1960s (Blaug 1985). Project STAR did for education policy what the RAND experiment did in healthcare: answer a key policy question—whether class size reduction in public schools would improve outcomes—with a large statistical sample that would produce robust findings. The results from the project were not only reanalyzed by economists including Eric Hanushek, Alan Krueger, and Caroline Hoxby, but also served as the blueprint for carrying out similar initiatives in states such as Wisconsin and California. In 1990s debates over the project's findings, economists also turned to *quasi*-experimental research methods such as difference-in-difference and regression discontinuity, marking the arrival of the so-called “credibility revolution” in applied microeconomics (Angrist and Pischke 2010; Panhans and Singleton 2017).

The fourth chapter explores how this “credibility revolution” swept across economics and reoriented the knowledge status hierarchy both within the field and in adjacent policy domains from the 1990s onward. Existing research in the history and sociology of economics tends to either criticize the overuse of experimental methods in research on economic development (de Souza Leão and Eyal 2019; Rayzberg 2019) or to descriptively examine the evolution of quasi-experimental methods in the U.S. academic field (R. E. Backhouse and Cherrier 2017b; Panhans and Singleton 2017). Yet economic analysis relying on methods for establishing “causal inference” is

arguably most prominent in U.S. domestic policy research, with healthcare and education both serving as ideal contexts for (quasi)experimental studies.

Chapter Four first examines data from interviews with economic experts (n=46) whose work deals with healthcare and education policy in the U.S. Economists situated in academic institutions, government agencies, and think tanks with varying degrees of investment in the policy process all confirm that the field's center of gravity has converged on statistical methods for establishing causal inference, which furthermore has raised the stakes for gaining access to prized sources of data. In contrast to popular depictions of economics as being both overly driven by "market fundamentalist" political ideology (Block and Somers 2016) as well as flippant about the intricacies of social institutions (Noah 2022), I find that the field's habitus has become less oriented toward achieving particular policy goals or outcomes. Instead of being driven by an explicit policy agenda, the engine that has been shepherding the economics of social policy for the last several decades is a fascination with methodological 'rigor' and 'identification strategies' that are promulgated by federal agencies such as the Center for Medicare and Medicaid Innovation and the Institute for Education Sciences. Ironically, I discovered in interviews that this intense, "data-driven" focus on how policy effects outcomes can actually render economic expertise *less* suitable to the practical work of making policy, which I explore in the second part of the chapter.

The rest of chapter four triangulates my interview findings with several case studies that explicate how economists' interest in the technical details of causal inference can make it less useful in policy settings. Comparing across healthcare and education, I explore how economic work interacts with federal policy changes in the

U.S., focusing in particular on the policy analysis opportunities created by the passage of No Child Left Behind, the Affordable Care Act, and the Race to the Top program. Drawing primarily from case studies of professional evaluation technologies (Value Based Payment and Value Added Models) as well as privatization efforts within public programs (Medicare Advantage and charter school networks), I demonstrate how economic research has largely become retrospective and *reactive to* policy change rather than driving it. The upshot is that some of the most technically sophisticated and acclaimed research in the field has been decoupled from or even detracted from policy decision-making.

By contrast, economic work that is more descriptive and often situated at the margins between the academic field and government can sometimes have outsized influence in terms of moving the policy needle, even if it is not considered suitable for publication in top disciplinary journals. While other research has invoked the concept of “evidence-based policy” to explain how scholarship focused on causal inference is less often relied up on by decision-makers than commonly assumed (Nakajima 2021), instead I draw from rhetoric used by economists themselves to describe this as the process of creating *policy-based evidence*. I argue that the field’s laser-like focus on producing this evidence has become the dominant strategy for accruing scientific capital in the field, allowing economists to claim ideological indifference over the political valence of social policies. I develop this argument further by comparing two cases in which economists have *directly* participated in the policy process: so-called “market design” initiatives in which experts have helped set up the cognitive infrastructure to allocate physicians to residency programs and children to public schools. Revisiting the

first chapter's discussion about the organization of expert knowledge into patterns of fragmentation or coherence, I demonstrate how health economics continues to expand in more dynamic and unpredictable ways, whereas the economics of education has remained focused on a narrower agenda that constrains policy influence.

The concluding chapter first considers the current state of the art in the economics of healthcare and education, before zooming out from the comparative framework to make sense of how recent events—in particular the COVID-19 pandemic—have prompted a need to rethink the relationship between economics, social policy, and governance. First, I demonstrate how economists have been a key part of the recent embrace of “value” as central to discourse in U.S. healthcare policy. Across a number of interviews I conducted, experts told me that the future of health economics is not likely to deal extensively with the structure of the U.S. healthcare system, which has historically been key to the field's agenda. Instead, following in the footsteps of industrial organization specialist Michael Porter, economists are turning to tools that compare different components of healthcare delivery to determine which are most “valuable” in a business sense (M. E. Porter 2010). Meanwhile in the economics of education, in the wake of the policy failure of Value Added Modeling, economists are experimenting with novel forms of measurement and studying policy interventions that expand “noncognitive skills” that are difficult to capture with standardized tests. Across both subfields, the broader policy discourse of “equity” has also started to receive

attention from economists, representing an interesting shift away from the march toward efficiency that previous research has identified (Berman 2022; Griffen 2022).²

The conclusion also unpacks what the pandemic has revealed about the relationship between economics and social policy-making. The arrival of COVID-19 in 2020 was accompanied by an explosion of commentary from experts attempting to make sense of the pandemic and shape the U.S. policy response. While epidemiologists took center stage, before long economists were also making “jurisdictional claims” (Abbott 1988) over public health and education policy, fostering a broader contestation of societal priorities. After initially intervening to stave off the threat of financial collapse, a number of prominent economists inserted themselves into debates over school closures, mask mandates, and vaccine regulatory approval (Porter 2020). While epidemiologists and educators eyed this infringement on their terrain with suspicion, this dissertation shows that it is hardly a novel development in the world of social policy. Though COVID-19 has resurfaced tensions between competing forms of expertise, public health and education are best conceptualized as neither divorced from nor consumed by economics, but rather coexisting uncomfortably alongside them: these fields inhabit what Zelizer refers to as “connected lives” (Zelizer 2005). To that end, I document how in reaction to strong assertions about epistemological authority made by economists, folks such as epidemiologists have begun to reassess the strength of their methodological toolkit, while at the same time economists are rethinking some of their most doctrinaire consensus positions (Berman 2022, 217–32). As a result, experts

² It should be noted also that researchers are increasingly aware of the fact that equity and efficiency are not mutually exclusive categories, and indeed are often used together in policy analysis (Rauscher and Shen 2022).

across different fields have proposed new paradigms to commensurate between these seemingly opposed styles of reasoning (Avery et al. 2020; Murray 2020), which suggests that in the future public health and education could in fact *benefit* from competing jurisdictional claims.

Throughout these five chapters, in addition to accounting for technical developments and structural transformations in the economics of social policy, I also trace major episodes of policy reform in the U.S. healthcare and education systems as they relate to economic expertise. While this is not a dissertation *about* policy per se, and economics is often epiphenomenal or orthogonal to concrete policy reforms, the availability of data made possible by policy (or lack thereof) is central to the constitution of both the economics of health and education. Thus a narrative about a changing U.S. welfare state emerges via punctuated episodes of reform: the Great Society programs in the 1960s, the failed struggle to achieve universal health coverage in the 1970s and 1990s, and the education accountability movement's success with No Child Left Behind in 2001, followed later in the decade by the Affordable Care Act. I draw on accounts of the legislative histories of these programs where necessary, and each chapter explores how reform initiatives contemporary to the time worked their way into the economic research that was being conducted.

I initially decided to write a dissertation on the sociology of economics because of disappointment with my own undergraduate training in economics. Having graduated from college shortly after the Great Recession, it was frustrating to see how the things I had learned about seemed to be so woefully misapplied in the global policy response. Ironically, through years of reading about the history of economics and interviewing

experts, I gradually came to the conclusion that in the domain of social policy, economics, while possessed of a great deal of symbolic capital, is actually far less influential than popular accounts often suggest. Indeed, much of my experience studying social policy-making has suggested that economists often only arrive at conclusions long after programs have been enacted, with their own preferences shunted aside in favor of lobbyists and private enterprise. It seems to me that whereas accounts like Berman (2022) and Mudge (2018) have helpfully excavated the influence that economists have on center-left politics in the U.S., we should also pay attention to instances in which economists do not exercise influence or are easily disregarded by more authoritative forces. This could open up opportunities to think about what other forms of expertise might fill in those gaps, or whether economics as a style of expertise might itself need to evolve. Jonathan Gruber himself, Obamacare's Mr. Mandate, has acknowledged that there are compelling arguments for single-payer healthcare that economists could help to make into a reality, if only the political environment in the U.S. could be transformed (Gruber 2019). The enigma of policy influence, then, is that in economics, becoming a more 'credible' field dedicated to 'rigor' has in many ways decreased the ability for experts to wield influence at all.

The Economization of Social Policy

Toward Social Reporting

To what extent do economic ideas influence social policy? In the 1960s, a number of U.S. social scientists and government officials became interested in the idea of “social reporting” (Ferriss 1979; Fleury 2010). Conceived of as a complement to the Economic Report of the President produced annually as a guide to economic policy, the Social Report was envisioned as a way of expanding the federal government’s ability to collect information on people’s behavior. Instead of focusing strictly on statistics deemed ‘economic’ in nature, this new endeavor would ideally paint a more dynamic portrait of the U.S. population. It would *socialize* the population in the eyes of policymakers. As one of the initiative’s chief architects put it, “it [social reporting] is a symptom of a widespread rebellion against what has been called the ‘economic philistinism’ of the U.S. government’s present statistical establishment” (Bauer 1966, ix). This was a chance for other kinds of social scientists to demonstrate that their expertise could be just as useful to policy design as economists’ knowledge had become in the wake of the Great Depression (Barber 1996).

The effort to come up with a standardized set of social indicators for federal use became a struggle between economists and other kinds of social scientists. Initially, the movement had been spearheaded by psychologist Raymond A. Bauer, whose 1966 edited collection *Social Indicators* characterized the spirit of the whole endeavor. At the same time, in a Special Message to Congress, President Lyndon Johnson asked the Secretary of the Department of Health, Education, and Welfare (HEW) to “develop the necessary social statistics and indicators to supplement those prepared by the Bureau

of Labor Statistics and the Council of Economic Advisers” (Johnson 1966). The first meeting of experts, consisting of economists, sociologists, and psychologists, made constant reference to the Economic Report.³ Whether social reporting was meant to extend the authority economists already had in federal policy-making, or an opportunity for other kinds of experts to gain some influence, was unclear.

The product of this endeavor, *Toward a Social Report*, did indeed cover an array of topics that at the time were considered ‘social,’ rather than ‘economic,’ in nature: “health and illness; social mobility; the physical environment; income and poverty; public order and safety; learning, science, and art; and participation and alienation” (United States Department of Health, Education, and Welfare 1970, iii). Yet the report itself was prepared in the offices of two economists at HEW: Alice Rivlin and Mancur Olson. In addition, the panel that guided the social reporting project consisted of 20 economists out of 41 total experts (see Table 2).

³“Notes on Social Indicators Meeting,” University of Chicago Library Special Collections, Theodore W. Schultz papers, Box 11.

Table 2: Toward a Social Report Panelists

NAME	INSTITUTION	FIELD
Daniel Bell (Co-chair)	Columbia	Sociology
Alice Rivlin (Co-chair)	HEW	Economics
Henry Aaron	U. of Maryland	Economics
Raymond A. Bauer	Harvard (HBS)	Psychology
Barbara Bergmann	U. of Maryland	Economics
Albert Biderman	U. of Chicago	Sociology
William G. Bowen	Princeton	Economics
Oliver Bryk	Research Analysis Corporation	Economics
Ewan Clague	Department of Labor	Economics
James Coleman	Johns Hopkins	Sociology
Gerhard Colm	National Planning Association	Economics
Otis Dudley Duncan	U. of Michigan	Sociology
G. Franklin Edwards	Harvard	Sociology
Solomon Fabricant	NBER	Economics
Martin Feldstein	Harvard	Economics
Joseph Fisher	Resources for the Future, Inc.	Economics
Howard E. Freeman	Brandeis	Sociology
Myrick Freeman, III	Bowdoin	Economics
Victor Fuchs	NBER	Economics
William Gorham	Urban Institute	Economics
Bertram Gross	Wayne State	Social Science
Philip Hauser	U. of Chicago	Sociology
Madelyn Kafoglis	U. of Florida	Economics
John Kain	Harvard	Economics
Carl Kaysen	Institute for Advanced Study	Economics
Francis Keppel	General Learning Corporation	Education
Samuel Lubell	Columbia	Journalism
Isador Lubin	Twentieth Century Fund	Economics
Robert McGinnis	Cornell	Sociology
Clarence Mondale	George Washington	American Studies
Daniel Moynihan	MIT/Harvard	Sociology
Selma Mushkin	State and Local Finances	Economics
Harey Perloff	Resources for the Future, Inc.	Urban Planning
Frederic L. Pryor	Swarthmore	Economics
Melvin Reder	Stanford	Economics
Stuart Rice	Surveys and Research Corporation	Sociology
Theodore Schultz	U. of Chicago	Economics
Harry M. Scoble	UCLA	Political Science
Eleanor Sheldon	Russell Sage Foundation	Sociology
Neil Smelser	UC Berkeley	Sociology
Anne Somers	Princeton	Health Policy
Ralph W. Tyler	Science Research Association, Inc.	Education

Sociologist Daniel Bell, who co-chaired the panel, would later write that “the sociological materials [in the Social Report] would gain by being subject to the tougher questioning, and greater rigor, of the economists” (D. Bell 1969, 84). In other words, social reporting—conceived of as a rebuttal to the “economic philistinism” that dominated the midcentury production of statistical knowledge by the U.S. government—was to be the province of economists.

While this initiative did not ultimately become a permanent fixture of the executive branch, it did reflect a broader shift in economists’ thinking toward ‘social’ topics. This chapter considers this relationship between the authority of economic expertise, on the one hand, and the capacity to influence social policy, on the other. Focusing on K-12 education and healthcare, I examine how the boundaries of economics were expanded to incorporate seemingly ‘social’ domains. While there was little economic research on either topic before the middle of the twentieth century, in the 1950s and 60s this changed rapidly. Economists expanded the scope of their interest in economic growth to incorporate ‘human capital’ and adapted a series of microeconomic ideas—including systems analysis, production functions, and cost-benefit analysis—to approach issues in education and health as problems of ‘efficiency.’ By the early 1970s, plenty of economists listed the ‘economics of education’ or ‘health economics’ as an interest—albeit a nascent one, subordinated to more established subfields such as labor economics or industrial organization. And in 1981, the specialty journal *Economics of Education Review* was founded, to be followed a year later by *Health Economics*.

Yet despite these similarities, in the contemporary U.S. health economists are more politically influential than their counterparts in education. To wit: as the

introduction made clear, while the Obama administration's signature healthcare legislation (the Affordable Care Act) was adapted from a Massachusetts program that involved a team of economists led by MIT's Jonathan Gruber, the same Presidential administration's favored education reform plan to hold teachers 'accountable' by performing statistical evaluations on them proved unpopular and was even deemed illegal in parts of the country (Paige 2016; Amrein-Beardsley 2014; Griffen and Panofsky 2020). Both health insurance financing and statistical models of teacher effectiveness remain prevalent topics of inquiry in economics journals, but from a policy-making perspective research in health economics is far more prominent, vibrant, and diffuse (Wagstaff and Culyer 2012).

Interestingly, when professional economists commenced studying these issues in the middle of the twentieth century, education was adopted as a topic of inquiry in the discipline more rapidly and with less contention than healthcare. While a "core-set" (H. M. Collins 1981) of economists quickly organized a handful of education policy problems, it was unclear what role economists should play in the analysis of health and healthcare. Nonetheless, since the 1970s, health economics has consistently been able to expand its policy relevance in the U.S., while the economics of education "failed to live up to its promising start and gradually ran out of steam" (Blaug 1998, S63).⁴ What accounts for the discrepancy between the relative stability of these bodies of research and their divergent political influence?

I argue that this apparent contradiction is due to differences in the ways education and health were initially 'economized' and constituted as legitimate topics of

⁴ This quote was written in the context of British economics, but the situation is hardly different in the U.S.

inquiry in a scientific field—economics—that was rapidly changing and expanding in the middle of the twentieth century. Though some economists were at first able to influence education policy directly with formal positions in the U.S. government’s policy apparatus (Holden and Biddle 2017), the economics of education became mired in a set of abstract technical problems that mostly interested other academic economists and did not require engaging with researchers from other fields, let alone teachers or other education workers. On the other hand, health economists took advantage of opportunities in the broader health field, publishing in medical journals and becoming directly involved in insurance financing schemes, with influential economics research spanning the gamut from privatized insurance markets with extensive cost sharing (Feldstein 1973; Pauly 1971) to single-payer systems with robust public funding (Falk 1970). I argue that the greater professional status of medicine allowed health economists to create policy-relevant research that did not require as much internal coherence as the economics of education to be successful outside of academic economics.

Drawing on field theory, the next section develops a comparative framework for analyzing the initial institutionalization of a novel form of expertise in different social policy domains in response to changes in the broader political environment. I then provide a detailed analysis of emergence and institutionalization for both education and health economics, subfields which were precipitated by changing understandings of economic and social rights in the wake of the New Deal. Reflecting on the first decade or so of knowledge production in the economics of social policy, I compare the divergent trajectories of these subfields and relate them to theories about the social power of

economics. Finally, in the conclusion to the chapter I propose that by thinking comparatively about the context of knowledge production, we can better explain relationships between forms of expertise (economics) and consequences of that knowledge (economization).

Economizing the Social

While health economics is today a more prominent and expansive subfield than the economics of education, observers originally predicted the reverse would be true (Blaug 1998, S63; Culyer and Newhouse 2000, 2–3). The economics of education coalesced so quickly in the early 1960s that an annotated bibliography assembled by economist Mark Blaug had to be updated every several years to account for hundreds of new research papers (Blaug 1964; 1966; 1970b). Historical research has emphasized the importance of the emergence of human capital theory and the rapidity with which it was legitimated by prominent economists (Blaug 1970a; Holden and Biddle 2017; Kiker 1966; 1968; Teixeira 2014; 2000). By contrast, the expansion of economics to incorporate health as a common topic of inquiry was more uneven (Forget 2004). Surveying the historiography of health economics, a key theme that emerges is contention among economists over whether health economics should be about *health*, broadly construed, or *medical care* as a professional field (Blaug 1998; Blumenschein and Johannesson 1996; Cardoso 2008; Culyer and Newhouse 2000; Feldstein 1995; Forget 2004; Fox 1979; Rebelo 2007). In addition, as more formally trained economists entered into the terrain of health policy, a critique of “public health” as its own domain of scholarship and policymaking emerged (Moos 2015), allowing economics to carve out

its own niche situated in the emergent field of “health services research” (U.S. Institute of Medicine 1979; Greenberg 2003).

The similar temporal origins and divergent trajectories of education and health economics makes for an ideal opportunity to conduct comparative-historical analysis on field-level struggles over the boundary between academic economics and social policy. Recent sociological research on expertise has sought to build on Bourdieu’s insights about the structuring of scientific fields (Bourdieu 1975; 2004), while also exploring how knowledge production intersects with other fields of social life, including politics, business, and media (Eyal 2002; Medvetz 2012a; Panofsky 2014; Stampnitzky 2013; de Souza Leão and Eyal 2019). Meanwhile, sociological research on the field dynamics of economics has sought to explain cross-national variation in the definition of the field (Fourcade 2009), the linkage between economic knowledge and policy-making (Berman 2017), and the surprising fluidity with which even economic *theory* can be useful for actors in fields including politics, academia, and business (Reay 2012).

Research shows how the formation of relative autonomy in social fields is driven by a variety of factors, consisting of both “field[s] of forces” and “field[s] of struggles tending to transform or conserve...field[s] of forces” (Bourdieu 1993, 30). The *forces* that shape scientific fields tend to be economic or political in nature: for example, funding and resource distribution can affect the structure of knowledge production (Stephan 2012) or social movements can lead to the creation of new research disciplines (Rojas 2007; Frickel and Gross 2005). Meanwhile, *struggles* that occur within or across scientific fields can also affect how they are organized, thereby mediating the field structure. These struggles can include shifting departmental affiliations and political

beliefs of scientists (Van Gunten, Martin, and Teplitskiy 2016), the “essential tension” between riskier and more traditional research strategies (Foster, Rzhetsky, and Evans 2015), and the forms of capital—scientific, economic, symbolic, etc.—that are accumulated through research (Panofsky 2011). In economics, as this dissertation demonstrates, the field’s expansion to include social policy topics did not always correspond to growth in jurisdiction over those domains, as less-consecrated experts with greater institutional knowledge have often managed to exert influence over the U.S. policy apparatus in ways that academic elites have not.

Focusing on the economics of education and health requires shifting to the level of *subfields* to compare how the boundaries of economics were negotiated and expanded to interact with social policy, and with what effects. Though most research has conceptualized fields at the national level and increasingly at the global or transnational level (Fourcade 2006; Go and Krause 2016; Bockman and Eyal 2002), the social dynamics that result in field formation also drive the creation of subfields that are organized around more localized or topic-specific struggles (Cambrosio and Keating 1983; Steinmetz 2016). Sociologists have recently proposed that a more robust and comparative field theory would be able to adjust analytically according to variations in scale (Buchholz 2016; Krause 2017). While this kind of theorizing is no doubt essential for thinking about post-national fields in an increasingly globalized world, a more precise language for describing variation in scale will also improve our ability to think about fields at the sub-national level (Bourdieu 2004, 64–65).

The institutionalization of new subfields of economics dedicated to ‘social’ topics leads to a distinct kind of *economization* when it comes to social policy. Other work on

'economization' processes have considered how 'The Economy' *emerged* as an object of technical intervention (Breslau 2003; Hirschman, n.d.; Mitchell 2002), how governance and policy become *oriented* to 'The Economy' for economic purposes (Berman 2014; Murphy 2017), and how social or biological matters are *constituted* as 'economic' (Çalışkan and Callon 2009; Livne 2019; Griffen Forthcoming; Laruffa 2022). By contrast, I am interested in how economists *expanded* their "professional jurisdiction" (Abbott 1988) to incorporate new objects of inquiry—and thereby opened up opportunities for lesser-known experts and individuals without as much formal training to exert influence over the field. For education and health, 'social' topics were 'economized' in the middle of the twentieth century as economists carved out intellectual spaces to research these topics. However, while for education this economization was largely accomplished so that economists could produce research for one another in well-defined subfields with a great deal of autonomy, health economists gained more of a foothold in the broader health field. In the discussion section at the end of the chapter, I address sociological factors that can explain why economists' forays into social policy were accomplished differently for each subfield.

This Chapter's Approach

The impetus for this project is the gap between the historiography of the economics of education and health, on the one hand, and the sociology of economic expertise, on the other. While some historical research on these subfields richly describes the work of individual economists, there has been little attempt to explain *why*

economists expanded their field of inquiry to include these ‘social’ issues.⁵ Many historical analyses are also unnecessarily selective, in that they elevate one economist, institution, or even a particular publication to retrospectively serve as a singularly important causal factor. Conversely, while sociologists of economic expertise have developed a rich theoretical arsenal for documenting the organization and influence of economic expertise, they have had little to say about education or health.⁶ The result is that because of the gap between these two literatures, the folk sociological concept of “economic imperialism” gets invoked when discussing how economics came to take education and health as important objects of inquiry.⁷

Rather than starting with the assumption that economists have fully ‘imperialized’ education or health policy, my approach has been to use these subfields as windows into the relationship between academic economics and social policy. I gathered a variety of historical materials regarding which economists are relevant, what articles they were publishing and whom they were citing, what sort of conferences were being held on these topics, and what foundations or government agencies were supporting this research. Sources I consulted came from historical archives, published books and articles, CVs, and government documents and reports. Tracing how the boundaries of economics were pushed to incorporate education and health from the late 1950s through the early 1970s makes for a more synthetic analysis that offers a richer explanation for why economists have had more of a sustained impact on one area of social policy than the other. While historical research has primarily focused on

⁵ A notable exception to this is Fleury (2010).

⁶ Though see Ashmore, Mulkay, and Pinch (1989).

⁷ For a definition of economic imperialism, see Lazear (2000). For critiques, see Allais (2012) or Fine and Milonakis (2009).

economization as *discourse*—for example, by tracing the emergence of rhetoric surrounding human capital theory (Kiker 1966; Soares 2015; Teixeira 2020)—this chapter compares practical efforts to institutionalize economic expertise for social policy-making purposes.

Setting the Scene: Social Policy and Institutions Leading up to the 1950s

Social policy is one of the central domains of contention in modern, bureaucratic states (Bourdieu 2014; Foucault 2008; Orren and Skowronek 2017; K. J. Morgan and Orloff 2017). The social protections that emerged over the course of the twentieth century as the hallmark of the welfare state were the product of struggles between various interested parties—social movements, political parties, owners of capital, etc.—to define boundaries between public and private and determine how benefits should be provided. In the U.S., social policy-making began in earnest during Reconstruction with efforts to secure rights for soldiers and women (Skocpol 1992), and accelerated during the Progressive Era and particularly during the New Deal, when the federal government enacted laws protecting workers, guaranteeing social security during retirement, and providing for the unemployed (J. 1967- Klein 2003). As “the economy” crystallized to become a quantifiable, bounded object that could be manipulated via federal policy (Hirschman, n.d.; Breslau 2003; Mitchell 2005), so too did a social sector emerge through which the welfare of the citizenry could be managed in ways that went beyond strictly ‘economic’ considerations.

While New Deal policy is often considered synonymous with Keynesian economics as a form of expertise, the reality is that the massive infusion of state

spending and creation of new federal agencies that the Roosevelt administration oversaw occurred while Keynes was still working out the details of his *General Theory* (Barber 1996). Rather, as sociologist Stephanie Mudge has observed, “the New Deal ‘acted *back*’ on economics” (Mudge 2018, 184), a reversal in the more commonly remarked upon causal relationship of influence between economics and policy that we will revisit later on. In the years following the New Deal and World War Two, this consensus dedicated to belief in U.S. productivity and commitment to national growth was instantiated by a movement seeking to guarantee employment and other economic rights that led FDR to call for a Second Bill of Rights (Cowie 2016; Maier 1977). And while Congress followed up on some of these demands with the 1946 Full Employment Act, federal policy also served to placate labor unions and tied social benefits to an employment model centered around the white male breadwinner (D. Stein 2019; M. Cooper 2017a). Meanwhile, in the increasingly mathematical and formalized field of economics, thinking about social policy rarely extended to the domains of education and healthcare, reflecting a persistent lack of national coordination and planning.⁸

What constitutes the economics of education and healthcare before the 1950s is thus mostly either research conducted by other kinds of experts that has been relabeled as economics, or research coming from within the field of economics that was only tangentially related to education or health. On the education side, historians of human capital theory have argued that economists posited a relationship between education and economic output as far back as Adam Smith, even if they had not developed a standardized conceptual language for doing so (Kiker 1966). Yet scholarship on the

⁸ There were some exceptions to this, such as Milton Friedman and Simon Kuznets’ joint study of income across professional groups including physicians, for example (Friedman and Kuznets 1945).

broad swath of research fitting under the ‘education’ umbrella—itsself an “elusive science” (Lagemann 2000)—makes no note of economics as a relevant form of expertise. Instead, educational research in the first half of the twentieth century was largely dominated by psychologists and devoted to the measurement of learning and cognitive ability, sometimes flirting with eugenic ideas about how to quantify and optimize the ‘skills’ or ‘intelligence of the U.S. population (Carson 2007) but rarely by engaging with economics as a form of expertise.⁹

For healthcare, meanwhile, there was not so much a latent history of economic analysis as there was a prominent effort to economize research on care—but with little input from economists. In 1929, despite pushback from the American Medical Association, the Hoover administration created a Committee on the Costs of Medical Care in order to study how much people were spending on medical care and whether that could be alleviated through social insurance. There were five economists among the 75 technical experts serving on the committee, and the project was initially spearheaded by University of Chicago economist Harry H. Moore (O. W. Anderson 1966, 18). However, much of the Committee’s research was directed by I.S. Falk, a biologist who later became Director of the Bureau of Research and Statistics of the Social Security Administration (Roemer 1985, 841). During his time at the Social Security Administration, Falk worked on a series of proposals to expand the federal government’s involvement in healthcare financing and provision. These proposals came in two formats: the first was a “National Health Program” that was devised in the late

⁹ There is an ongoing debate about the *general* relationship of economics to eugenics, particularly during the Progressive Era (T. C. Leonard 2016; Steinbaum and Weisberger 2017), but this is about policy more generally and has little to do with education.

1930s and failed several times to become law during the Truman administration, while the second was a program that would give federally-funded health insurance to seniors already receiving Social Security benefits (Roemer 1985, 841). While the second of these programs was less ambitious, it was created specifically to survive scrutiny during the conservative Eisenhower administration of the 1950s. So while Falk and his contemporaries had no training in economics, their policy work would ultimately contribute to the rise of health economics later on.

Thus at mid-century, economists had still just barely scratched the surface of conceptualizing how their expertise could be applied to 'social' topics such as education or healthcare. Beginning in the 1950s, aggressive legislative interventions implemented at the federal level and carried out by the Department of Health, Education, and Welfare would rapidly transform the welfare state and expand the social contract for millions of people in the U.S. (Miles 1974; D. K. Cohen and Moffitt 2009; Blumenthal and Morone 2009; Davies 2007; Gordon 2003). Yet a key difference remained between the fields of education and healthcare: control. Whereas the public education system was still mostly decentralized, in healthcare the medical profession possessed a great deal of public authority that had to be taken into consideration for policy change to occur (Starr 1982a; Mehta 2013). As economists waded into social policy for the first time, the areas of similarity and difference between these fields would affect their ultimate ability to wield influence and contribute to policy design.

Toward Economization: Economists Discover the Social

Neither education nor health was placed on economists' agenda out of nowhere. Long before these topics were institutionalized in the canon of neoclassical economics, economic thinkers had theorized various ways in which education and health factor into economic life. Early economic work on these matters was by no means systematic and there was hardly sufficient infrastructure to characterize the economics of education or health as a subfield or even a specialty research area before the 1960s. As we will see, it would require the financial support of private foundations and cooperation with the federal government for economists to make a concerted effort to push the boundaries of the discipline to incorporate these new topics.

Economists of education have long argued that there is a direct lineage from classical political economy that led to education economics as it was outlined by neoclassical economists in the late 1950s. This is chiefly because when education economics first appeared as a recognizable object of study in its own right, it was nearly synonymous with human capital theory.¹⁰ Already in the 1960s, B.F. Kiker was insisting that “the concept of human capital is not the origination of current writers—although many of them, by failing to cite predecessors, give the impression that it is” (Kiker 1968, x). In 1964, the British economist and sometime historian of economics Mark Blaug, who spent much of his energy in the 1960s commenting on the future prospects of a fully-fledged economics of education, wrote that:

¹⁰ Records from the University of Chicago show that interest in human capital in the 1950s actually emerged out of research on agricultural economics and development economics. See University of Chicago Special Collections, General Archival Files, Economics Department Programs of Courses.

“The economics of education is a new subject with a very old history: economists have been writing on education ever since economics became a separate scientific discipline. The idea that the provision of education is a method of accumulating human capital goes back to the seventeenth century...The classical period of English political economy was rich in discussion of educational issues, from Adam Smith down to John Stuart Mill. Just what the economists believed about education, however, is not immediately self-evident from reading them” (Blaug 1964, 6).

Likewise, Theodore Schultz, whose 1960 presidential address to the American Economic Association was a forceful statement regarding the legitimacy of human capital theory as an important topic of inquiry for the discipline (Schultz 1961), defined education economics as “the proposition that people enhance their capabilities as producers and as consumers by investing in themselves and that schooling is the largest investment in human capital” (Schultz 1963, x).

Meanwhile, during this same period of time health economists had developed nowhere near such a strong consensus that there was a clear path forward in understanding the economics of the U.S. healthcare system. Selma Mushkin, who worked at the U.S. Public Health Service from 1949 to 1960 (Cicarelli and Cicarelli 2003, 136), published a paper in 1962 arguing for economists to give health the same due as a potential input into human capital formation as education had received (Mushkin 1962b). Mushkin had previously attempted to provide a definition of health economics in the late 1950s (Mushkin 1958) and organized a conference devoted to the subject at the University of Michigan in 1962 with the support of the Public Health

Service (University of Michigan and Bureau of Public Health Economics 1964). Yet it would be nearly a decade before substantial progress was made on the issue of human capital and the demand for healthcare (Grossman 1972b; 1972a), and the book that emerged from the Michigan conference received mixed reviews from other economists (Somers 1965).

Herbert Klarman—one of the most prolific authors in the early years of health economics—wrote a comprehensive overview of developments in the subfield *prior* to 1960 for the Milibank Memorial Fund (Klarman 1979a). He makes clear that “economists were working on health care long before there was a subdiscipline called health economics,” (Klarman 1979a, 371) though the examples he provides are essentially a hodge-podge of random articles and research projects, some of which are only tangentially related to the economics of health. Klarman’s list of pre-1960s developments is notable for its omissions as much as its inclusions. To take just one example, Dr. Nathan Sinai (an M.D., not a Ph.D.) at the University of Michigan established a Bureau of Public Health Economics at the Michigan School of Public Health that conducted research on health insurance financing in the 1940s and 1950s.¹¹ While Sinai’s research team received funding from the Rockefeller Foundation specifically to host several large conferences on the topic of “public health economics,” at no point did the Bureau employ a Ph.D.-level economist and a summary report written by Sinai indicates no interest in making connections with the economics

¹¹ Rockefeller Foundation Archives, Series 200, Box 113, Folder 1381.

discipline.¹² In Klarman's review of pre-1960s developments, no mention is made of Sinai or the Michigan Bureau of Public Health Economics.

It seems that before the 1960s, the few economists that were interested in health and healthcare were as separated from the broader field of health as economists conducting research on education were from the education system. Yet this changed as the 1960s wore on. While education economists doubled down on technical issues involving human capital theory and the productivity of education systems that made it difficult for them to establish connections to outsiders, health economists began making serious contributions to health policy and even publishing research in outlets such as the ultra-prestigious *New England Journal of Medicine*. This discrepancy was by no means natural or inevitable, but rather was the result of conscious decisions about how to allocate resources to these burgeoning research subfields by program officers at philanthropic foundations and bureaucrats in the U.S. federal government.

(Sub)Field Foundations

The rest of this chapter focuses on institutionalization of relationships between the field of economic expertise and the fields of social policy in education and health—relationships that were often mediated by private foundations or newly founded policy offices at the Department of Health, Education, and Welfare. These networks of relationships incentivized new research and provided institutional legitimacy for economists to turn their focus to social topics just as the federal government was

¹² Nathan Sinai report on "Three Fiscal Years in Health Economics" for the University of Michigan School of Public Health, Rockefeller Foundation Archives, Series 200, Box 113, Folder 1381. Interestingly, Sinai did at one point hire a sociologist.

beginning to ramp up its coordination of policy in these domains through the new (as of 1953) Department of Health, Education, and Welfare and passage of bills including the National Defense Education Act in 1958, and the Social Security Amendments establishing Medicare and Medicaid, Elementary and Secondary Education Act, and Higher Education Act 1965. As the federal government was engaging in these major policy initiatives, the behind-the-scenes activities at key policy organizations with university connections led to decisions about what kinds of research to fund, as well as whether to host conferences or start new projects and on what social topics that economists had not previously devoted their attention to. Prominent organizations that were involved in the creation of these research fields included the RAND Corporation, Commonwealth Fund, the National Bureau of Economic Research (NBER), and, most prominently, the Ford Foundation.

Beginning in the 1950s, the Ford Foundation was instrumental in the institutionalization of both the economics of education and health economics, which were initially conceptualized as two branches of a common economics of human resources (Lampman 1966). Interestingly though, this occurred in different ways: while Ford was particularly supportive of research on education in the late 1950s, a key program officer and economist involved in Ford's decisions to invest resources in economic research on 'social' topics (Victor Fuchs) eventually grew frustrated with the Foundation's lack of support for health economics and moved to the NBER, where he was more successful in garnering support. Ford had set up a program in Economic Development and Administration (EDA) in 1953 which greatly increased the Foundation's commitment to specifically fund research in economics until the program's

demise in 1968 (R. Leonard 1989). The focus of the EDA program was solely not to produce economic research related to education or healthcare, but its existence resulted in more funding being available for economics projects, in particular if the projects fell within the bounds of “problem oriented research.”¹³ Such research was designated as that which Foundation program officers and economic experts thought “show[ed] a strong likelihood of contributing to the solutions of major problems over the decade or so ahead.”¹⁴ The program was also arranged in order to provide small grants to researchers with specific projects in mind at the behest of Theodore Schultz, who was just beginning his research on education and human capital development in the mid-1950s (R. Leonard 1989).

From 1960-61, economist Kermit Gordon, who would go on to work on the JFK Council of Economic Advisers and perhaps more crucially as Director of the Bureau of the Budget during both the Kennedy and Johnson administrations, served as Director of the EDA program while still employed at the Williams College Economics Department.¹⁵ The presence of such high-profile, credentialed individuals lending their expertise to get new economics subfields off the ground was important to putting social issues on the policy map. Furthermore, several program officers at Ford collaborated with economists and played a big role in getting education and health economics off the ground. Notably, the aforementioned Victor Fuchs—who would himself eventually become one of the most influential health economists in the U.S.—arranged for economists to write survey

¹³ A summary of the EDA and “problem oriented research” is contained in an internal Ford Foundation report by Marshall Robinson, “Economics and the Ford Foundation: Some Background,” Ford Foundation Archives, Catalogued Reports, Box 379, Folder 009111.

¹⁴ Preliminary Meeting Discussion of the “Economics of Change” Plan, Ford Foundation, June 16, 1961, University of Chicago Library Special Collections Research Center, Box 10, Theodore Schultz Papers.

¹⁵ Kermit Gordon, Biographical Sketches: CEA Members, 1961-1962, Papers of John F. Kennedy, Presidential Papers, JFK Presidential Library, White House Staff Files of Walter W. Heller.

reports and theoretical tracts on health, education, and welfare (one report and one theory piece for each topic). Most well-known of these projects was Kenneth Arrow's classic paper on uncertainty and health insurance. Arrow's contribution was part of a broader project carried out by the Ford Foundation in collaboration with the federal Department of Health, Education, and Welfare, which was geared toward clarifying the theoretical foundation and scope of economic research on social policy topics.¹⁶ Though Arrow's piece has had the most staying power in terms of the cultural memory of economics, the Ford-commissioned books on the economics of education by Theodore Schultz and health by Herbert Klarman were also well-received, subfield-defining contributions at the time (Arrow 1963; Klarman 1965; Schultz 1963). Hiring well-known economists to conduct reports on new research topics was consistent with the Ford Foundation's emphasis in the 1950s and 60s on supporting the discipline of economics, a strategy which eventually gave way to more direct funding of policy initiatives.¹⁷ Furthermore, despite the success of Arrow's paper—which the internalist historiography of health economics generally credits with having founded the field (Rebelo 2007; Feldstein 1995; Culyer, Wiseman, and Walker 1977; Klarman 1979b)—this strategy of directly supporting disciplinary research was actually more successful in promoting a coherent agenda in the economics of education than in health, as we will see below.¹⁸

¹⁶ Marshall Robinson, "Economics and the Ford Foundation: Some Background," Ford Foundation Archives, Catalogued Reports, Box 379, Folder 009111.

¹⁷ Marshall Robinson, "Economics and the Ford Foundation: Some Background," Ford Foundation Archives, Catalogued Reports, Box 379, Folder 009111.

¹⁸ A notable exception to the laudatory, great man theory of the history of health economics is the dissertation from Moos (2015), the third chapter of which dovetails closely with my analysis in terms of both the actors surveyed and in emphasizing the constrained nature of economists' ability to influence 1960s and 1970s social policy.

Emergence of the Economics of Education: From Coherence to Stagnation

On the education side, Ford Foundation program officer Philip Coombs was particularly instrumental in helping to establish networks among economists that would be needed to carve out a viable subfield within the discipline. Trained himself as an economist, Coombs was in fact jointly employed at Ford by EDA and the Fund for the Advancement of Education (FAE). In the late 1950s, Coombs was in charge of a Ford project designed to support the administrative costs of a series of conferences, projects, and studies on the economics of education.¹⁹ A number of these endeavors were classified by Ford as “exploratory” and appeared somewhat tentative.²⁰ While much of Coombs’ job at Ford was devoted to practical matters (such as booking hotels), he also played an important role in guiding the research itself. In 1959, for example, Schultz (who was at the time the president of the American Economic Association) requested feedback from Coombs on his paper “A Note on the Economics of Education,” which was very much a programmatic statement meant to lay out an agenda for the subfield.²¹

Coombs noted in 1961 that “since the Foundation first displayed an interest in the Economics of Education four years ago, this subject has become a matter of serious consideration among a growing number of competent economists.”²² These included research economists at prestigious universities such as Stanford and Harvard, but also some more policy-minded people. While economists’ success in influencing policy debates in education would ultimately be much more uneven than in healthcare, in the

¹⁹ Ford Foundation Archives, Reel 0202, Grant File 59-211.

²⁰ Ford Foundation Archives, Reel P-1015, Grant File C-650.

²¹ Theodore Schultz to Philip Coombs, November 24, 1959, Ford Foundation Archives, Reel P-1015, Grant File C-650.

²² Philip Coombs, Ford Foundation New York Inter-Office Memorandum, April 18, 1961, Ford Foundation Archives, Reel 0198, Grant File 58-324.

late 1950s and early 1960s—at the height of U.S. interest in ramping up the nation’s commitment to education and science after the launch of Sputnik—there was considerable excitement over the role that economists could play in making the education system more efficient.

One way in which economists believed they could influence education policy was with “systems analysis,” a key midcentury initiative for “rationalizing” military policy in the U.S. that was gradually adapted to social policy initiatives (Amadae 2003; Berman 2022). At the RAND Corporation in Santa Monica, California, economist Joseph Kershaw was focused on applying systems analysis to K-12 education so that comparative research could be conducted on the “system” of U.S. education (Kershaw and McKean 1959). Meanwhile on the opposite coast, another well-known proponent of systems analysis—Alice Rivlin, whose manifesto on this topic is a social science classic (Rivlin 1971)—was laying the foundation for another project of interest to Ford: the economics of *higher* education. Rivlin was at the Brookings Institute in 1960 when Ford commissioned her to review research in economics that could be grouped under the heading ‘economics of higher education.’ The resultant survey of higher education, published in 1961 by Brookings (Rivlin 1961), emphasized the role of the federal government in funding higher education and argued that this presented unique opportunities for economists interested in the rational allocation of resources. Rivlin’s fellow economist-bureaucrat Selma Mushkin had moved over from the Public Health Service to the Office of Education in 1960, and she edited a similar collection of papers that was published in 1962 by HEW, featuring a commentary by Rivlin on her own findings and recommendations (Mushkin 1962a).

By the early 1960s, the Ford Foundation had ceased funding “exploratory” economics of education conferences, as education was becoming established as a legitimate topic of inquiry for serious economic research. In 1962, Rivlin asserted that “within the last few years, the economics of education has become a respectable, even a fashionable field in which to write a doctoral dissertation or direct a research project” (Rivlin 1962, 358). However, she also noted that the most prominent research theme in this field—human capital and the idea of education as a financial investment—was also the most controversial within the educational community:

“Some research in the economics of education...has met with protests from educators. The protests have been directed not so much against the methods and conclusions of the economists, but against the whole idea of doing this kind of research. Education, say some educators, is far too precious to be compared in crass money terms with the ordinary commodities and services that are bought and sold in the marketplace” (Rivlin 1962, 358).

In the early 1960s, despite controversy, policy ideas rooted in human capital theory gained some traction by economists *directly* influencing the design of government policy through personal connections. For example, the economist Walter Heller convinced the John F. Kennedy and Lyndon B. Johnson presidential administrations that human capital investments would spur economic growth (Holden and Biddle 2017). Of course, this was possible because Heller was at the time the chair of the President’s Council of Economic Advisers, a body that had been greatly elevated in prestige by Kennedy and was in charge of releasing the annual Economic Report (Bernstein 2001). As two sociologists have recently pointed out, the “institutional position [of economists in policy

organizations] matters most when it means that economists become policymakers themselves” (Hirschman and Berman 2014, 793).

The most well-known figure associated with human capital is of course Gary Becker, whose treatise on the subject was first published in 1964 (Becker 1964). Yet while Becker is often treated by the broader academic field as if he were the sole progenitor of human capital theory, the earliest research to explicitly analyze ‘human capital’ was carried out by his (at the time) more famous colleagues. There is some debate over precisely which economist first coined the term, but Becker himself refers to Jacob Mincer and Theodore Schultz as the two men responsible for initially operationalizing human capital within the neoclassical framework (Becker 1964).²³

Becker had started doing research on human capital investments in the late 1950s when he moved to Columbia University from Chicago and began working at the NBER under the mentorship of labor economist Jacob Mincer (Teixeira 2014, 5). Unlike Theodore Schultz, whose interest in human capital was largely due to his belief that increased education would foster economic growth in developing nations, Becker was more interested in how to model investment in education—and in particular higher education—as a decision made by rational actors. As Pedro Teixeira notes in his study of Becker’s early career, “Becker’s main purpose in the development of the book [*Human Capital*] evolved from an empirical one to an increasingly theoretical one” (Teixeira 2014, 8). The immense impact of Becker’s work on the economics of education and the field of economics in general, coupled with his interest in how to

²³ While the triad of Becker-Mincer-Schultz bear the most responsibility for solidifying human capital theory within the mathematical formulae of neoclassical economics, there is a much longer history of attempts to quantify and value humans as “capital” throughout U.S. history. See e.g. (Bunning 2019) and Bouk (2015)

make human capital compatible with general microeconomic theory, was a harbinger of how the economics of education would become increasingly removed from practical concerns in the 1970s and 80s.

In 1966, Becker worked in collaboration with Schultz, Samuel Bowles, and Ford program officer Peter E. de Janosi to organize an NBER conference on “Education and Income.” The conference was to be partly dedicated to human capital theory, with other topics including education and international trade, cost-benefit analysis and schooling, economic growth, and—importantly—the “education production function.”²⁴ Research on the “production” of public education in the U.S. had emerged quickly as an important topic in the wake of the *Equality of Educational Opportunity* report (more commonly known as the *Coleman Report*), published in 1966. The *Coleman Report* had been commissioned by the U.S. Office of Education in the mid-1960s and conducted by a team of social scientists led by sociologist James Coleman and statistician Alexander Mood. The researchers were specifically asked to focus on issues of equity and the ways in which educational resources were distributed in the U.S. as a civil rights issue.

While the *Report* introduced the idea of “educational production” and led a variety of quantitatively-oriented social scientists to advocate for causes such as desegregation of schools, economists argued instead that Coleman and his team had misunderstood how to make inferences from this research. Economists Samuel Bowles and Henry Levin argued in 1968 that the *Report* was rife with methodological concerns that made it inadequate as a blueprint for making policy decisions regarding schools (Bowles and Levin 1968). The young economist Eric Hanushek, who was attending a weekly seminar

²⁴ 1966 NBER Conference on Economics of Education correspondence, Ford Foundation Archives, Peter E. de Janosi Subject Files, Box 49.

at Harvard organized to discuss the findings of the *Report*, wrote his entire dissertation as a rebuttal to the way Coleman had interpreted education production functions (Hanushek 1968). Hanushek moved to the RAND Corporation shortly after finishing his doctorate at MIT and continued advocating for education economists to pursue his research agenda on how to increase the efficiency of educational production.

Hanushek's work in the 1960s was the first major foray by an economist into an issue that would later re-emerge as one of the most controversial attempts to economize education policy in U.S. history (Griffen and Panofsky 2021). In his analysis of the Coleman Report, Hanushek noted that if one interpreted the data as though education constituted an economic production process, teachers appeared to be the least "efficient" component:

"The evidence of schools on achievement is clear. Schools do have a substantial effect on educational output. Three specific variables of teacher quality...provide considerable evidence that school inputs affect educational output. Even strictly interpreted, the models of the educational process indicate that there exists a significant impact of teacher quality on achievement" (Hanushek 1968, 117).

This was a considerable shift from previous expert thinking about education policy, which focused on the *quantity* of inputs into the education system (Weaver 1983). Instead, in the case of education production research:

"The models...emphasize the importance of distinguishing between teacher quality and quantity...The returns to school expenditures are found in quality changes, not quantity" (Hanushek 1968, 117).

This focus on teacher effects would be extended in the 1970s when—with a grant from RAND and an innovative longitudinal dataset that sorted individual students by teacher—Hanushek produced a report which identified teachers as the *most* inefficiently distributed resource in a large California school district (Hanushek 1970b). This was the first economic study of educational production that explicitly highlighted the role of *teacher quality* as a poorly distributed educational resource (Hanushek 1970b). Interestingly, Hanushek’s argument was not that there are easily measurable characteristics of good quality teachers that can be identified and promoted, a point which has remained contested in the economics of education literature for decades (Hanushek and Rivkin 2012; Plecki 2000). Instead, Hanushek argued on the basis of his initial research into educational production that the ways in which teachers were allocated to schools led to suboptimal outcomes for students (Hanushek 1970b), a position that he has maintained for decades and has inspired a much larger movement to reform the labor market for teachers in the U.S.

Notably, Hanushek’s work as well as similar research at the time by economists including Henry Levin, Samuel Bowles, and Richard Murnane, remained far more tightly embedded in the technical language of economics than the more readily accessible Coleman Report. In 1968, Bowles—another young economist who would become famous in the 1970s due to the unlikely success of his Marxist tract *Schooling in Capitalist America* (Bowles and Gintis 1976)—expressed dissatisfactions similar to Hanushek in a paper written with fellow educational economist Henry Levin:

“It would be inappropriate to make specific policy prescriptions on the basis of the regression coefficients underlying the [Coleman] Report...[we are] pursuing

research on the educational production function and the relative prices and effectiveness of the various dimensions of the school input structure” (Bowles and Levin 1968, 17n26).

Bowles and Levin noted a number of “conceptual and methodological flaws” in the design of the Report that they attributed to inadequate theorization of the models (Bowles and Levin 1968, 14). In response to this, the Office of Education in Washington D.C. sponsored Bowles to conduct a large research project on this topic, the first stage of which was “devoted to an exploration of the conceptual and econometric problems in the construction of education production functions, and the second stage to ‘the economics of educational production functions’” (Bowles 1969, 1). Hanushek and Bowles were not *a priori* opposed to the work other social scientists were carrying out on education at this time, but they repeatedly emphasized the superior analytical framework provided by economic reasoning. In particular, they insisted on economists’ greater capacity to differentiate between various *policy* prescriptions, which also necessitated that the target of economists’ interventions not be confined to professional economics journals. While economists already possessed jurisdiction over overtly ‘economic’ issues, they had to demonstrate their usefulness to education policymakers by providing readily understandable policy solutions.

By invoking the notion of the education production function, Hanushek, Levin, and Bowles were mobilizing a tool long used by economic theorists to estimate allocative efficiency of systems for distributing goods that has been the subject of considerable technical debate. Put simply, a production function is a mathematical equation which relates specified inputs (or ‘factors of production’) and outputs, mediated

by some production process. While the modern theory of economic production was articulated in various rudimentary ways by 'political economists' throughout the 19th century (Stigler 1941), the formal production function is thought to have been first outlined in 1894 by Philip Wicksteed in his *Essay on the Co-ordination of the Laws of Distribution* (Wicksteed 1894). Wicksteed's basic premise was to relate a firm's maximum possible output to the inputs required to efficiently maximize said outputs (these usually consisted of some quantity of land, labor, and capital).

The most important technical issue in production theory, which would become especially problematic and contentious when applied to the education process, is what economists refer to as the 'substitutability of inputs.' For qualitatively different inputs in a production process to be considered *commensurable* to one another, there must be formal rules for substituting one input for another. Joan Robinson introduced a formal way of handling this issue for production functions in general in the early 1930s (Robinson 1933). In education research, arguments about the superiority of economic analysis to the Coleman Report hinged on the mathematical principles of production theory outlined by Robinson. Economists have argued that legitimate inferences from these models can only be made when "decision rules" are specified; a decision rule "makes comparisons among the various inputs to the production process on the basis of input prices" (Hanushek 1972, 13). In short, this was an argument for making new interpretations of tools originally developed by Coleman's team on the basis of economic theory. This allowed economists to make recommendations about the allocative efficiency of educational resources, which were considered more legitimate

within professional academic economics—but notably, translating this research beyond the confines of the academic field would remain a challenge.

This research on educational production was one component of a larger initiative in the late 1960s that served as a reaction to the passage of the Elementary and Secondary Education Act (Griffen 2022). At the National Center for Education Statistics run by Alexander Mood, an Economics Analysis Branch had been set up within the Division of Operations Analysis. According to a 1967 memo, research being conducted at the Branch spanned practically the full range of topics economists of education were interested at the time:

“a manpower, employment, training, and education model designed to yield projections of national educational requirements; an Educational Finances Systems Analysis which would develop a flow-of-funds accounting system for the educational sector of the nation; with the Stanford Research Institute, a Cost-Benefit Analysis of Title I, ESEA; a model of the Department of Defense Overseas Dependent School System; and with Harvard University, an investigation of education production (relationship of inputs to outputs) functions.”²⁵

That these were the areas of economic inquiry being investigated by the federal government at the time should come as no surprise to anyone familiar with the history of systems analysis, which was being frequently applied to educational topics by the late 1960s (Geisinger 1968). And yet, the policy implications of this research was far from clear due to the fact that education policy remained largely a local affair, even with the

²⁵ Memo from Hal Lyon, Assistant Deputy Commissioner of the Office of Education, on “Reorganization of NCES, OPPE and Data Processing Service Function,” LBJ Presidential Library, WHCF, FG 246.

federal government having recently scaled up its involvement through programs such as Title I that sought to equalize educational opportunity. As Alexander Mood and Richard Powers of the Division of Operations Analysis put it at the time, “cost-benefit analysis encounters severe difficulties when one attempts to apply it to education. We believe that fruitful results are likely to be a number of years away” (Mood and Powers 1967). This would prove to be prescient, as economists’ research on the cost-effectiveness of education would languish over the subsequent two decades (this will be covered further in the following chapter), even as similar scholarship on topics in healthcare became integral to federal policy-making.

While the economics of education at the end of the 1960s was well-established as a subfield and featured contributions by many prominent academic economists, this research required possession of a style of expertise that was often at odds with what other scholars of education understood to be good scholarship. Academic research on education had long been primarily concerned with philosophical and normative issues that contradicted the kind of evidence that economists were interested in (Lagemann 2000). The policy recommendations of economists such as Hanushek, who began arguing in the 1960s that “money doesn’t matter” for public schools (Burtless 1996), were not particularly popular in the world of education policy and even less liked by educators themselves. The previously mentioned Education Economics Analysis Branch that was working on a variety of projects related to the mid-1960s flurry of federal legislation was run by a sociologist, William Dorfman, after the Office of Education’s research arms were reorganized in 1967. The purpose of organizational reshuffling in the National Center for Education Statistics was ostensibly to emphasize

the “new and increasingly important activity of developing models—both macro models of the entire educational community and micro models of parts...and the evaluation of the worth of OE [Office of Education] programs.”²⁶ However, while “many of the things being developed by this division...[were meant to] have their ‘pay-off’ five or ten years down the road,” as will become clear in the next chapter, the initiatives most closely identified with economic expertise—educational production research and cost-benefit analysis—ultimately had little impact on U.S. education policy, which was rapidly moving in a different direction.

By the mid-1970s, there existed eight full-length textbooks and seven anthologies of important papers on human capital theory, yet Mark Blaug—initially a strong proponent of the human capital research program—was already warning that:

“the human-capital research program is now in something of a ‘crisis’: its explanation of the private demand for education seems increasingly unconvincing; it offers advice on the supply of education, but it does not begin to explain either the patterns of educational finance or the public ownership of schools and colleges that we actually observe...Worse still, is the persistent resort to *ad hoc* auxiliary assumptions to account for every perverse result, culminating in a certain tendency to mindlessly grind out the same calculation with a new set of data, which are typical signs of degeneration in a scientific research program” (Blaug 1976, 849).

The most notable development in the 1970s that could arguably be labeled as an advance in the economics of education was Michael Spence’s theory of job market

²⁶ Ibid.

signaling, which was heralded as an important contribution to economic theory (the three economists most associated with signaling theory—Spence, Kenneth Arrow, and Joseph Stiglitz—have all won the Nobel Prize). This will be covered in more detail in the next chapter. Overall, the largest takeaway point for policymakers from this line of research was that marginal returns to education are not always strong and therefore it is best not to promote over-investment in education. Thus the economics of education, which began in the 1950s with so much promise and quickly legitimized research on various components of the education system, had a diminished influence on U.S. education policy in the decades that followed, before its salience re-emerged in the 1990s with the crescendo of the policy-based evidence paradigm.

Health Economics: From Fragmentation to Vibrancy

Though many of the same organizations, program officers, and even some of the same economists were involved in the creation of health economics, its early history was marred by far more lack of coherence than the economics of education. From the beginning, economists were divided over whether they ought to be studying “health” or “medical care”: Arrow, for example, saw fit to point out that in his paper “it should be noted that the subject is the *medical-care industry*, not *health*” (Arrow 1963, 941), whereas others were focused on the effects of human capital formation on health outcomes (Mushkin 1962b). Early forays into constructing rational choice frameworks for selecting among public health projects presented economists with a number of practical issues as well. As Selma Mushkin points out in her introduction to a collection of early papers from a conference on health economics,

“Only recently have both health workers and economists begun to move away from the generalities familiar to their respective professions and started the arduous task of gathering the facts which would bear on their solution...Only recently has there been a start toward classification of disease problems and of the medical capabilities of relieving these disease problems. More and more, the need for coordination of health planning and economic planning is coming to be recognized” (Mushkin 1964)

Despite this, by the early 1970s health economists had contributed to the design of massive healthcare programs (Medicaid and Medicare) and were leading the largest social science experiment in U.S. history (the RAND Health Insurance Experiment), which has substantially structured and—some would argue—constrained debate over how healthcare financing is organized (Newhouse 1993). How did health economists gain the ability to influence policy decisions despite persistent early confusion over the content of health economics as a subfield? Consistent with other research on boundary-making and scientific expertise, I find that health economists actually benefited from the murky definition of the subfield, which allowed them to blur the boundaries between academia, politics, and the business of healthcare.²⁷

When the economics of education was coalescing in the late 1950s, there was considerable enthusiasm for the public financing of education. In the wake of World War Two, the U.S. had greatly increased public funding of colleges and universities by sponsoring war veterans to get their degrees and become productive in civilian life. In K-12 education, concerns about equity and the educational disadvantages of minority

²⁷ On “murky power” and interstitial fields, see Medvetz (2012b).

students resulted in new attempts to subsidize opportunities for those affected by the disparities (D. K. Cohen and Moffitt 2009; Davies 2007). When economists began analyzing these issues, the questions they asked were not particularly surprising. The states were already involved in providing education (at least through secondary school) for the population, so economists were mostly interested in how the country could maximize educational attainment while keeping costs down.

By comparison, healthcare financing in the mid-twentieth century U.S. was chaotically organized. Universal healthcare did not yet exist for any category of people at the national level, and the American Medical Association was an awesomely powerful professional society that would have to be appeased if any kind of socialized healthcare legislation was to be enacted (Starr 1982a). Around the year 1960, two economists who would become members of John F. Kennedy's Council of Economic Advisers, Rashi Fein and Burton Weisbrod, published the first studies to apply the technique of cost-benefit analysis to healthcare issues; these reports were basically just crude attempts to quantify various aspects of health and estimate the cost of care (Fein 1958; Weisbrod 1961). Also at about the same time, researchers who had been exposed to the theory of human capital that was revolutionizing economists' approach to educational issues began working on ways to measure individuals' health as an input into human capital growth (Mushkin 1962b). Weisbrod, who was also involved in formalizing the measurement of human capital as a product of educational investment (Weisbrod 1962), wrote in his 1961 monograph *Economics of Public Health* that in the course of studying health problems,

“In the quantification attempts I became painfully aware of the dearth of relevant data. I was compelled, therefore, to utilize what seemed to be the best available data or to make my own estimates—sometimes on the basis of rather scanty information—when no usable data were available. I believed that the data used and the estimates made are reasonable under the circumstances. It seemed important to attempt *some* quantification, albeit very imperfect, to serve as an illustration of what could be done to provide a basis for resource-allocation decisions in the health area” (Weisbrod 1961).²⁸

Economists had not progressed particularly far in studying health at this time, in particular in comparison to the rapid growth in the economics of education.

The lack of interest in health was apparent to officers at the Ford Foundation as well. In 1961, economist Richard Rorem of the Allegheny County Hospital Planning Association in Pennsylvania completed a report for Ford that criticized the Foundation and other philanthropic associations for not providing adequate support of economic knowledge about health:

“Foundations and governments have expended large sums to increase scientific knowledge in the health sciences, to educate members of the health professions, and to construct hospitals for the practice of the healing arts, particularly those services dependent on specialized knowledge and large capital investment...Foundations and governments have not given the same attention to

²⁸ The approach to economic analysis reliant on “attempt[ing] *some* quantification” would become a theme in research making use of the technique known as cost-effectiveness analysis; see the next chapter as well as Griffen and Timmermans (2020).

principles of economic development and administration of the health service as they have furnished to private industry and trade or to public administration.”²⁹ Likewise, in 1962 program officer Victor Fuchs produced a report for the EDA program that characterized Ford’s support of social scientific research into health as lackluster. Fuchs notes in the report that he had repeatedly requested for the Foundation to ramp up its contributions to economic research on healthcare because “relative to its importance in the American economy, there was very little support available for economic research in this field.”³⁰ Fuchs goes on to say that Ford “could probably be more effective in this field than anyone else. It has the money, it has the experience, and it has the courage to stimulate significant change in a vital field, as evidenced by the work of the Education program.”³¹ The explicit comparison to the Foundation’s success in influencing the economics of education highlights the frustration that early advocates of health economists felt with their relative inability to acquire the resources necessary to do research on a topic that they believed was becoming increasingly important for economists.

Shortly after the internal reports by Rorem and Fuchs were written, the EDA program at Ford was approved to start a project in health economics and administration. At the end of 1962 and again in 1963, the Board of Trustees authorized \$250,000 be allocated to provide research grants for economists interested in problems of hospital financing and health.³² The way this funding was used indicates the more policy-minded

²⁹ Richard Rorem, “Economic Development and Administration of Health Service,” Report to the Ford Foundation, Ford Foundation Archives, Catalogued Reports, Box 423.

³⁰ Victor R. Fuchs, “The Ford Foundation and Problems of Health,” Report to the EDA, Ford Foundation Archives, Catalogued Reports, Box 82.

³¹ *Ibid.*

³² Peter E. de Janosi, Ford Foundation EDA memo, Ford Foundation Archives, Reel P-1036, Grant File D-901.

approach that economists took in dealing with health than with education. Nearly \$200,000 was given to the Health Information Foundation, an organization that was created by the pharmaceutical industry and operated out of the University of Chicago School of Business.³³ This foundation would support later NBER president Martin Feldstein's econometric work on the British National Health Service (Feldstein 1967).

While Fuchs was appealing to Ford to increase its funding of health economics in 1962, Selma Mushkin had organized a conference on the topic at the University of Michigan under the auspices of the U.S. Public Health Service and the National Institutes of Health (Axelrod 1964). The conference was not considered particularly successful, but it was nonetheless deemed the first official U.S. "Conference on the Economics of Health and Medical Care" and the edited collection of papers that emerged from the conference would be the first publication surveying the issues illuminating early research in the subfield (Bureau of Public Health Economics 1964). Attendees at the conference were for the most part a "distinguished group of 'general' economists," as then-Council of Economic Advisers member Rashi Fein (2002, 7) pointed out, and the policy-minded economist Eli Ginzberg warned that health economics risked

"go...the way of academic economics [with] advances in economic methodology, not in health programming. For the current interest may result in many intricate manipulations of variables with the aid of calculus and the computer which may not significantly advance the understanding of or control over, the economics of health and medical planning" (Ginzberg 1964).

³³ Ibid.

This would be followed up in 1968 with a second national conference at Johns Hopkins that was funded by Ford and also published as a series of solidly empirical papers, reflecting the eminently practical nature of health economics research at this time (Klarman 1970). The grant request for this conference issued to Ford indicates that even in 1968, when the Medicare and Medicaid programs had been established at the national level and health economics research was continuing apace,

“The handful of research economists concerned with health issues tend to work in isolation from each other (there are also inadequate publication outlets for their research), resulting too frequently in duplication efforts, inadequate critical review of on-going research, and little attention to defining research priorities and urgent issues. Also, despite the increasing interest of government and private industry in health economics, few effective contacts have been developed among researchers and practitioners.”³⁴

Thus even as health was being noticed as a potential topic of inquiry by economists from all over the country, it continued to lag behind the economics of education in terms of developing a well-defined network of scholars who understood themselves to be involved in a common endeavor.

In 1963, Victor Fuchs had left the Ford Foundation in order to work at the more policy-focused environment of the NBER.³⁵ While there, Fuchs was able to secure funding from the Commonwealth Fund to start an official NBER Program in Health

³⁴ F. Champion Ward to George McBundy, January 5, 1967, Ford Foundation Archives, Reel P-1031, Grant File D-657.

³⁵ Victor Fuchs to Selma Mushkin, August 12, 1963, Ford Foundation Archives, Reel P-1036, Grant File D-901.

Economics.³⁶ This was strikingly different from the economics of education's institutionalization process. Though Gary Becker had been employed at the NBER while he was developing his work on human capital and Theodore Schultz had organized an NBER conference on education in 1966, the Bureau did not actually create a program in the economics of education until 2001 (Hoxby 2003, 1). The NBER Health Economics Program served not just as a means of financing new projects on various topics related to economics and healthcare but also as a fertile training ground for new researchers.³⁷ However, according to a prominent health economist, while the NBER Health Economics Program was important symbolically in terms of announcing the arrival of the subfield, it "existed, but never had meetings, conferences, etc." for the first few decades of its existence (Economist #32).

The previous section of the paper argued that education was only economized in the 1960s insofar as academic economists carved out a semi-autonomous space of knowledge production that was largely isolated from practical considerations. For health economics, advocates were instead arguing that healthcare was too large and important of an industry to let the field become mired in the technical abstractions that fascinate economic theorists.³⁸ The research that gained traction instead looked more like Dorothy Rice's 1964 report for the *Social Security Bulletin*, in which the analyst mobilized survey data in service of a simple quantification exercise that demonstrated

³⁶ Commonwealth Fund Archives, Series 18, Box 223, Folder 2096.

³⁷ Board Report on the NBER program in health economics, May 1970, Commonwealth Fund Archives, Series 18, Box 223, Folder 2096. It should be noted that the NBER Program in Health Economics is separate from the newer Health Care Program, which is currently spearheaded by MIT's Amy Finkelstein and hews much closer to the "policy-based evidence" paradigm that emerges later in the twentieth century.

³⁸ Victor R. Fuchs to Quigg Newton, May 21, 1969, Commonwealth Fund Archives, Series 18, Box 223, Folder 2096.

how fully half of the U.S. elderly population was uninsured—a finding that would prove important in the Congressional battle to create Medicare (Rice 1964).³⁹

In the historiography of health economics, Rice's work is rarely mentioned; nearly every account of subfield formation focuses on the publication of Kenneth Arrow's "Uncertainty and the Welfare Economics of Medical Care" (Arrow 1963; Hammer et al. 2003) and Victor Fuchs' effort to create the NBER Program in Health Economics as founding moments. At the same time as Kenneth Arrow was writing his monumental paper, Rice, relatively unheralded analyst at the Social Security Administration was working on a report that would quantify the total percentage of uninsured senior citizens in the US. While Rice was not even in possession of a PhD, her 1964 report "Health Insurance Coverage of the Aged and Hospital Utilization in 1962: Findings of the 1963 Survey of the Aged" left a huge impression on key members of Congress and administration officials working to create the Medicare program. The report was not theoretically sophisticated from a neoclassical economic standpoint, but its policy impact was undeniable: as Secretary of Health, Education, and Welfare Wilburn Cohen noted in homage to Rice, "Dorothy, it's the numbers you produce that really target health programs and shape the future of the health system in this country (Dorothy P. Rice Public Health Policy Symposium 1998, 5). Much like the discourse surrounding the Affordable Care Act, the labor-intensive technical contributions of less well-known experts had arguably a more decisive policy effect in the long run than the Nobel Prize winning, credentialed Ivy Leaguers.

³⁹ While Rice was in charge of the Division of Health Insurance Studies within the Office of Research and Statistics at the Social Security Administration in the early 1960s, she lacked the same expert credentials that many of her peers at the time possessed. See Administrative History, Department of Health, Education, and Welfare, LBJ Presidential Library, Box 9.

Rice was not only a prodigious researcher—“where I wrote a book, Dorothy wrote a library,” fellow Great Society-era policy analyst Rashi Fein quipped (Dorothy P. Rice Public Health Policy Symposium 1998, 3)—but she was also an institution builder. In the 1960s, Rice rose to prominence in the Health Economics Branch alongside fellow longtime bureaucrats such as Agnes Brewster, who had worked with amateur health economists I.S. Falk and Richard Rorem on the Committee on the Costs of Medical Care in the 1930s (Rosenkrantz and Rosner 1982). The Health Economics Branch was nestled into an overlapping series of evolving agencies in the Department of Health, Education, and Welfare and employed a number of analysts who had little formal training in economics but ample experience compiling reports for the Social Security Administration and Public Health Service. In fact, this research “branch” was initially located in the Bureau of State Services in the Public Health Service, but as oversight of the healthcare system was consolidated due to the establishment of Medicare and Medicaid, jurisdiction over health economics research was transferred over to the Division of Medical Care Administration established in 1965.⁴⁰ In contrast to the emergent, relatively isolated research program in the economics of education, HEW Assistant Secretary for Program Coordination William Gorham wrote of Rice’s work at the Health Economics Branch,

“The health area is one in which the need for good analysis is particularly urgent. The talents of the economist must be used along with those of the physician—not only to estimate the cost of mounting new health programs but to estimate the cost to the nation of not doing so...Mrs. Rice’s examination of the economic cost

⁴⁰ Health Services and Mental Health Administration chapter of the Department of Health, Education, and Welfare Administrative History, LBJ Presidential Library, Box 4.

of the major disease entities, including both their direct costs and their toll on lost productivity, is therefore extremely timely and helpful. The findings will assist those who are re-examining our national health effort in making the policy decisions that are inevitable when resources in manpower, research capability, and funds are not unlimited.”⁴¹

This pattern, whereby health economics experts would collaborate with other researchers in the medical field, would remain a robust feature of the subfield as it crystallized into a more visible domain of the economics discipline later in later decades.

The research institution-building that Rice engaged in also featured a gendered component, which may in part explain why she and other figures are less prominently situated in the historiography of health economics. As Jennifer Burns has recently demonstrated with respect to Milton Friedman’s collaborators, in the mid-twentieth century a number of women made important contributions to economic research that have been devalued or overlooked, either due to their male counterparts taking credit or because whole subfields of economics had been characterized as lower in status (Burns 2022). This was similarly true of Rice and collaborators such as Barbara S. Cooper, who had worked alongside Rice in the Social Security Administration’s Office of Research and Statistics and later served in the 1970s as the director of the Office of Strategic Planning for the Medicare program. These number-crunching women were “laborers in the vineyards,” as Health Economics Branch Chief Agnes Brewster put it in a letter to Rashi Fein.⁴²

⁴¹ “Medical Care Financing and Utilization,” Report by the Health Economics Branch of the Public Health Service, LBJ Presidential Library, White House Central Files, William Gorham Papers, Box 3.

⁴² Letter from Agnes Brewster to Rashi Fein, May 24, 1967, Countway Library, Rashi Fein Papers, Box 9, Folder 30.

In the late 1960s, Rice and Cooper developed a number of novel techniques for measuring economic outcomes of health and disease in a series of HEW reports that served as part of a large-scale effort to estimate the economic effects of motor vehicle injuries, cancer, maternal and child care programs, elementary and secondary education, “human investment programs,” kidney disease, and healthcare services for those living in poverty.⁴³ As Rice’s brother, a fellow health policy analyst, has noted, Rice and Cooper’s work on key topics for healthcare outcomes such as the economic value of homemakers “wasn’t just taking stuff off the shelf...She and Barbara Cooper were inventing solutions to problems that others hadn’t dealt with before” (Smith 2017). From 1968 to 1972, for example, Rice and Cooper produced an annual report that aggregated the total national health and medical care expenditures as a percent of U.S. gross national product. Data from these reports, while not fashionable in terms of the economic theory of the time, served as important indicators of the significant inflation that the healthcare system experienced in the wake of the creation of Medicare and Medicaid (Rice and Cooper 1968; 1969; 1970; 1971; 1972); this inflationary pressure would significantly affect the trajectory of health economics and its relationship to the U.S. welfare state from the 1970s onward (as will be demonstrated in the following chapter).

The example of Rice and Cooper shows how unlike in education, some of the economic experts whose work was most consequential to improving health outcomes at this time largely eschewed the use of formal tools such as systems analysis to examine

⁴³ Program Analysis Reports on Motor Vehicle Injury Prevention, Cancer, Elementary & Secondary Education, Selected Human Investment Programs, Kidney Disease, Delivery of Health Services to the Poor, U.S. Department of Health, Education, and Welfare, Office of the Assistant Secretary for Program Coordination, LBJ Presidential Library, White House Central Files, William Gorham Papers, Box 3.

healthcare. As economist Herbert Klarman later noted: “Starting with Victor Fuchs, some economists have focused on health outcome, on the effectiveness of care. Few, however, have succumbed to the easy temptations of Planning, Programming, and Budgeting (PPB)” (Klarman 1979b, 377). Instead, health economists pursued research that may have appeared eclectic to many mainstream economists but was of clearer interest to doctors, medical professionals, and policy-makers working in the federal bureaucracy.

For example, during the course of the mid-1960s President’s Commission on Heart Disease, Cancer, and Stroke—a monumental effort for which Dorothy Rice’s office had been responsible for a great deal of the data analysis—the Commission, consisting of LBJ administration officials and consultants from the medical industry, made a point of meeting with the team of economists involved. The economists included Stanford’s Kenneth Arrow, Peter de Janosi from the Ford Foundation, W. Lee Hansen and Walter Heller of the Council of Economic Advisers, Herbert Klarman from Johns Hopkins, Dorothy Rice, and Tibor Scitovsky of the University of California, Berkeley. In the preliminary notes outlining the panel’s agenda, the Commission states that it:

“...has asked for some economic guidelines to help it determine what constitutes a reasonable outlay for medical research in general and more particularly in the fields of heart disease, stroke, and cancer. This type of problem is still on the frontiers of economic knowledge and research. Economics has made a fair amount of progress, especially since World War II, in developing criteria for investment in relatively intangible types of activity, such as education. Whether it

has progressed to the point that it can provide specific guidance, expressed in quantitative terms, is a real question.”⁴⁴

The questions posed to the team of economists by the Commission mostly focused on the allocation of government resources to the healthcare system as the life expectancy of the U.S. population was on the rise and the diseases in question were consuming an ever-greater share of national resources. In the end, notes from the meeting were deemed important enough from a policy perspective to be included in the Commission’s final report.

In addition, research in health economics also began to receive attention from the larger medical community, with Victor Fuchs getting papers published in the prestigious *Journal of the American Medical Association* in 1967 and in *The New England Journal of Medicine* in 1968 (Fuchs 1968). Fuchs’ 1967 *JAMA* contribution with Irving Leveson, “Motor Accident Mortality and the Compulsory Inspection of Vehicles,” was decidedly outside the purview of mainstream economics at the time but of important interest to policymakers in the public health world (Fuchs and Leveson 1967). By the 1970s, Fuchs and his network of collaborators at NBER were mostly publishing their research in medical journals, including *JAMA* and *NEJM* but also more specialized journals such as *Surgery* and *The Journal of Bone and Joint Surgery*, rather than exclusively for economics audiences (Fuchs 1969; Hughes et al. 1972).

Aside from Fuchs’ research at the NBER, other health economics research was being noticed by the broader health field as well. The work of Rashi Fein is an

⁴⁴ “Preliminary Questions and Tentative Answers Concerning the Economics of Medical Research,” Discussion by Economists of Questions Prepared by Council of Economic Advisers and President’s Commission on Heart Disease, Cancer, and Stroke, September 30, 1964, LBJ Presidential Library, President’s Commission on Heart Disease, Cancer, and Stroke, Box 3.

instructive example. Fein had received his PhD in political economy at Johns Hopkins and was by his own accord “an unusual economist” who was “educated and not trained” (Fein 2007) in the “economic style of reasoning” that was being cultivated in the 1960s (Berman 2022). As Fein himself would later describe the early years of his career,

“I had not used any of the tools I had learned during my years of graduate study in economics...More than that, some non-economists had read my dissertation, which reported on interviews with general practitioner physicians regarding their choice of practice locations, and understood it! I was troubled that all this offered evidence that somehow I no longer was an economist”

Nevertheless, after working for the Truman administration’s Commission on the Health Care Needs of the Nation and publishing an early monograph that used cost-benefit analysis to analyze mental illness in the late 1950s U.S. (Fein 1958), Fein worked on the Medicare Task Force during the JFK presidency as a member of the Council of Economic Advisers (D. Martin 2014). After leaving the federal bureaucracy, Fein worked for a time at Brookings, continuing to correspond regularly with administration officials such as fellow economist and high-level bureaucrat Alice Rivlin.⁴⁵ Fein eventually settled as a faculty member at Harvard, while also consulting for the office of Senator Ted Kennedy and the labor-aligned Committee for National Health Insurance (to be explored further in the next chapter).

Fein’s career in the 1950s and 1960s is notable for the frequent boundary-crossing he carried out between the health policy field and health economics, which Fein himself points out “wasn’t really even really a field” at the time (Fein 2007). Despite

⁴⁵ Rashi Fein Correspondence with Mrs. Alice Rivlin, Countway Library, Rashi Fein Papers, Box 5, Folder 29.

his contributions as an economist to the Medicare program, his approach differed sharply from most of those to whom the “founding” of health economics is attributed. As Alice Rivlin put it in a 1970 letter to Fein,

“Your marginal comments [on the issue of medical price increases] reflected an extreme anti-rationalism that I don’t think I ever heard you express before. You say at several points that analysis is a conservative force and impedes rapid progress...Within my limited experience, the analysts were pushers for change—within the administration at least. The fact that something as radical as a negative income tax is being seriously considered and is actually embodied (albeit in limited form) in an administration bill is largely to the credit of the analysts, not the politicians...

...You aren’t really an anti-rationalist, are you?”⁴⁶

Rivlin’s point about the negative income tax is of particular interest here. In the 1960s, during and after the War on Poverty, there was a vibrant bipartisan debate over how the federal government might be able to directly alleviate poverty via a guaranteed income program of some kind. Steensland (2008) demonstrates that for any particular program to pass into law, its structure would need to resonate culturally in such a way that it could thread the needle regarding who the public regarded as “deserving” and “undeserving” people living in poverty. To that end, Rivlin’s comment to Fein is telling and comports with later efforts by the Nixon administration that nearly led to the creation of a quasi-universal healthcare system: the role of economic analysis in these debates

⁴⁶ Letter from Alice Rivlin to Rashi Fein, Countway Library, Rashi Fein Papers, Box 5, Folder 29.

was not necessarily to push policy in one direction or another, but rather to react to policy proposals and reveal what sorts of potential outcomes and tradeoffs the establishment of new social programs might lead to.

Fein's position at the nexus of public health policy and economics is reflected elsewhere throughout his work in the 1960s and 70s. In an otherwise laudatory 1968 letter in support of future NBER director Martin Feldstein's appointment to a tenured position focusing on medical economics at Yale, Fein wrote that

“Since [Feldstein's]...interests lie in what might be called an applied field, I would have some reservations concerning the significance of his potential contribution to that applied field were he unable to maintain a dialogue with practitioners in the medical area.”⁴⁷

Fein's 1967 monograph *The Doctor Shortage: An Economic Diagnosis*, published by Brookings, was reviewed in *Science*, *JAMA*, *NEJM*, and the *Milbank Quarterly*.

Assessments of this work by economists and medical professionals differed greatly, and the review by George Stigler—perhaps the quintessential representative of an ‘economic imperialism’ mindset at the time—contains a contentious tone that is striking when one considers the comparably greater legitimacy achieved by education economists within their home discipline at this point. In the pages of *Science*, Stigler had this to say about Fein:

“Although Fein's doctorate is in economics, one might suspect that it is in medicine. The distinguishing logic of the economist turns on the rational choice among alternatives, whereas the noneconomist places heavy and often exclusive

⁴⁷ Letter from Rashi Fein to Merton J. Peck, Countway Library, Rashi Fein Papers, Box 10, Folder 30.

weight on technological determinants...We look forward to a study by Economist Fein” (Stigler 1967).

By contrast, Michael Grossman, a young economist who had been mentored by Victor Fuchs and went on to direct the NBER’s Health Economics Program for nearly 50 years, argued that while “one may disagree with Fein’s conclusions...he has developed a praiseworthy ‘economic framework’ for discussing future doctor shortages...the author has built a firm foundation upon which to conduct future debates in the health area”⁴⁸ While Fein, as well as other early pioneers in the nuts and bolts of analyzing healthcare from an economics standpoint, valued economics as a powerful epistemological toolkit, his work indicates that it was of greater importance to remain ensconced at the blurry boundary between economics and medicine than to strictly pursue success within the economics discipline itself.

By the early 1970s, despite continuing confusion over whether health economics was about *health* or *medical care*, the Department of Health, Education, and Welfare saw fit to finance a massive experimental study at RAND that would forever alter the way healthcare costs are discussed in U.S. policy-making circles. The RAND experiment, which was planned out beginning in 1971 and implemented between 1974 and 1982, involved collaboration between economists, a variety of other academic experts (statisticians, survey researchers, etc.), the bureaucrats at HEW, and even doctors. The success of the RAND project can be starkly contrasted with research in 1970s on the economics of education, which had largely turned into an effort to endlessly reproduce findings on topics such as educational production using data from

⁴⁸ Michael Grossman Review of “The Doctor Shortage” from *Medical Care*, September-October 1967, Countway Library, Rashi Fein Papers, Box 9, Folder 30.

different school districts (Hanushek 1986). Differences in the academic and political trajectories of these two research subfields was by no means inevitable, but reflects specific ways in which economists pushed the boundaries of their field into the analysis of social policy topics. By way of explaining these differences, the next section offers explanatory factors that can account for the divergence in internal coherence and policy influence of education and health economics.

Has Social Policy Been Economized? Divergent Trajectories

Thus far, this chapter has described how the relationship between economic expertise and social policy was negotiated as two new subfields of economics were developed and institutionalized. While education was ‘economized’ in the 1960s insofar as economists quickly developed a means of representing education as an economic domain, by the 1970s economists had more influence in their capacity to design health policy. How can we account for these different ways of expanding the boundaries of economics to the domain of social policy? An oft-cited argument about the expansion of economics is that the expansion of economics reflects the “imperialist” nature of the discipline (Lazear 2000), and that a routine part of everyday work in economics today is demonstrating the field’s “superiority” over other forms of inquiry (Fourcade, Ollion, and Algan 2015). Other scholars have demonstrated that beginning in the 1970s, the elevation in status of “applied” research as opposed to a more purely “theoretical” style of inquiry has altered the structure of the field and given it more relevance to policy concerns in a variety of domains that may not have traditionally been considered ‘economic’ (R. E. Backhouse and Cherrier 2017b; R. Backhouse and Biddle 2000). Yet

as we have seen, not all topics have been colonized by the supposed superiority of economic reasoning, and not all applications of economics have affected policy: as Fourcade herself puts it, “relative professional consensus (as it exists on many microeconomic issues) is never a sufficient condition for policy change” (Fourcade 2009, 112). Indeed, the ease with which economists were able to represent education, as opposed to healthcare, as a system of production for the creation of human capital did not straightforwardly contribute to the concrete means of achieving sustained policy influence.

The economics of education achieved early success as an academic subfield because from its origins in the late 1950s, a coherent research program from economists (Schultz, Mincer, and Becker) positioned at top departments in the field (the University of Chicago and Columbia) was supported and disseminated by powerful funding organizations (Ford and NBER). The “style of reasoning” (Hacking 1994) in the economics of education was theoretical—that is to say, mathematical, in nature—and thus allowed economists to neatly situate education as a research topic with close ties to labor economics and econometrics. To put it in Bourdieu’s terms, the “principles of vision and division” (Bourdieu 1998, 46), or the classificatory logic that economists use to make sense of the world in their research, could be readily adapted to make sense of *social* problems related to efficiency and production in education, and to recast these as economic problems. Additionally, the idea of human capital appeared to solve an important problem in scholarship on economic growth: as Mincer succinctly put it in an early article in the *Economics of Education Review*,

“[In the 1950s] the application of empirical research to the concerns about economic growth and about income distribution revealed major defects not only in our understanding of each but also in our way of thinking about these matters” (Mincer 1984, 195).

Thus research on human capital, which dominated so much of the early research in the economics of education, also resolved anomalies in how the entire field of neoclassical economics had come to think about economic growth, which is of major importance to the field and to economic policy-making writ large (R. M. Collins 2002). However, this research on the economics of education did not translate into actionable ideas about how to *conduct social policy* in ways that resonated widely with other educational experts after the 1960s.

As we have seen, despite the tremendous early influence of Arrow’s uncertainty paper on economics, health economics as a subfield developed in a less linear fashion, with competing definitions of the subfield preventing the theoretical coherence that characterized the economics of education. Relative unknowns such as Victor Fuchs had to advocate for economists to think of healthcare as an economic problem and for the foundations that normally supported basic research in economics to commit to funding studies on the economics of healthcare. Yet health economists benefited from factors external to the subfield and, indeed, external to the field of economics as a whole: the federal government’s massive scaling up of centralized health funding and the monumental professional status of the medical profession at the time. With the advent of Medicare and Medicaid, the federal government basically was forced to consult economists on ways to keep costs down, making the social problem of how to provide

adequate healthcare to people into an economic problem. As subsequent chapters will make clear, economists such as Martin Feldstein and later Joseph Newhouse at the RAND Corporation were only too happy to help; one might say this reflects the ideal of “economists as plumbers” (Duflo 2017) or “fix it culture” that Fourcade et al. argue has become central to the field’s habitus: economists “want to fix things...[this] is both a product of their theoretical confidence and the position of their discipline within society” (Fourcade, Ollion, and Algan 2015, 107). In addition, unlike in education, economists doing research on health and healthcare were less antagonistic to professionals in the field of health policy and sought to publish research in medical journals and gain influence with healthcare providers, rather than attempting to bypass teachers and educational administrators (Goldstein 2014). Health economists, who were not able to convince other economists of their subfield’s theoretical sophistication in its first decade of existence (Somers 1965), could nonetheless achieve status rewards by positioning themselves as technicians with valuable expertise to provide health policymakers with.

Sociological research on the contemporary influence of economics over policy argues that success and failure can be explained by the fact that the pervasive spread of economics as a form of cognitive infrastructure raises the bar for economists to demonstrate the superiority of their expertise (Rilinger 2020). This chapter suggests that in the absence of that cognitive infrastructure, economists can establish influence in neighboring fields by creating a shared sense of professional understanding. While health economists were able to accomplish this relatively early on even before the emergence of a commonly understood and well-articulated research agenda, the economics of education flourished as a coherent disciplinary subfield but failed to

establish the same kind of policy relevance. This legacy is reflected in the histories of these two social fields since the 1960s: while healthcare policy has increasingly reflected the language of consumer choice, cost-sharing, and market efficiency (Panhans 2018), K-12 education has proven surprisingly resistant to the style of policy intervention favored by economists, with some of the most high-profile initiatives implemented by the federal government running up against legal challenges and legislative rollback (Griffen and Panofsky 2020; Close, Amrein-Beardsley, and Collins 2018).

Vibrant Fragmentation vs. Stagnant Coherence: the Social Organization of Economic Knowledge

Despite common origins in the late 1950s, the economics of education and health economics developed differently over the course of the 1960s. This resulted in economists of education quickly carving out a space for their research in the field, with a focus on technical issues that were of general interest to academic economists—in particular economists interested in topics such as the contribution of education to human capital development and productivity. Health economics, meanwhile, institutionalized more slowly and did not coalesce around a common logic of inquiry from the outset. Arrow's famous analysis of uncertainty was perceived primarily as a contribution to welfare economics, and early economists of health did not push forward a well-defined research program. Instead, a few key economists working in and outside the government—among them Rashi Fein, Victors Fuchs, Herbert Klarman, Dorothy Rice, Barbara Cooper, and Joseph Newhouse—were able to advocate for economists

to study a hodgepodge of issues and make connections in the field of social policy that would chart a different path for health economics. By the 1970s, health economists were well-positioned to make contributions to healthcare policy in the U.S., whereas economists of education had become mired in technical disputes and debates about measurement. I have argued that health economics was more successful in achieving policy influence precisely *because* it was not as internally coherent as the economics of education and was better able to push the boundaries of economics to incorporate the interests of policymakers and the powerful medical establishment

My goals in this chapter have been 1) to analyze the formation of *subfields* in the economics of education and healthcare and 2) to explain how the structures of those subfields relate to economists' influence over social policy—their ability to 'economize the social'—in the long run. Recently, economists themselves have been reflecting on the changing organization of the discipline as applied microeconomics has gained in status and power relative to economic theory (Angrist, Azoulay, et al. 2017b; Biddle and Hamermesh 2017). These analyses have attempted to assess the influence of economics on other social scientific fields. However, in relying on quantitative measures of citation patterns in these fields' 'top-ranked' journals, this research also reinforces the dominant ideology of actors who are already well-positioned within the field of economics. To assess the rising influence of economics vis-à-vis other, seemingly more 'social' topics, more contextual detail regarding how these forms of knowledge came to be is essential.

As we have seen, *economization* can take different forms: it can, as with education, result in a topic becoming a hotbed of research by academic economists for

a time. On the other hand, it can serve as an opportunity for economists to expand their influence to new policy domains so as to disperse their expertise in new ways. In either case, economization processes are propagated not just by economists themselves, but by the relationships that are established between economists, universities, private foundations, professional associations, and government organizations. In other words, we need to socialize economics to understand the economization of the social.

The Problem of Cost

The Price of Progress: Economics and the Inflationary Welfare State

In historical accounts of policy history and the U.S. welfare state, the 1970s have a reputation for being something of a black hole (Berman 2018). Various reasons for this have been proposed: the sweeping changes brought about by the Great Society legislation were still being rolled out, there was nationwide exhaustion due to the unpopularity of the Vietnam War effort, the decline of organized labor was accelerating, and Republican presidential administrations (as well as arch-neoliberal Jimmy Carter) were more easily swayed by big business than by constituents pushing for more social services. In terms of political history, the 1970s are perhaps best known as the era of “Stagflation,” denoting the unexpected combination of a stagnant national economy amidst rampant inflation that has consistently been a source of vexation for macroeconomists and object of fascination for historians interested in political economy and deindustrialization (J. Stein 2010). The economics of social policy is no exception to this pattern.

In interviews, when I ask economists to narrate their understanding of the history of the economics of healthcare or education, they typically proceed in one of two ways. Often, they tell a story about the “credibility revolution” and the transformation in econometric methods that has swept across microeconomics since the 1990s. This version of the field’s history comes most often from more junior economists, many of whom have themselves been part of the “revolution” and have little to say about what economics looked like before the last two or three decades. Another version of this

history acknowledges the first story but then traces some precursors to it, recalling figures such as Gary Becker, Kenneth Arrow, Theodore Schultz, Mark Pauly, and Joseph Newhouse, as well as ideas such as human capital theory, moral hazard in insurance, and the education production function. Yet even in this second history, which stretches back to the 1960s, economists are quick to point out that almost no one referred to themselves as a “health economist” or “economist of education” until quite recently, and until the 1990s there was little in the way of course syllabi, conferences, or professional organizations organized around these topics. Even if enough research had been conducted by the 1970s to merit book-length annotated bibliographies in both the economics of health and education (Blaug 1970b; Culyer, Wiseman, and Walker 1977; Blaug 1966; 1978), these research areas were still in the process of crystallizing into the kind of relatively bounded subfields typically defined by the sociology of knowledge (Bourdieu 2004; Cambrosio and Keating 1983; Whitley 1984).

This chapter traces an uneven period that followed the initial flurry of activity in the economics of social policy. In response to the inflationary pressure that accompanied the expansion of the welfare state, economists were frequently called upon as subject-matter experts. In 1971 Martin Feldstein, in a report written under contract with the federal government, estimated that while a day of hospital care had increased by five times between 1950 and 1970, the general price level for other goods and services had risen by a bit less than 60% (Feldstein 1971b). As Feldstein would later reflect, in addition to Council of Economic Advisers economists’ involvement with the design of Medicare and Medicaid, how to organize and administer such costly increases in the federal budget were important questions that invigorated the emergent

subfield of health economics (Feldstein 1995). The legislation that established these programs actually included considerable funding for further economic research on health services provision through the U.S. Public Health Service, so the social conditions for economics to influence health policy were cemented by the Social Security Amendments. In 1968, the federal government had established a National Center for Health Services Research that was created as a response to

“(1) a growing direct federal involvement in providing, financing, and planning health services; (2) a growing recognition that problems in the health care industry were due to fundamental organizational deficiencies; (3) a belief that reforms could be achieved and should be based on knowledge derived from systematic, large-scale research and development programs; and (4) the emergence of an identifiable field of health services research” (U.S. Institute of Medicine 1979).

This influx of federal government money led researchers to expand the topics of inquiry in health economics to cover a variety of important matters: among these were hospital financing, doctor shortages, productivity of healthcare systems, and cost-benefit analysis of health interventions (Weisbrod 1975).

Also around this time, Secretary of Health, Education, and Welfare John Gardner was instructed to produce a report on the rapidly rising cost of medical care in the U.S. The report, which was a collaborative effort also involving the Department of Labor and Council of Economic Advisers, was unequivocal in its conclusion that there was “little hope for an early end to medical price increases,” as physician fees, hospital charges, and drug prices had all increased precipitously due in large part to the government’s

growing role in healthcare provision (Department of Health, Education, and Welfare 1967, iii). In light of this, President Johnson asked the newly created National Center for Health Services Research and Development to “develop ways to make our medical systems more efficient” and called for the Department of HEW to convene a National Conference on Medical Costs.⁴⁹ This was followed shortly thereafter by a National Conference on Group Practice, to which economists also contributed their expertise. Much like the President’s Commission on Heart Disease, Cancer, and Stroke from a few years earlier, these conferences proved to be a useful opportunity for economists to showcase their work and methodological prowess. Among the recommendations from the National Conference on Group Practice was a call for more research from economists dealing specifically with cost control mechanisms that could be incorporated into health reform:

“One of the prime objectives of the health services research program will be to channel more researchers and funds into solving the problem of rising costs. Some beginnings have been made in this area. At least four economists, with national reputations, have been encouraged to enter the field of health economics via support of the program. To meet the increasing problems of the medical care industry, particularly the dilemma of rising costs, we will need more graduate students and researchers in health services research.”⁵⁰

⁴⁹ LBJ Special Message to the Congress: “Education and Health in America,” February 28, 1967, LBJ Presidential Library, White House Central Files Statements, Box 230.

⁵⁰ “Recommendations of the National Conference on Group Practice,” LBJ Library, Wilbur Cohen Papers, Box 15.

In the last years of the LBJ administration and into the Nixon years, the issue of rising costs plagued the federal government and underscored the usefulness of economic analysis.

In terms of concrete engagement with policy debate, in the 70s economists were much more successful in healthcare due to the robust national debate about financing universal care (Falk 1970). In the 1970s health economists emphasized 'cost-effectiveness' above all, honing tools originally developed by engineers that would now serve as a means of analyzing social policy investments (Levin 1970; Weinstein and Stason 1977). Despite the looming presence of inflation, for the entirety of the Nixon administration the creation of a national, government-financed healthcare system appeared nearly inevitable (Rivlin 1974). As late as 1975, Senate Finance Committee Chair Russell B. Long believed that it would be "the last year to enact a health insurance plan that does not rely entirely on Government financing and administration."⁵¹ And yet despite careful coordination between a still-powerful organized labor movement and congressional leaders, Democratic plans for healthcare reform underwent a series of near-misses that never culminated in a comprehensive national plan being enacted. The failure to achieve policy reform did however, as has been the case since the mid-twentieth century, provide ample fodder for analysis in health economics and served to propel the subfield forward.

By contrast, the stagnation in economics of education research that had begun to set in toward the end of the Great Society era persisted throughout the 1970s. Both healthcare and education were issues of inflationary concern in the early 1970s, and at

⁵¹ Memo from Ken Cole on "Senator Long's Views on Health Insurance and Welfare Replacement," Ford Presidential Library, Sarah G. Massengale Files, 1974-1977, Box 14.

the 1974 national Summit Conference on Inflation convened by President Gerald Ford, a number of economists were invited to a preliminary Conference on Health, Education, Income Security, and Social Services, which drew attention to the outsized increases in social policy programs.⁵² And yet whereas the prospect of nationalizing the healthcare system brought contentious debate to federal policy debate, the primary issues in the education system were not only being fought on different terrain, but such terrain was not familiar territory for economists. First and foremost, the 1960s had been a period of great upheaval for K-12 education, with moderately increased centralization in the federal policy apparatus coinciding with a fresh bout of emergent militant teacher unionism. The discrepancy between these two developments—combined with the fact that K-12 policy continued to be locally administered for the most part—made it difficult for economic research to intervene in any significant way. Meanwhile, in states across the country, the tethering of property values to local education funding had become a hot-button issue, the policy consequences of which would mostly play out in a series of contentious legal battles in states such as California (Goodman 2021). The response from economists to these issues was to further emphasize the importance of thinking about education in terms of productivity and human capital, which was of little use to policymakers in the federal bureaucracy.

One area in which economists did manage to innovate in the education subfield during this period was a new theory of higher educational attainment known as “signaling theory,” which held that even if additional educational credentials were pursued for their human capital benefits, the functional purpose of receiving a degree

⁵² Summit Conference on Inflation – September 1974 – Health, Education, Income Security, and Social Services, September 19, 1974, Gerald Ford Presidential Library, Alan Greenspan Files, Box 53.

was to “signal” one’s competence to potential employers (Spence 1973; Stiglitz 1975). Signaling, while mathematically elegant as far as economic theory is concerned, had little takeaway that policymakers or government actors could latch onto. Thus, along with the vibrancy of 1970s health policy debate, developments in the economics of education during this period reinforced the contrasting social structures of these two subfields: coherent stagnation vs. vibrant fragmentation.

Economic Expertise in the Struggle for National Healthcare

Chapter One demonstrated how it was not until the mid-1960s that economists began to mutually recognize one another as participants in a common research subfield dedicated to health policy analysis, and even then, tensions remained present over the precise aims of health economics (Fox 1979; Rebelo 2007; Panhans 2018; Blaug 1998). This was the product of both scientific developments within academic economics as well as the changing role of the federal government in U.S. healthcare policy during this time. To make sense of the role that expert knowledge played in defining the contours and limits of 1970s healthcare policy battles requires understanding the broader public dispute over the federal government’s role in providing healthcare to citizens in the U.S. at the time.

Research on efforts to reform the U.S. healthcare system have mostly focused on three topics: the role of the medical profession, the successful passage of targeted programs such as Medicare and Medicaid, and the commodification of healthcare during the neoliberal era. Regarding the medical profession, sociologists and historians of science have written about how physicians gained authority by restricting access to

medical education and certification, eventually resulting in the American Medical Association's powerful influence in the political arena (Starr 1982a; Whooley 2013; Numbers 1982). Scholars have used the passage of the 1965 Social Security Amendments that created Medicare and Medicaid as comparative cases for understanding the U.S. welfare state (Oberlander 2003; A. B. Cohen et al. 2015; Marmor 2000). And research on the commodification of healthcare and rise of stratified insurance markets also serves as a good entry point to making sense of the broader historical shift toward neoliberalism (Schmidt 1999; Jost 2007; Gaffney 2015). Finally, there are scholars of healthcare reform who have tried to synthesize works with these different emphases in order to illustrate how the U.S. healthcare system evolves according to the distribution of power among various interest groups that have waxed and waned over time (Quadagno 2005; Gordon 2003; Hoffman 2012).

Meanwhile, another branch of research seeks to bring the role of expertise to the fore and explores how economists, public health scholars, and others have sought to shape battles over healthcare reform (Fox 1979; 1990). In sociology, researchers have focused on how economists do (or do not) influence public policy (Hirschman and Berman 2014), including healthcare policy (Ashmore, Mulkay, and Pinch 1989). Historical research has demonstrated how the rise of health economics as a subfield coincided with transformation in healthcare policy toward marketization and profit-making (Melhado 2006; 1998). More recently, scholars have examined how the policy battle over the Affordable Care Act fits in with the long history of national healthcare reform and experts' role in it (Glied and Miller 2015; Panhans 2018).

All of this scholarship contributes to our understanding of “the patchwork” style of healthcare reform in the U.S.: as opposed to the comprehensive overhauls that most other wealthy nations have successfully accomplished, the U.S. has used a variety of targeted programs, means testing, “managed competition” schemas, and complicated budgetary maneuvers to effect reform in fits and starts (Marmor and Oberlander 2011). This is consistent with the preferred policy solutions that economists have proposed for other social issues, such as the earned-income tax credit, conditional cash transfers, or defined-contribution pension accounts. These are welfare policies that can be complicated to administer through public bureaucracies due to the abundance of technical details, but much of that work can be outsourced from the state to private corporations or blended into public-private partnerships (Mayrl and Quinn 2016). Healthcare, which has long comprised a massive portion of the U.S. economy, is no different from these other welfare programs. The rest of this section of the chapter details how economists became enrolled in efforts to reform health policy by controlling costs in the wake of Medicare and Medicaid, and to what effect.

Public healthcare provision in the U.S. emerged as a viable political project during the Progressive Era in the early 20th century. At first, programs to insure people were not justified on grounds that they would save people money, but rather as a means of maintaining stability between capital and labor. From the Progressive Era until the emergence of health economics in the 1960s, the framing of broad, comprehensive healthcare coverage as primarily a labor issue allowed physicians (organized through the American Medical Association) to ally themselves with other powerful interest groups and successfully combat schemes to institute compulsory health insurance

(Quadagno 2005, 6–8). As Paul Starr puts it, “the historical origins of health insurance as a public program are linked more to concerns about income maintenance, national economic power, and political stability than they are to the financing of medical care” (Starr 1982b, 78–79). These concerns remained largely unchanged until just after World War II, when President Harry Truman outlined a vision for a much more comprehensive national health insurance program that would guarantee healthcare to citizens as a right (Blumenthal and Morone 2009, 57–98). While Truman was not ultimately successful in establishing a universal healthcare program, he did bolster the efforts of healthcare reformers, who since the 1930s “had become more concerned with healthcare costs than lost wages” (Starr 1982b, 81).

Framing debate over more comprehensive federal healthcare insurance as largely a problem of cost made it into an object of much greater interest for economists, who were increasingly involved in budgetary matters and federal decision-making from the 1950s onward century (Bernstein 2001). How healthcare cost and financing was organized became the chief concern of most health economists as the subfield coalesced, a point that would be made particularly clear in contributions made by economists to the policy debate over the implementation of Medicare and Medicaid, which came into being when President Lyndon Johnson signed the Social Security Amendments in 1965. The Amendments established the Medicare program providing universal healthcare coverage to the elderly through the federal government, as well as Medicaid, a means-tested program covering healthcare for those living in poverty that is administered jointly by the federal government and the states. The establishment of these federal programs was relevant to the newly emergent field of health economics in

two senses: first of all, because—as shown in Chapter One—economists such as Rashi Fein, Burton Weisbrod and Kermit Gordon had been working on the design of these programs since their time serving in the Kennedy Administration’s Council of Economic Advisers. Though the economics of health and healthcare would eventually become associated with a more market-friendly style of reasoning (for example with Health Maintenance Organizations during the Reagan years or the insurance exchanges created by the Affordable Care Act), in the mid-1960s the “economization” of federal policy was in fact associated with direct public provision of social services (Berman 2022; Mudge 2018).

Fein and Gordon had been some of the first economists tasked with working on social policy issues that expanded the CEA’s purview beyond macroeconomic and fiscal policy. Fein worked within the executive branch to figure out how the legislative proposal for Medicare and Medicaid might be administered and funded, and from 1965-1967 Gordon served as Chair of the Health Insurance Advisory Council that sought to determine what types of medical care should be covered via Medicare. These economists drew important distinctions between the two programs; as Fein explains, they are “based on very different social contracts. Medicare was a ‘social insurance’ program designed to cover *everyone* over a certain threshold; Medicaid was a ‘welfare’ program based on means testing” (Fein 2015, 40). Fein notes that while the policy experts “involved in developing and implementing Johnson’s War on Poverty saw those two programs [Medicare and Medicaid] as important components of the Great Society,” they also figured that the goal for federal healthcare policy was to create “a national

health insurance program that would provide insurance protection for the entire population,” building on Medicare as a model, “within half a decade” (Fein 2015, 39–40).

While the political will to create a truly universal health insurance program did not materialize within half a decade, the rapidly spiraling cost of healthcare in the late 1960s continued to fuel debate in the economics of health policy. After Rashi Fein left the White House, he worked for a time at the liberal Brookings Institution before taking up a post as the resident health economist at the Harvard Medical School. It was there that he also became an informal adviser for another Kennedy—Ted, who made it his mission in the Senate to pass universal healthcare legislation. In 1970, Kennedy’s staff worked together with the Committee for National Health Insurance, a group associated with the powerful United Autoworkers Union, to come up with a proposal for creating a single-payer healthcare system in the U.S. (D. C. Jacobs 1987, 126). Fein expressed some reservations about working with the union-affiliated group because he was an “objective professor” who was frequently asked to testify before Congress about healthcare issues, but he also acknowledged that at the time, “there were not an awful lot of experts and people who knew a lot about health insurance, and certainly who knew a lot about what a universal health insurance plan would look like and how much it would cost.”⁵³ And so coming just five years after the passage of Medicare and Medicaid, the debate over universal healthcare gained steam in Congress, and economic experts were once again called upon to generate expectations for what a future system could look like.

⁵³ Oral History with Rashi Fein, “Rashi Fein Oral History, Ted Kennedy Staff,” Countway Library, Rashi Fein Papers, Box 3, Folder 12.

Of course, in the 1970s, the primary economic problem concerning lawmakers, experts, and the public alike was the so-called Stagflation Crisis, the stagnating economy and inflationary spiral that hit the nation simultaneously. This problem was especially pronounced in healthcare, since the costs of government-financed health insurance programs such as Medicare and Medicaid had already been increasing rapidly since the late 1960s. In 1967, the Department of Health, Education, and Welfare convened a landmark “National Conference on Medical Costs” in Washington, D.C. at which the Social Security Administration research staff played a prominent role, and this was followed a few months later by a “National Conference on Private Health Insurance.”⁵⁴ By the time Ted Kennedy’s single payer bill was introduced to Congress in 1970, inflation was at the point of crisis in healthcare and any legislation proposing to expand the system needed to address costs as well.

In response to the Kennedy-CNHI collaborative effort to put single-payer healthcare on the forefront of the public agenda, a number of competing proposals emerged. These were sponsored by lawmakers from both political parties as well as outside interest groups, with unions such as UAW and AFL-CIO supporting the most comprehensive federal plans, moderate interest groups such as the National Governors Conference supporting regulated plans that would be administered through the states, a compulsory insurance plan sponsored by New York Senator Jacob Javits that in terms of social philosophy was an early precursor to what would eventually become the Affordable Care Act, and a conservative option backed by the American Medical

⁵⁴ “Social Security Administration” chapter of the Department of Health, Education, and Welfare Administrative History, LBJ Presidential Library, Box 9.

Association known as “Medicredit” that would replace Medicaid.⁵⁵ While any one of these plans could be described as some form of “National Health Insurance,” they differed along a number of key dimensions: the overall concept, which advocacy groups or political figures were supporting them, how benefits would be assigned, who would be responsible for financing, what federal agency would administer the program, and finally, what the overall effect would be on the U.S. healthcare system.⁵⁶

In addition to the presence of a variety of competing proposals for national healthcare reform, during the late 1960s and early 1970s there was an intense political battle among experts to *define* the terms of the policy debate. In 1970, the Secretary of the Department of HEW was directed to “conduct a study of each legislative proposal introduced in the Senate or the House of Representatives during the Ninety-first Congress which undertakes to establish a national health insurance plan,” and this was to include a separate analysis reporting the cost of implementing each plan.⁵⁷ The resultant report found that there were fully *thirteen* separate proposals that had been introduced, with widely varying costs as estimated by HEW experts. The situation in the early 1970s was not so different from what has happened since the 2016 Democratic presidential primaries, with a slew lawmakers and think tanks having come up with some nine different proposals in the last several years that would fundamentally alter the nation’s health insurance system in slightly different ways (Kliff and Scott 2018).

⁵⁵ “NHI: Summaries of Different NHI Proposals,” Countway Library, Rashi Fein Papers, Box 3, Folder 45.

⁵⁶ *Ibid.*

⁵⁷ “A Study of National Health Insurance Proposals: A Report to the Congress,” Richard Nixon Presidential Library, White House Central Files, Staff Member and Office Files, James Cavanaugh, Box 21.

As interesting as the proliferation of health reform proposals themselves was at this time, from a politics of knowledge standpoint, it is also noteworthy to consider *who* was analyzing these proposals. In 1969 I.S. Falk, the biologist-turned-economist who had been heavily involved in attempts to estimate the costs of U.S. healthcare since the FDR administration in the 1930s, was tasked by the UAW-backed Committee for National Health Insurance with spearheading a Technical Subcommittee that would estimate the costs and financing procedures for the comprehensive Health Security Program supported by Ted Kennedy.⁵⁸ Interestingly, Falk and the CNHI's research efforts were supported by Social Security Administration staff through an arrangement with the HEW Secretary, despite the Nixon administration's wariness about such sweeping reform proposals. Falk's correspondence indicates that legal counsel at the Nixon Department of HEW were generally receptive to his analysis and the overall feasibility of the more comprehensive reform proposals on the table as compared to the more conservative options on the table, which had the backing of physicians' groups and would eventually lead to the push for legislation to promote Health Maintenance Organizations.⁵⁹

President Nixon, and Ford after him, sought to combat this proliferation of proposals by introducing their own plans that would expand insurance coverage while maintaining, and perhaps even expanding, the role of private insurance in healthcare. The Nixon administration plan, envisioned as part of a major overhaul of the entire Department of HEW, proposed the creation of a universal insurance system for

⁵⁸ "The Costs of a National Health Security Program and their Financing," Prepared for the Committee for National Health Insurance by I.S. Falk, Countway Library, Rashi Fein Papers, Box 3, Folder 47.

⁵⁹ Letter from Alan Willcox to I.S. Falk, May 30, 1971, Walter F. Reuther Library, I.S. Falk Correspondence, Box 6, Folder 1.

catastrophic care only known as “Maximum Liability Health Insurance” (Lynn and Seidl 1975). This proposal drew directly on the work of economist Martin Feldstein, whose pioneering work in health economics held that generous public financing of healthcare led to overuse by the insured population. Feldstein argued that “comprehensive insurance would...shift the problem of the health care sector to a conflict between cost inflation and controls,” which he believed the federal government was incapable of resolving (Feldstein 1971a, 98). Instead, Feldstein proposed that “if insurance coverage were reduced, the utility loss from increased risk would be more than outweighed by the gain due to lower costs and the reduced purchase of excess care” (Feldstein 1973, 251). Similar to what Senator Russell Long said in 1975 (quoted previously in this chapter), Feldstein was sure that “some form of national health insurance is very likely to be enacted within the next few years” due to cost inflation.

In 1974, the same Senator Long introduced legislation for a catastrophic coverage bill based on the principles laid out by Feldstein and approved by the executive branch in an attempt to both appease liberal hardliners such as Kennedy and to give the Nixon administration the appearance that it was still functioning (Starr 1982a, 405). Economists across the political spectrum—from right wingers like Feldstein to liberal stalwarts from the LBJ administration—believed that there was no longer any firm opposition to a comprehensive federal plan, and thus all that remained was the opportunity to get the details right (Rivlin 1974). The Democratic-controlled House of Representatives continued to hold hearings on national health insurance in the mid-1970s, bringing in economists such as HEW’s Deputy Assistant Secretary for Planning and Evaluation and Congressional Budget Office chair Alice Rivlin to publicly expound

upon the cost estimates their offices had generated for enacting various policy proposals.⁶⁰

Even as the Nixon administration's vision for a more conservative, catastrophic coverage plan became the most likely reform proposal that could actually be enacted, Great Society-era economic experts allied with organized labor still believed they had leverage to shift the terms of health policy debate in the direction of big government and away from private economic forces. In 1974, Max Fine—previously a member of JFK's Medicare Task Force that laid the groundwork for the elderly care program—wrote to I.S. Falk:

“In preparing and developing options which may or may not be useful in the future, we should not overlook the option of accepting the Nixon plan with amendments...in the event that the Nixon plan were to become the front-runner and the debate entered the home-stretch, it would be interesting to say, ‘All right, Mr. Nixon believes our bill costs too much...We will accept the more limited Nixon bill. But we believe it should be done by Social Security instead of being turned over to the insurance companies. Our way you get universal coverage under a single plan, not different plans. And you save \$3 billion in comparison to Mr. Nixon's plan.’”⁶¹

Fine's optimism that an overhaul of the U.S. healthcare system would lead to cost savings would become a persistent claim from economic experts of every stripe over

⁶⁰ Statements from Stuart H. Altman and Alice M. Rivlin before the Subcommittee on Health and the Environment of the House Committee on Interstate and Foreign Commerce on “The Costs and Economic Consequences of National Health Insurance,” Gerald R. Ford Presidential Library, A. James Reichley paper, Box 3.

⁶¹ Memo from Max Fine to I.S. Falk, January 29, 1974, Walter F. Reuther Library, I.S. Falk Correspondence, Box 6, Folder 2.

the course of the next several decades. In the meantime, even as the Nixon presidency went down in scandal and a hapless Gerald Ford took over the executive branch, the prospect of passing legislation on comprehensive insurance of some kind still seemed likely. However, organized labor and other liberal activist organizations grew increasingly disillusioned with any idea other than Kennedy's 1970 Health Security proposal (Starr 1982a, 404), and as the economy recovered from the Stagflation crisis, the election of the conservative Democrat Jimmy Carter to the White House in 1976 moved healthcare reform lower down the list of legislative priorities.

By the end of the 1970s, comprehensive healthcare reform was no longer the inevitability it had been at the start of the decade. Both the sweeping visions for reform proposed by the likes of Kennedy and CNHI, as well as the insurer-friendly proposal preferred by officials in the Nixon and Ford administrations began to gather dust. Expert debate over the remaining proposals to overhaul the system became increasingly technical, as stalwarts from the New Deal and Great Society federal bureaucracy such as I.S. Falk and Rashi Fein found themselves disillusioned with the cost estimating procedures being employed by chief Medicare actuary Gordon Trapnell. Trapnell's numbers projecting the cost of healthcare reform, referred to as "garbage-in, garbage-out" by Rashi Fein, consistently proved to be significantly higher than those the CNHI experts were able to come up with.⁶² And yet, while Trapnell's numbers may have themselves been inflated, it is undeniably the case that as the 1970s came to a close, the problem of rising medical costs remained a prominent economic problem that experts still wished to address. As the era in which the New Deal welfare state had

⁶² Letter from Max Fine to I.S. Falk, Mel Glasser, Elliot Segal, and Bert Seidman, July 25, 1979, Walter F. Reuther Library, Rashi Fein Files, Box 6, Folder 18.

empowered organized labor—the “Great Exception” in the history of U.S. political economy (Cowie 2016)—went into retreat and gave way to neoliberalism, a new idea for how to organize American healthcare was born. This idea, dubbed a “consumer-choice health plan,” came from Alain Enthoven, an economist who cut his teeth working in systems analysis for the RAND Corporation and Department of Defense in the 1950s (Berman 2022; Waitzkin 1994). It would take fifteen years for Enthoven’s idea to come to fruition as a centerpiece of the national reform agenda, but the network of support that consumer choice garnered among high-profile lawmakers and insurance experts would have an effect on the public’s ability to imagine the future of healthcare that persists to this day. Both the failed Clinton-era “HillaryCare” plan and the eventually successful Affordable Care Act would incorporate aspects of Enthoven’s managed competition framework, as it proved to be both amenable to economists interested in preserving cost-sharing mechanisms in as a key component of U.S. health insurance and policymakers keen on patchwork reforms that would not challenge the overall balance of power in the healthcare system.

Analytical Advances: Cost-Benefit/Effectiveness Analysis

In addition to tackling how to reform the broader healthcare system, in the 1970s health economists also refined techniques for evaluating specific health policy interventions designed to treat disease and improve care. As historical research has demonstrated, a variety of methodological approaches suited to program evaluation had emerged in the mid-twentieth century, including cost-benefit and cost-effectiveness analysis (T. M. Porter 2007; 1992; Berman 2022, 42–71). Prior to economists mobilizing

these methods for social policy research, cost-benefit analysis had been the province of the Army Corps of Engineers and public administrators working on water resource projects (T. M. Porter 1995, 148–89; Hammond 1960; R. R. Nelson 1977; Espeland 1998). In the 1950s, economists at the RAND Corporation began using cost-benefit analysis as part of their pioneering effort to develop new procedures for managing public works projects (Berman 2022, 242–71; Amadae 2003). At the time, cost-benefit analysis was just one of the new techniques RAND economists were experimenting with in their desire to achieve greater economic efficiency, with the others being systems analysis and program budgeting (Wildavsky 1966).

Because cost-benefit analysis is conducted entirely in monetary units (many of which have to be assigned somewhat arbitrarily), cost-benefit analysis might be considered a more traditionally “economic” form of evaluation than related techniques. It was seen as an attractive method for economists of health insofar as it is consistent with the principles of welfare economics (Arrow 1963), but it goes much further down the road of “economizing” health care than other methods, and as a result there are moral reasons for preferring cost-effectiveness analysis. As Herbert Klarman notes in a review of the 1960s and 70s literature,

“As a sometime practitioner of cost-benefit analysis in the health field...I have drawn upon and profited from the rich economics and health-economics literature, but not without increasing misgivings. These doubts have led me over the years to turn to cost-effectiveness analysis, which is a nuanced form of cost-benefit analysis that stops short of putting an economic value on the health status outcomes of programs” (Klarman 1982, 586).

Klarman goes on to acknowledge that assigning monetary values to outcomes might improve decision-making when it comes to investing public resources across different social policy domains, in that scenario the assumptions required on the part of the analyst are immense. Hence the utility of cost-effectiveness analysis, which “points up the importance of obtaining realistic estimates of program costs and of valid determinations of program outcomes in the real world” (Klarman 1982, 598)

While these analytical methods are similarly titled, they approach the social world differently in terms of whose perspective they take into account, as well as in terms of how they construct quantitative measures. When evaluating social policy interventions, economic researchers make choices about methods and models to transform their object of analysis; in short, they engage in “processes of economization” (Çalışkan and Callon 2009) that render healthcare into a prototype of an economic object. In social policy domains such as healthcare and education, cost-effectiveness analysis—in which monetary values of outcomes are not assigned, but rather a series of potential policy decisions are provided along with their attendant tradeoffs—has historically been preferred. In Zelizer’s terms, it could be said that this is due to a desire on the part of policy experts to resist the “nothing but” view of social relations, which holds that there is nothing but the market and therefore anything can be quantified and economized (Zelizer 2005). Contra the stereotypical view of economists as pure rationalists, when it comes to social policy topics, even experts with fluency in economic theory and quantitative analysis are careful to conceive of institutions as socially complex in nature.

In practice, political considerations govern decisions about what constitutes ‘costs,’ ‘benefits,’ and ‘effectiveness,’ and toward what types of social domains these

modeling strategies should be applied (Prest and Turvey 1966). CEA usually takes the perspective of the health care *system* or whoever pays for health care costs, and it compares how different interventions can both minimize the cost and maximize the health outcomes of the people being treated. The difference between cost-effectiveness analysis and cost-benefit analysis in a way parallels the distinction that Johanna Bockman identifies between Soviet and American neoclassical macroeconomics, in which similar styles of reasoning prioritize either the perspective of each individual's welfare or the system's well-being (Bockman 2011). While there is a version of cost-effectiveness analysis that compares the monetary cost of these different interventions known as cost-utility analysis, cost-effectiveness analysis does not necessarily use dollars as the primary unit of analysis and there is thus less moral objection by non-economists to the use of cost-effectiveness analysis in evaluating health care. Instead, a different process of quantification takes place that divides cost by the added value of an intervention in average health gains. This method sets the analysis on a path towards privileging the perspective of the payers for health care and links health gains (efficiency) to cost. This tight connection between cost and effectiveness provides a quantitative valuation of fundamentally moral questions: which lives are worth saving and at what expense is it worth saving a life? Thus, cost-effectiveness analysis bears some similarity to other technologies of valuation such as life insurance (Bouk 2015; Zelizer 1979).

Despite its veneer of objectivity, cost-effectiveness analysis was developed for eminently practical purposes. In contrast to cost-benefit analysis, from the beginning cost-effectiveness analysis held out more promise as the method of choice for

evaluating public health interventions, as well as in education policy—though as this section will demonstrate, neither of these techniques ever caught on in the economics of education the way they eventually did for healthcare. Whereas in 1969 there existed only around two dozen studies making use of cost-benefit and cost-effectiveness analysis on healthcare policy (Crum 1969), a decade later there was a thriving movement to standardize and collate CEAs of health interventions with some 500 contributions (Warner and Hutton 1980), while in education policy not much had changed—similar to the broader reform agenda in each policy field at the time.

The advances made in 1970s cost-effectiveness analyses are less important to the story of health economics as an influential policymaking tool than they are because of practical achievements in how to conceptualize and measure basic indicators such as “health status.” Economic evaluations of specific healthcare programs and technologies originated in the 1960s (Fanshel and Bush 1970), but initially, outcomes were measured in terms of increased labor production and the analyses were somewhat crude (Blumenschein and Johannesson 1996). Furthermore, before indicators such as Quality-Adjusted Life Years (QALYs) had been developed in the second half of the 1970s (Ashmore, Mulkay, and Pinch 1989), it was difficult to measure or even define what constituted “health,” let alone “health status.” Government analysts had raised concerns about this in analyses of the mid-1960s President’s Commission on Heart Disease, Cancer and Stroke; as economist Clem Linenberg from the Division of Public Health Methods wrote, “Within [any] frame of reference...the basic obstacle to input-output computations about health services is the same: There is not a unit by which all of the various kinds of output can be measured...If we recognize the existence of other

benefits [than not dying], should we therefore try to ‘monetize’ them?”⁶³ And as the frequently self-reflective health economist Herbert Klarman noted in a 1968 summary report that covered, among other things, the relationship between health services and health status,

“To begin with, there is the well-known, and still unsolved, difficulty of identifying or defining health status. Definitions abound, and there is no agreement. They range from the highly positive, almost utopian, view of the World Health Organization that health means optimum physical, mental, and social efficiency and well-being to the essentially negative view...that health is the individual’s capacity to resist disease and death” (Klarman 1968, 453).

Nevertheless, there was a great deal of interest in applying such methods in health policy analysis as far back as the 1950s. Recall that some of the earliest work in health economics mentioned in the previous chapter, such as Fein’s *Economics of Mental Illness*, was also a pioneering effort to adapt cost-benefit analysis for social policy purposes (Fein 1958). As Agnes Brewster, Health Economics Branch Chief in the mid-1960s Division of Medical Care Administration put it in a coauthored piece with a fellow Public Health Service official,

“the results and efficiencies of these techniques [CBA and CEA], as used in government, have rapidly become of interest to planners and decision makers outside of government. In the health field especially, they open the door to a wide range of decision possibilities...Through the application of cost effectiveness

⁶³ “How Shall We Measure Economic Benefits From Public Health Services,” Chapter 1 of *Economic Benefits from Public Health Services: Objectives, Methods, and Examples of Measurement*, Clem Linenberg, April 1964, LBJ Presidential Library, President’s Commission on Heart Disease, Cancer, and Stroke, Box 47.

analysis particularly, it will be possible to maximize the efficiency of both the programs which serve people and the administrative procedures which these programs dictate” (Crystal and Brewster 1966, 4).

Much of the 1970s work in this domain was therefore exploratory and, while not yet of direct relevance to the kinds of decisions policymakers were faced with, it was an important period of tinkering with what would eventually become an important measure. By the end of the decade, the interstitial field of “health services research,” of which economics was a key component, would narrow down how to think about health in terms of outcomes—a key development leading to the explosion of cost-effectiveness analyses at the turn of the twenty-first century (dos Santos Silva et al. 2021).

In the 1970s, the greater availability of statistics on health indicators such as morbidity and mortality enabled economists to develop health status indices: “quantifiable set[s] of variables which describe...a condition of health in a population. Once a data base is established, decisions concerning *optimal* allocation of resources, planning programs, and evaluation of outputs can be accomplished more scientifically” (Balinsky and Berger 1975). How these indices might be operationalized for decision-making purposes was a topic of great deliberation among health economists (Goldsmith 1973; 1972; Fanshel and Bush 1970; Kisch et al. 1969). As the next chapter will show, this would prove consequential for significant projects such as the RAND Health Insurance Experiment, in which millions of dollars hung in the balance.

In 1976 Richard Zeckhauser, who had previously contributed theoretical work to debates over how precisely medical insurance comes to spread risk among beneficiaries (Zeckhauser 1970), helped to coin the notion of “Quality-Adjusted Life-

Year,” establishing a standard quantitative indicator for the value of life for use in economic research (Zeckhauser and Shepard 1976). Then in 1977, Milton Weinstein and William Stason of the Harvard School of Public Health published the initial programmatic statement on standardizing cost-effectiveness analysis for health interventions in the *New England Journal of Medicine* (Weinstein and Stason 1977). Reviewing the hodgepodge of relevant evaluation research on healthcare, Weinstein and Stason developed a common technique for performing cost-effectiveness analysis that could be transposed to various different topics of inquiry. The authors predicted optimistically that “if these approaches were to become widely understood and accepted by the key decision makers in the health-care sector, including the physician, important health benefits or cost savings might be realized” (Weinstein and Stason 1977, 716). They focused primarily on the technical details which make possible cost-effectiveness analyses, providing scholars with formal definitions of categories such as QALYs and translating various health-related concepts into an abstract, quantitative schema. By this point there was a steady churn of research making use of CEA that was published on an annual basis, and while 1970s political forces had not managed to reform the healthcare system nationwide in order to provide cost control, for specific diseases economists had now developed tools for making resource allocation decisions.

Meanwhile, in education policy, cost-effectiveness analysis had mostly stalled out.⁶⁴ From the outset, analysts contracting with the federal Office of Education had

⁶⁴ While this initially felt like a hunch based on my close reading of the literature and knowledge of the rapid growth in CEA on the health economics side, in keywords searches for “cost-effectiveness analysis in education” between the years 1960 and 1980, there are far fewer hits and roughly half the results returned from online databases such as Google Scholar, JSTOR, and Web of Science are actually for health interventions.

serious doubts about the capacity of developing systematic, useful cost-benefit/effectiveness analysis given the multiple mandates of the education system (Froomkin 1969). As National Center for Education Statistics analyst Alexander Mood noted,

“Difficulties are encountered when cost-benefit analysis is applied to education. There are problems in the attempt to define an educational goal and in the analysis of educational processes. The federal government is now engaged in a multitude of projects designed to coordinate research in educational improvement...[another] problem arises in the measurement of costs. Despite difficulties involved, optimism exists toward the prospect of developing a comprehensive quantitative model of the American educational system” (Mood and Powers 1967).

A 1969 review of the handful of studies making use of CEA in education policy articulated that a number of drawbacks to improving the technology remained, including a shortage of technical personnel for carrying out further research, the biases introduced by “cult[s] of testing” and potential for teacher resistance, and the fact that theoretical models of education remained disconnected from practical decision-making: “quantitative analysis may occasionally substitute elegance for relevance” (H. J. Hartley 1969).

In contrast to the literature on cost-effectiveness analysis in healthcare, these issues were not sorted out over the course of the 1970s for education policy purposes. The research engine that pushed health economics forward during this period was federal funding, which remained robust in the wake of the repeated failure to reform the

national insurance system despite continually rising costs. At the end of the decade, economist Terry Geske noted that “school finance experts...have devoted far more attention to the concept of equity than to the concept of efficiency in school financing structures” (Geske 1979, 467). Mirroring the relationship between efforts to reform the healthcare system and specific health policy interventions, there is a similar correspondence in education: not only did the federal government do little to address ongoing educational issues in the 1970s, but even at the level of policy debate issues had so devolved to the local level that economic expertise was hardly called upon as a means of intervening.

Education: Local Policy, Signaling Theory, and Continued Stagnation

Much celebratory ink has been spilled over the first decade of the economics of education, in particular due to the emergence of human capital theory and its consequences for the history of U.S. social policy thinking more generally. And yet, as the previous chapter documented, this subfield’s potential as a policy engine was already beginning to flounder by the close of the 1960s. While CEA Chair Walter Heller’s enthusiasm for human capital theory was instrumental in increasing federal funding for education programs in the early-to-mid 1960s (Holden and Biddle 2017), the Higher Education Act of 1965 was arguably the last large piece of federal legislation animated by economic ideas. By contrast, as the U.S. economy headed into the early 1970s Stagflation period, a dynamic policy debate over how to bring healthcare costs down persisted from the LBJ administration to the Nixon/Ford era, and as we have just seen, economists were frequently involved in those debates. Despite a similar

inflationary pressure on the U.S. federal education budget at this time, economists were not particularly involved in attempts to bring these costs down, and throughout the 1970s and 1980s, the economics of education became something of a disciplinary backwater (Blaug 1985; Klees 1991). What happened?

For one thing, economists whose scholarship focused on K-12 education remained narrowly focused on technical issues concerning the interpretation of educational production for which data continued to constrain analytical insight. From 1969-1971, annual conferences were arranged to discuss the latest research on education production (United States and Bureau of Educational Personnel Development 1969; 1970; 1971). Participants at these events were education policy experts, and one year the entire theme of the conference—"Do Teachers Make a Difference?"—was to investigate whether 'teacher quality' was, as Eric Hanushek had previously found, inefficiently distributed (Hanushek 1968; 1970a; 1970b). Though the education production literature was still burgeoning at this point, the allure—as well as the drawback—of making sense of the education system with this tool was already clear to participants, and the reactions of economists and non-economists diverged clearly.

To wit, one conference attendee began his paper by lamenting "the recent rapid entry of model-oriented social scientists, sociologists, and economists particularly, into educational research," before nonetheless going on to estimate results from an education production function (Michelson 1970, 121). Another participant, the eminent educational psychologist (and statistical expert in his own right) Robert M. Gagne, was decidedly less optimistic about research on educational production:

“On the whole, then, these studies tend to exhibit an unfortunate circularity, owing to the fact that they employ measures which are not valid as direct indicators of input, process, and output...my own reactions to the correlational studies that are reported is that their credibility is very low” (Gagne 1970, 171–72).

The mixed responses from non-economist educational researchers such as Michelson and Gagne underscores the serious challenge that seemingly ‘objective’ education production functions posed to traditional education research and highlights the politics that are built into even the most seemingly mundane forms of social scientific measurement (Brain 2001). Economists such as Eric Hanushek, Samuel Bowles, and Henry Levin were able to withstand these critiques by emphasizing the power of economic theory as an interpretive resource, however, the terrain on which education policy was being fought had by this time shifted away from federal social policy and toward the legal system.

While research on educational productivity was occasionally presented in court cases throughout the 1970s and economists such as Hanushek served as expert witnesses or provided written testimony at the state level, generally speaking this did not prove to be particularly efficacious policy-wise. As two attorneys involved in school finance litigation at the time explain:

“Despite the exchange of arguments in court, educational productivity issues...were of little consequence to courts faced with the question of whether school finance systems are unconstitutional. In general, courts...accepted educational inputs as the frame of reference when considering the fairness of

state systems for allocation of educational resources, and they have applied traditional legal and equitable concepts of the relationship between the state and its citizens. Occasionally, educational achievement has been cited by courts as evidence that needy children are in low-wealth districts, but rarely has it been related to educational productivity” (Long and McMullan 1982, 18).

Given how the period between the 1960s and 1980s saw the field of economics shift away from concerns about equity and justice and toward a technical definition of efficiency (Berman 2022; Griffen 2022), it is not particularly surprising that there would be a disconnect between research on educational production and the legal system. As historian Gareth Davies notes,

“The years after 1968 were dispiriting, punctuated by negative evaluations of Title I and Head Start and by broader doubts about the capacity of schools to equalize life chances. The big programs of the Johnson years endured, and in political terms one could even say that they flourished. But in comparison to earlier years, confidence in their compensatory potential was lacking...If one’s point of comparison is the bright expectations that had surrounded ESEA at the time of its enactment, then the reform impulse of the 1960s had palpably waned.” (Davies 2007, 194).

As far as federal education policy was concerned, the Great Society ended nearly as swiftly as it had begun.

Instead, state and district-level battles over school finance were at the heart of education policy in the 1970s. The Great Society increases in compensatory resources for disadvantaged students through Head Start and Title I, which were accompanied by

a more centralized regulatory apparatus for administering funding (Davies 2007), inevitably began to contradict the federalist structure of U.S. school governance that tied local funding to community property values. At first, it appeared as if legal remedies to inequities in school financing might redound to disadvantaged communities, as the initial ruling in a landmark 1971 California court case, *Serrano v. Priest*, held that schools funded primarily via property taxes violated the equal protection clause of the fourteenth amendment. In 1973, a similar case in Texas (*San Antonio Independent School District v. Rodriguez*) eventually made its way to the Supreme Court, which overturned the local court's decision and ensured that "the effort to secure school finance reform through the federal courts was at an end" (Davies 2007, 214). While the Supreme Court's decision exempted states such as California in which school finance rulings centered around issues in the state rather than federal constitution, in the late 1970s school finance reform was mostly halted at the local level as well, as California's Proposition 13 and copycat legislation elsewhere significantly curtailed property taxes, making the curtailment of equitable financing in public education an unintended byproduct of the era's "taxpayer revolts" (I. W. Martin 2008; Goodman 2021).

One area in which the economics of education did thrive during the 1970s was in analysis of higher education, a topic which economic theorists developed new tools for making sense of. "Signaling theory," which is a subset of "contract theory" in economics—an important branch of research for economists interested in institutions—was pioneered by economist and future Nobel laureate Michael Spence in the early 1970s (Spence 1973). Like human capital theory a decade earlier, the notion of job market signaling had some repercussions for how economists thought about education

but was of particular interest to microeconomic theorists, a high-status subfield at the time with great pertinence to the state of the art in economics more broadly.

Spence's argument held that whereas early models of human capital development assumed a correlation between educational attainment and worker productivity, from the perspective of an organization trying to hire someone, potential employees could *signal* their worth by i.e. acquiring additional educational credentials, but they also possessed immutable characteristics such as race that Spence termed *indices* (Spence 1973, 357). The difference between these concepts was that human capital investments signaled a certain level of productivity to a potential employer that could potentially be alterable, whereas indices would remain fixed. Joseph Stiglitz, in another landmark paper that would net him the Nobel Prize along with Spence, identified the "screening processes" that employers engaged in when evaluating signals like educational credentials as a means of correcting for "market failure" (Stiglitz 1975) and Kenneth Arrow argued that in this way, higher education served as a social "filter" for the labor market (Arrow 1973) The consequences of signaling for education policy might appear to be marginal, and indeed this theory had little concrete impact beyond the academy, but economists are most comfortable analyzing changes that occur at the margins, and this was thus a revolutionary idea for researchers interested in asymmetric information. Consistent with the earlier history of the economics of education, contributions to signaling theory elevated a handful of theory-minded researchers within the discipline while not proving to be particularly practical as form of policy analysis.

RANDomized STARs: Experimental Knowledge Production in the Economics of Social Policy

Laboratories of Evidence-Making

Research on the use of randomized controlled trials (RCTs) in economics has emphasized the importance of field experiments to international development projects (de Souza Leão and Eyal 2019; Jatteau 2018). In the United States, RCTs have also long played a role in domestic policy, with consequences for the kinds of evidence-making practices economists engage in (Steenland 2008; Arias 2013). This chapter compares two cases in which economists came to embrace randomized controlled trials designed to establish causality in the relationship between program cost and effectiveness, thereby contributing to the “knowledge infrastructure” (Hirschman 2021) around which scientific debates about causal inference in economics are organized, which is related to policy debates about the structure of the U.S. welfare state.

Does providing people with free health insurance affect the amount of medical services they use, and does it affect patient health? Does a reduction in student class size contribute to improved educational outcomes and teacher satisfaction? These are the questions that were posed in 1971 by the team behind the RAND Health Insurance Experiment (HIE), a social scientific research project conducted between 1974 and 1982 (Brook et al. 1984), and in 1985 by the investigators in Tennessee’s Project STAR, conducted in three phases between 1985 and 1989, respectively. The projects were at the time of implementation the largest experiments ever conducted in healthcare and education, and had tremendous effects not only on social policy debate

in the U.S. but on the discipline of economics broadly speaking. Drawing on these two prominent social scientific experiments, this chapter analyzes how the use of RCTs has affected the production of knowledge in health economics and the economics of education, respectively.

The RAND HIE and Project Star were both attempts to evaluate the cost of government interventions in social policy, but the experiments were conducted at different levels of government and economists played different roles. The RAND project was a collaboration between the U.S. federal Department of Health, Education, and Welfare and the RAND Corporation, and was explicitly designed to test ideas about moral hazard and the effectiveness of health insurance cost-sharing devised by economists including Kenneth Arrow and Mark Pauly (Newhouse 1993). In this way, it shares resemblance to the Experimental Housing Allowance Program conducted at roughly the same time as a collaboration between RAND, Abt Associates, and the Department of Housing and Urban Development (Arias 2013). Both EHAP and the RAND HIE drew on research subjects from across a variety of different states and had the ultimate effect of shifting policy toward market-based solutions. Project STAR, meanwhile, was conducted by the Tennessee state government and sought to assess the cost-effectiveness of reduced school class sizes at the local level (with the potential to be scaled up following external analysis). In this way, it shares common features with the New Jersey Maintenance Experiment that began in the 1960s and intended to estimate the effects of providing a modest income to residents of the four largest cities in a single state (Steensland 2008; Garfinkel 1972). While the RAND HIE became a central feature of health economics in the U.S. and established robust economic

evidence in favor of some forms of cost-sharing, the economics of education debate over class size prompted by Project STAR resulted in a stalemate and has had less effect on policy agendas. Nevertheless, in both cases the use of RCTs was established as an important methodological tool, and this is reflected in the subsequent histories of each disciplinary subfield as microeconomics experienced a broader shift toward identification strategies and the logic of causal inference.

In the fields of both healthcare and education, the U.S. government has been actively reforming federal policy since the 1990s in ways that have created new opportunities for experimental research in economics. The unequal expansion of Medicaid, establishment of the Affordable Care Act individual insurance marketplaces, and creation of 'Medicare Advantage' programs have given economists considerable administrative data for conducting new research. In particular, the Oregon state government's decision to expand Medicaid via a lottery system created an ideal RCT study design that has significantly shifted ideas about cost-sharing in health economics for the first time since the RAND experiment (Finkelstein, Hendren, and Luttmer 2015). In education, while the class-size debate has remained at an impasse, other reforms such as charter school expansion have enabled randomized assignment of students to schools that allows economists to explore the effects of school financing on outcomes (D. N. Harris 2020). While these social policy reforms have enrolled economists into the "plumbing" of the policymaking process (Duflo 2017), this account also sets up the next chapter's argument: that the opportunity to pursue scientific capital and increased status through (quasi)experimental research has changed the field of economics as well—both in terms of disciplinary structure, as well as intellectually.

The Origins of Policy-Based Evidence in Economics

Building on research that explains how economists *justify* policies (Griffen and Timmermans 2020), this chapter traces how economic knowledge is created by policy interventions in the process of conducting social scientific experiments. Despite the markedly different levels of *direct* success these policies have had in affecting outcomes, in both cases the economists involved nonetheless benefited personally by establishing their expertise as the most authoritative means of conducting performance evaluation. In this way, we see the value of policy *ambivalence* for economic experts (Griffen and Panofsky 2021): even if various economists have their own desired policy outcomes, what ultimately motivates the logic of the field is in fact *not* the enactment of particular policy agendas but rather the status gains that accrue from appearing scientifically rigorous.

The RAND Health Insurance Experiment and Project STAR both meet the “gold standard” (Timmermans and Berg 2003) criteria that characterizes randomized controlled trials as a way of generating actionable research knowledge. In interviews, economists who specialize in health and education frequently point to these experiments as subfield-defining events. Yet despite the fact that both research projects were conducted decades ago, before the rise of the so-called “credibility revolution” in empirical microeconomics, follow-up RCTs of similar scale have not been carried out in the U.S. Why? This is in part the result of the cost and difficulty of conducting an RCT of sufficient statistical power to answer the questions at hand—in today’s dollars, both the RAND experiment and Project STAR would cost tens if not hundreds of millions of

dollars and require massive research teams to ensure ethical compliance. However, my argument is a more epistemological one: the discipline of economics has been transformed such that other, less time-consuming (and *significantly* less costly) methodological approaches to answering these questions can yield considerable status returns within the academic field.

While initially large-scale domestic RCTs were designed as innovative techniques that would further the influence of economists over social policy in the 1970s and 1980s, debate over the efficacy of these and subsequent experiments contributed to the “credibility revolution” in empirical economics that has made causal inference the “coin of the realm,” as numerous economists have conveyed to me in interviews (Angrist and Pischke 2010; Panhans and Singleton 2017). As a result, quasi-experimental research has become routine in fields such as education or health economics, and even when the influence of economists over policy decisions is constrained (Berman 2022), this style of research has become a useful way for economists to gain status and acquire scientific capital within the discipline. While there is considerable ideological variation in the discipline, generally speaking economists with very different political commitments are able to speak across ideological divides by deploying a common set of methodological tools fueled by readily available administrative data and advancements in computing power (R. E. Backhouse and Cherrier 2017a; 2017b).

I argue that the legacy of experimental research conducted by economists in the 1970s and 1980s is both consistent with the “economic style of reasoning” illustrated by Berman (2022) and also reflects a departure in terms of how economic expertise relates

to the policy process. The focus on causal identification spawned by RCTs has resulted in a situation in which economists are more focused on policy-based evidence than evidence-based policy. In interviews, economists have frequently lamented to me that some of the most 'rigorous' research design is only able to analyze policy reforms that occurred at least ten years in the past. In what follows, I trace how this state of affairs came to be by comparing two experiments that mobilized economic theory in very different ways, had widely differing levels of influence on social policy outcomes, and nonetheless both contributed to the emergence of the policy-based evidence paradigm in applied microeconomics.

Tracing RCT Trajectories

Overall, this dissertation has demonstrated how the economics of health and education emerged over a similar time period and their analytic toolkits have mirrored one another (and reflected broader developments in applied microeconomics). And yet from fairly early in the subfields' development, greater intellectual coherence in the economics of education paradoxically was a hindrance on experts' ability to influence policy, in contrast to health economists. The present chapter investigates differences in how the experimental methods deployed in the RAND HIE and Project STAR were received by policy actors and whether this contributed further to the divergent influence of these fields as sources of policy expertise. I draw specifically on comparative historical analysis of three moments in the trajectory of these social scientific experiments: 1) the development of economic theory that would be mobilized in the process of conducting each experiment, 2) the practical implementation of the

experiments and their influence on policy, and 3) the subsequent interpretation of these RCTs and their legacy effects on the rise of causal inference in applied microeconomics. I first performed content analysis on the published scientific literature relating to “cost sharing” and “moral hazard” in the case of health economics and “class size” and “school finance” for the economics of education. Next, using the comprehensive reports by primary investigators of each project Joseph Newhouse (1993) and Charles Achilles (1999) as guides, I analyzed the implementation of each RCT to assess how they mobilized economic theory and what kinds of relevant knowledge they created for policy actors. Then, drawing on interview data and content analysis of recent developments in applied microeconomics, for each field I examined the legacy of these historic experiments and the subsequent rise in status of methods for establishing causal inference as a means of attaining scientific capital in economics that will be further explored in the following chapter. Using the logic of comparison, I assess how *similar* turns toward quasi-experimental research have had *different* effects on experts’ ability to institutionalize economic theory and influence policy debates in the fields of education and healthcare.

The Economization of Social Problems

Cost Sharing and Moral Hazard

To explain how cost sharing became such a central component of U.S. healthcare policy, we need to go back a decade before the RAND HIE was initially devised, when health economics was beginning to coalesce as a viable disciplinary subfield within the economics discipline for the first time. Recall that in 1963, the

American Economic Review had published what working economists generally consider to be the founding document of health economics, Nobel laureate Kenneth Arrow's "Uncertainty and the Welfare Economics of Medical Care" (Arrow 1963). The thrust of Arrow's paper was an argument that there are important differences between the healthcare industry and other sectors of the economy that need to be considered when conducting economic analysis; in short, individuals' demand for healthcare is fraught with high levels of uncertainty that are not present in markets for other goods and services. Thus, while Arrow had demonstrated that formal economic analysis could be applied to the healthcare sector at the high level of abstraction characteristic of neoclassical economic theory, his work also underscored the importance of government involvement in healthcare provision. As previous chapters have documented, this work did not have much of a direct effect on the design of Medicare and Medicaid as compared to a variety of lesser-known experts working outside the core of economic theory, but the establishment of these programs set the stage for rebuttals by Arrow and further research on the economics of healthcare provision that would enshrine medical cost-sharing as a key aspect of U.S. healthcare policy for decades to come. This would prove to be consequential for the design of the RAND experiment.

Of particular importance, both for my purposes and as a matter of long-term policy consequence, was economic research on the optimality of public healthcare provision that built on Arrow's earlier study. This issue would become encapsulated in the idea of medical *cost-sharing*, an important conceptual aspect of the U.S. health insurance system that was first theorized by economists in the late 1960s and then evaluated systematically from 1974-1982 with the RAND Health Insurance Experiment.

Critics of the U.S. health establishment’s inability to provide universal healthcare generally point to the persistence of cost-sharing arrangements as the golden handcuffs of the system, and the powerful experimental research emanating from policy experts—couched in economic theory—has only reinforced the policy scaffolding around this issue (Hoffman 2006; Gaffney 2015; Bach 2008).⁶⁵

Where did the economic rationale for building widespread cost-sharing into the health insurance system come from? In her much-discussed book *Democracy in Chains*, the historian Nancy MacLean documents the career of public choice economist James Buchanan (MacLean 2017). Her account describes Buchanan as a kind of evil genius, whose research dressed up anti-democratic ideals in formal economic theory that provided a “stealth plan” for libertarian takeover of U.S. public policy. While critics have noted that MacLean mostly fails to provide compelling empirical evidence linking Buchanan’s research to concrete policy initiatives, there is one policy issue on which Buchanan has unquestionably had tremendous influence: health insurance financing. While Buchanan himself only wrote one brief paper on health insurance, a 1965 study of the British National Health Service that criticized its “apparent failure” (Buchanan 1965, 4), at around the same time he encouraged his graduate student Mark Pauly to take advantage of the newly available federal funding for healthcare research in the U.S. The dissertation research that Pauly carried out at the University of Virginia in the late 1960s

⁶⁵ Experts affiliated with the UAW’s Committee for National Health Insurance had long articulated a very different vision of what cost-sharing, and indeed moral hazard, ought to mean in the context of U.S. healthcare. At the same time as the RAND HIE was being rolled out, Rashi Fein gave a speech at a health security conference in which he argued that “cost sharing is supposed to make you and me behave responsibly, but the real issue is how to induce the system to behave responsibly...moving billions of pieces of paper around is expensive—that is a waste and, therefore, is something we cannot afford.”

Rashi Fein remarks, “Conference on Health Security,” April 15, 1975, Walter F. Reuther Library, Rashi Fein Files, Box 6, Folder 18.

would serve as the theoretical underpinning for the multi-million dollar HIE later conducted by RAND.

Pauly's contribution to the economic literature on health insurance financing was first published in a short comment on Arrow's 1963 paper. The argument Pauly put forward focuses on how Arrow treats the notion of "moral hazard," which is the idea that individuals will be inclined to take on more risks when they are protected by insurance.⁶⁶ In the case of health insurance, for example, Arrow argues that those with insurance coverage behave in a riskier fashion and therefore require more medical care, which in turn leads to greater overall costs to the healthcare system. In Arrow's paper, moral hazard is treated as a "practical limitation" to insurance use, which is why government intervention is needed to correct for market imperfection (Arrow 1963, 961). Pauly's innovation was to instead frame moral hazard as a rational consumer response to the price reductions made possible by insurance providers. The problem with health insurance was not that more people needed to have their irrational medical spending corrected by government, but rather there needed to be a broader array of options available to medical consumers. In Pauly's own words, "no single insurance policy is 'best' or 'most efficient' for a whole population of diverse tastes. Which expenses are insurable is not an objective fact, but depends on the tastes and behavior of the persons involved" (Pauly 1968, 537). This argument, which Pauly went on to explore more extensively in a book aimed at a broader policy audience (Pauly 1971), served as the theoretical justification for diversifying cost-sharing schemes and offering people a variety of insurance plans featuring different deductibles and options for coinsurance.

⁶⁶ For a longer history of how moral hazard was appropriated as a concept by neoclassical economists, see Baker (1996) and Grignon et al. (2018).

Pauly (1974) and Feldstein (1973) extended this line of thinking in developing a fuller theory of how competitive markets for health insurance tended toward “overinsurance” in equilibrium, which lent support to the Nixon administration’s preference for a universal insurance system that would be based on “catastrophic coverage” (described in the previous chapter). It was this idea that would be tested experimentally by RAND.

School Finance and Class Size

In several key respects, the RAND experiment was conceptually similar to Project STAR and served as an important proof of concept in terms of how to conduct a domestic large-scale social scientific experiment in the U.S. While the RAND HIE was federally run, its large number of participants was actually dwarfed by Project STAR, which recruited over 11,000 students and 1,000 randomly-assigned educators from the Tennessee public school system (Achilles 1999). In both projects, an enormous amount of data was collected and stored in just a few years, which created the “knowledge infrastructures” necessary to produce further research and policy debates regarding how to control costs in the health and education systems, respectively. And given the size and expense of each experiment, they would prove difficult to replicate, leading researchers to eventually embrace quasi-experimental methods that do not meet the “gold standard” set by randomized controlled trials (Timmermans and Berg 2003) but are considered the next best method for establishing causal inference and serve as useful means of accruing scientific capital. Where the experiments primarily differ is in the role economists and economic theory have played in each: whereas the RAND experiment was conceived as an explicit test of a key proposition in health economics

and designed as such with input from a variety of economic experts, economists entered the debate over the findings from Project STAR later in the game.

The idea of moral hazard in health insurance is ultimately framed around an economic theory of healthcare as an individual consumer choice, which when it comes to education policy brings to mind the theory of human capital developed by economists including Gary Becker and Theodore Schultz in the 1960s (Becker 1962; Schultz 1961; Teixeira 2000; 2014). When the economics of education first appeared as a recognizable object of study in its own right, it was nearly synonymous with human capital theory—a concept with vague origins in classical political economy that was formalized in the mid-twentieth century (Kiker 1968).⁶⁷ In 1964, the British economist and sometime historian of economics Mark Blaug wrote that:

“The economics of education is a new subject with a very old history: economists have been writing on education ever since economics became a separate scientific discipline. The idea that the provision of education is a method of accumulating human capital goes back to the seventeenth century...The classical period of English political economy was rich in discussion of educational issues, from Adam Smith down to John Stuart Mill. Just what the economists believed about education, however, is not immediately self-evident from reading them” (Blaug 1964, 6).

Likewise, Theodore Schultz, whose 1960 presidential address to the American Economic Association asserted the legitimacy of human capital theory as a topic of

⁶⁷ Records from the University of Chicago show that interest in human capital in the 1950s actually emerged out of research on agricultural economics and development economics. See University of Chicago Special Collections, General Archival Files, Economics Department Programs of Courses.

inquiry (Schultz 1961), defined the economics of education as “the proposition that people enhance their capabilities as producers and as consumers by investing in themselves and that schooling is the largest investment in human capital” (Schultz 1963, x). Thus while the moniker ‘economics of education’ was relatively new, practitioners could situate their key theoretical concept within the genealogy of the broader discipline.

Yet the idea of promoting educational ‘efficiency’ through policy levers such as class size reduction is premised not so much on the notion of human capital as it is on another branch of economic theory developed in the 1960s that we have already encountered: the *education production function*. Recall that in general, a production function is a technical economic device through which inferences can be made and policy conclusions drawn on the basis of the neoclassical economic theory of production. Though we have seen how the theory of educational production served as a useful conceptual tool for economists including Eric Hanushek, Henry Levin, Samuel Bowles, and Richard Murnane from the 1960s onward, the status of class size as an input into the educational process was contested. A 1986 review of the literature on educational production by Hanushek found that of well over 100 studies conducted in this framework, only a tiny fraction found an indicator of class size efficiency—pupil/teacher ratio—to be a statistically significant predictor of student achievement (Hanushek 1986). Generally speaking, despite the long history of experimentation with class size reduction programs in local school districts across the U.S., economists were more interested in policy reforms that were less costly to implement and therefore more like to be ‘cost-effective’ (Finn 1998, 15). A central issue in research that makes use of

education production functions has long been the “elasticity of factor substitution”—that is to say, the extent to which the percentage change in one input into the production function affects the change in another (Gyimah-Brempong and Gyapong 1992).⁶⁸ Since the earliest research on educational production in the 1960s, overconfident estimation of the relevant parameters that make up the production function produced inconsistent results that made it difficult for economists to focus on analyzing carefully selected educational inputs with strong theoretical underpinnings (Monk 1989).

Thus, even though economists possessed a theory for how to optimize school finance for two decades by the time the results of Project STAR were being analyzed, that theory had little to say about numerous inputs into the education production process, including class size. Grissmer (1999) argues that this made it nearly impossible for non-experimental research to say anything conclusive about class size reduction efforts. And while school districts around the U.S. had experimented with class size reforms since the beginning of the twentieth century, these experiments were modest in scope and lacked the kind of statistical rigor that modern econometrics demands not just of causal but even correlational analysis (Rockoff 2009). In the next section, we will see how while the RAND HIE was designed and carried out with economic theory in mind, Project STAR’s class size reduction reform was spearheaded by educators and policymakers, with economic theory being tested *post-hoc* by economists interested in how the experiment’s results could contribute to epistemological disputes in the discipline.

⁶⁸ Thanks to Jeff Biddle for emphasizing the importance of this point.

Implementation: RANDomizing Insurance and STAR's Science of Class Size

RANDomized Health Insurance

At the time of its implementation, the RAND HIE was the largest social science experiment ever carried out, and today it remains one of the largest health policy studies in U.S. history. After the creation of Medicare and Medicaid in the 1960s, economists became concerned that in providing free insurance coverage to ever-greater portions of the population, the government was doling out “excess” health insurance that would harm overall consumer welfare (Feldstein 1973). The RAND Health Insurance Project was devised in this context and carried out from 1974-1982 under the auspices of the Department of Health, Education, and Welfare. A team of economists, statisticians, mathematicians, and survey researchers led by esteemed health economist Joseph Newhouse, created a health insurance company and randomly assigned people to different kinds of plans in an attempt to assess whether free medical care would lead to better health than plans requiring patients to shoulder some of the costs. The goal of the HIE was to shed light on whether sharing in the cost of their healthcare would cause people to use less healthcare services while still receiving adequate benefits.

In the experiment, over 7,000 people in six locations all over the country were assigned either to one of 14 types of health insurance plans that varied in price (beginning at nothing), or to a Health Management Organization (HMO). The experiment had variable effects on patients, with cost sharing plans reducing the amount of care provided to most patients and free insurance only having an effect on those who were already poor or sick from the beginning (Newhouse 2004). To conduct

the experiment, the RAND corporation actually incorporated its own health insurance provider, so the cost of the project was massive—at the time, it was the largest and most expensive health policy study in U.S. history.

At a conceptual level, implementation of the RAND experiment involved making consequential decisions about measurement. For the results to be credible, numerous factors would have to be controlled for across thousands of participants assigned to different insurance plans in various U.S. states. “Health status,” a fuzzy concept whose operationalization economists were struggling with at the time (as detailed in Chapter Two), was of particular importance here: in order to understand whether patient cost-sharing had demonstrable, causal effects on health, those conducting the study would need a standard definition and means of measuring health. As is often the case with field experiments, a notion of “health status” emerged in practice:

“It early became apparent to those developing the research design...that since quality of service does not remain unchanged at different levels of utilization, the study would have to consider quality of services under different forms of health insurance as well. Further, it was felt desirable to also gauge—if possible—the different impact of various insurance plans and various levels of service on the health status of study participants” (Kisch and Torrens 1974, 41).

Rather than using a simple numerical estimate of some health outcome (morbidity, mortality, hospital readmissions, etc.), the RAND team was able to develop an array of measures consisting of interview data, physical examinations, and medical history, all of which would be collected periodically over the course of the eight-year experiment. This wealth of participant data proved to be lucrative for health economists, who published

hundreds of studies analyzing and reanalyzing the RAND data over the years that followed it (Newhouse 1993). It also reflected ongoing technical problems that were still being worked out within health economics: as several of the experiment's key researchers noted, "It is felt that the admitted crudeness of the proposed methodology is an indictment of the present state of the art—a call for renewed effort to supply the more refined health status indicators that are so badly needed, but which are still so obviously missing from our health services research armamentarium" (Kisch and Torrens 1974, 50). While the more recent follow-up to the RAND project, the Oregon Health Insurance Experiment, has made progress on this front, the issue of measuring "health status" is one that continues to plague health economics periodically and never seems to result in consensus.

Nevertheless, over the course of the RAND experiment, economists' expectations about outcomes proved to be generally correct. The HIE ultimately contributed to a massive increase in health policy scholarship, but there are two primary answers to the main research question (does free medical care lead to better health than insurance plans that require the patient to shoulder the burden of the cost?): in the RAND HIE, cost sharing did appear to cut costs without damaging the health or quality of care for most people. But at the same time, cost sharing led to reductions in necessary health services for the poorest people in the sample, leading the researchers to conclude that disadvantaged people should be exempt from cost sharing programs. Thus while cost-sharing in aggregate led people to use *all* types of medical services less and "had little or no net adverse effect on health for the average person" (Newhouse 1993, 338–39), it did have noticeably adverse effects on the "sick poor,"

those people living in the greatest state of precarity who would otherwise be eligible for free coverage via Medicaid (Newhouse 1993, 344–45).

While the RAND HIE project team began publishing results in 1981 that had clear policy implications (Newhouse 1993), debate over how best to structure healthcare provision and financing remains heated 35 years after the RAND experiment concluded. At the same time as the results of the RAND HIE were published in hundreds of academic papers over the course of the 1980s, large employers across the U.S. “substantially increased initial cost sharing,” (Newhouse 1993, 341) and in 1982 federal law was amended so that Medicaid recipients could also be required to share healthcare costs with the state (Newhouse 1993, 345). This occurred in spite of the fact that most findings from the RAND experiment had yet to even be released publicly. By the 1990s, more than 400 studies had been conducted on the basis of the data collected from the RAND HIE, which were collected into a book summarizing the findings in excruciating detail (Newhouse 1993). The influence of the experiment on health economics has been immense, and in the wake of the “credibility revolution,” there have been hundreds more studies building on the findings of the RAND HIE using quasi-experimental research design to exploit variation in the fragmented U.S. healthcare safety net. This legacy will be explored in the final part of the chapter

STAR’s Science of Class Size

Project STAR differs from the RAND HIE in two key dimension: firstly, in that it was not explicitly designed by economists to test ideas disseminating from economic theory, and secondly, because it was conducted at the local level as a Tennessee state

initiative rather than a federal program. In both cases, this reflects broader patterns in the relationship between economic expertise and social policy: health economics has become increasingly influential in the more centralized U.S. health insurance financing system, whereas the economics of education is more detached from local policy initiatives, which also enables other forms of expertise to wield influence. When the Tennessee state legislature agreed to finance Project STAR to the tune of over \$2.5 million dollars annually (Mosteller 1997), it was done so without any input from economists whatsoever. Rather, Governor Lamar Alexander had become enamored with education reform as a key aspect of both social policy and his future political prospects (which was prescient, as Alexander went on to serve as U.S. Secretary of Education and three-term Senator).⁶⁹

Project STAR commenced in 1985 and sought to evaluate the effects of class-size reduction in three phases that tracked students first in primary school, then in secondary school, and finally by focusing exclusively on schools with the highest concentration of poverty (Achilles 1999). The study was conducted on schools serving over 11,000 students, with over 1,000 teachers being assigned to classrooms of either 15 or 25 students over the course of the project. The goal of the project was to test whether a reduction in class size would produce improved outcomes for students in public schools, particularly for students attending overcrowded primary schools. While Project STAR was groundbreaking and in terms of its size and scope was similar to the RAND Health Insurance Experiment, the initial team of experts conducting the

⁶⁹ Alexander's focus on education policy reforms that were only later to become associated with the neoliberal consensus as mediated by economic expertise is consistent with the pattern identified by Berman in *Thinking Like an Economist* (Berman 2022).

study consisted not of economists but mostly researchers located in education schools and the Tennessee Department of Education. This would ultimately affect the way the project's results were interpreted over time—while findings were initially reported as demonstrating modest positive effects of class size reduction on student achievement, later reanalysis by economists would muddy the picture considerably and turn the entire endeavor into an epistemological debate about causal inference.

While Project STAR was not initially conceived as a test of ideas coming from 1960s economic theory, it would eventually be linked to the literature on educational production through the work of economists work at some of the most elite departments in the U.S. In the 1990s, when Project STAR was wrapping up data collection, other states such as Wisconsin attempted to replicate the experiment on a smaller scale, while some states such as California went ahead and reduced class size across the board for students in public schools and made the non-experimental data available to researchers at the RAND Corporation (Achilles 1999; Finn 1998). Much like the HIE, economists were not content to let the experiment's initial results stand, and insisted on conducting re-analyses of the original data and comparing these to the broader literature on class size reduction. A series of contentious debates between the liberal-aligned economist Alan Krueger and more conservative Eric Hanushek were eventually collected and published together by the Economic Policy Institute. The very different interpretations by the economists involved give a dissatisfying conclusion: essentially, the data from Project STAR had been useful as fodder for flashy econometric work but resulted in a policy stalemate (Krueger, Hanushek, and Rice 2002). In subsequent years, there have been additional advances on Project STAR that tie the results to

earnings data (Chetty et al. 2011), as well as a variety of quasi-experimental studies that, as with the RAND HIE and health economics, demonstrate the vitality of the “credibility revolution” (Chingos 2012; Hoxby 2000). These will be explored in the final empirical section, which introduces interview data that contextualizes how the economics of social policy has embraced causal identification strategies that mostly rely on ‘natural’ experimental variation in the absence of experimental designs that are costly and difficult to administer.

The Legacy of Experimentation: Causal Inference and the Rise of the Policy-Based Evidence Paradigm

The last economist I interviewed for this project told me that “most of health economics comes out of the legacy of the RAND Health Insurance Experiment” (Economist #46). As the earlier chapters of this dissertation demonstrated, this is not strictly speaking correct. But from the standpoint of an expert trained to think narrowly about causal inference, projects like the RAND HIE were the origins of a new way of thinking—in fact, the *only* way that many economists working today can conceive of. The RAND HIE and Project STAR not only produced voluminous research papers but were eventually incorporated into the broader “knowledge infrastructure” (Hirschman 2021) in the economics of social policy. While both projects prefigured the disciplinary turn toward causal inference and (quasi)experimental methods in economics, their effects differed due to the robustness of the findings and their translatability in policy settings. As one prominent senior economist explained to me, the quality of empirical analysis in health economics is more “rigorous” not only due to the methodology made

possible by experimental design, but also because there is greater buy-in from the medical establishment: health economists are more used to engaging with other stakeholders in the medical system than, say economists of education with teachers or labor economists with workers (Economist #41).

In the case of the RAND experiment, the evidence on cost sharing reducing healthcare utilization fit with both prevailing ideas about moral hazard in economics and with the way health insurance is organized in the U.S. welfare state. There has thus been considerable additional research into how cost sharing arrangements work in various different components of the healthcare system—most prominently, in a large-scale study of Medicaid expansion in Oregon that was conducted by lottery, making it into a de facto natural experiment (Baicker et al. 2013). While the results of the Oregon Medicaid experiment have been interpreted differently by actors with different political ideologies, the study was similar to the RAND HIE in that it enrolled thousands of people and was sufficiently statistically powered to provide ‘rigorous’ results at scale. Nevertheless, its *quasi*-experimental nature reflects changes in the kinds of evidence economists have come to favor in attempting to approximate randomized assignment: as one of the primary investigators described to me, it had the advantage of being conducted via state lottery and thus required no up-front work or funding from the research team. Much of the 40+ years of debate over the RAND experiment has been difficult to resolve because carrying out another RCT of sufficient size is prohibitively expensive, making the Medicaid expansion in Oregon exactly the kind of happy policy accident that economists are constantly on the lookout for today. As a public health

scholar who uses quasi-experimental methods in her research said to me about research design, “economists love things that are ‘clever’” (Economist #17).

At the same time, the last several decades of federal healthcare policy reform have also reflected the influence of RAND’s key policy finding: setting aside those living in absolute poverty, including differential levels of cost-sharing in health insurance provision reduces overall utilization of care (Brook et al. 1984). In fact, in the various iterations of reform that have been attempted—from the 1970s Nixon/Ford plan to introduce universal insurance via “Maximum Liability Health Insurance” (Lynn and Seidl 1975) to Alain Einthoven’s “managed competition” proposal that became Hillarycare (Hacker 1997; Skocpol 1995) to the ultimately successful Affordable Care Act—the idea that a universal healthcare system would have to include patient cost-sharing was never seriously challenged (Glied and Miller 2015). Reforms to the healthcare system that have generated some of the best opportunities for economic analysis are those that further entrench cost-sharing as a preventative effort to combat moral hazard: for example, the Affordable Care Act’s marketplace exchanges (Duggan, Gupta, and Jackson 2022; Sommers, Gawande, and Baicker 2017) and the quasi-private Medicare Advantage program (Baicker and Robbins 2015; Afendulis, Chernew, and Kessler 2017; Duggan, Gruber, and Vabson 2018). Economists’ persistent interest in cost sharing does not necessarily reflect political ideology, but rather the opportunities it affords for pursuing scientific capital. As a left-leaning economist who works in a public policy school and ultimately would prefer a universal healthcare system told me, “Selfishly, we all want to publish in top tier disciplinary journals...I still value causal identification” (Economist #9).

Meanwhile, on the education side, it was precisely a lack of policy success that contributed to the uptake of (quasi)experimental methods and the causal inference paradigm in economics. The large cost and relatively small effect sizes on student achievement observed in Project STAR led conservative economists such as the Hoover Institute's Eric Hanushek to conclude that class size reduction was ultimately not worth pursuing on efficiency grounds, whereas left-leaning economists like the late Alan Krueger argued for a more generous reading of the results (Krueger, Hanushek, and Rice 2002). In a series of papers published in the late 1990s and early 2000s, Hanushek, Krueger, and a handful of other prominent economists attempted to reanalyze the findings from Project STAR in comparison with Indiana's considerably smaller experiment Project Prime Time, Wisconsin's Project SAGE, and the non-experimental reform to class size in California (Hanushek, Kain, and Rivkin 1998; Krueger 2003; Akerhielm 1995). While the debate more or less resulted in a stalemate, it also prompted economists to search for sources of variation that could be exploited without having to rely on randomized assignment of students to teachers—which ultimately requires considerable funding and support from the policymakers—in order to satisfy their intellectual curiosity (Hoxby 2000; Chingos 2012). Even economists with nominally liberal political commitments have tended to conclude that class size reduction is not a worthwhile policy reform.

Nevertheless, what the debate about class size reduction *did* manage to accomplish was to elevate the search for causal identification as a strategy for accruing scientific capital in the economics of education, just as research on cost-sharing did for health economics. A prominent economist of education who is now dean of a major

school of public policy told me that “the STAR estimate [about the effect of class size reduction on achievement] wasn’t a good estimate of a policy impact,” and that randomization in economic research is “*not* the gold standard for getting the policy estimate” (Economist #37). This same economist nevertheless argued that from an academic standpoint, STAR was important because it made a large dataset publicly available to education economists for further scientific exploration. Another economist who works with quasi-experimental data told me that while economics has become a valuable policy resource because “we have the best quantitative methods” among the social sciences, reforms to the U.S. education system often fail because “[it] can’t operate efficiently” (Economist #3). Similarly, a fairly left-leaning economist whose work exploits variation resulting from school choice mechanisms in urban environments told me that “in education, things are very complicated because things are very political” (Economist #12). Compared to the healthcare system, in which economists are frequently able to test and confirm policy ideas derived from price theory using causal identification strategies, economists often expressed to me that the education system was less responsive to ideas about efficiency and that therefore the discipline’s policy influence was constrained—even as they touted the scientific benefits of quasi-experimental research design that builds on the findings of RCTs like Project STAR.

While the legacy of the RAND HIE’s influence on policy is reflected in subsequent research in economics on patient cost-sharing, the same cannot be said for Project STAR and the economics literature on class size reduction. Nevertheless, both experiments spurred the rise of methods for establishing causal inference as a strategic means for economists to accrue scientific capital. The legacy of experimentation in

economics is ultimately most consequential in how it contributed to the policy-based evidence paradigm: what drives research in modern economics is not strict adherence to a political program or preference for particular policy reforms, but rather a common language used to communicate findings in top journals.

Interlude: Cost-Effectiveness Analysis Redux

While the RAND experiment was harbinger of changes in health economics toward the policy-based evidence paradigm, the more structural style of economic analysis surveyed in the previous chapter also continued to develop apace. By the 1990s, there were hundreds of studies making use of analytical techniques such as cost-effectiveness analysis for evaluation purposes on an annual basis, but little consensus on *which* parameters should be included in the analyses. In 1992, a team of researchers at Harvard conducted a structured review of cost-effectiveness and cost-benefits analyses in healthcare that tried to explain the great amount of variation in this literature (Udvarhelyi et al. 1992). Focusing on six principles of economic evaluation, the researchers found that “very few of the 77 articles we reviewed adhered to all of the basic principles we selected as fundamental for these types of analyses” (Udvarhelyi et al. 1992, 241). While evaluation research on health interventions proliferated throughout the 1980s, there was so little consensus about what to include in the analyses that it was difficult for policymakers to make sense of economists’ recommendations for public health policy.

The lack of shared consensus around the tremendous variation in the methodology and quality of economic evaluations of health care interventions led to

efforts in the mid-1990s to create a *standardized set of guidelines* for health evaluation research that could be agreed upon and disseminated throughout the academic community. In 1993, a team of British health economists reviewed the arguments for and against standardizing economic evaluations of healthcare, and provided recommendations for improving the overall quality of this research (Drummond et al. 1993). Also in 1993, the US Public Health Service convened a Panel on Cost-Effectiveness in Health and Medicine that consisted of thirteen experts and was charged with reviewing the state of evaluation research in healthcare (Gold 1996). Based on the findings of this panel, a series of “consensus statements” was published in the prestigious *Journal of the American Medical Association* that provided rigid standards for performing cost-effectiveness analysis (Russell and Gold 1996; Siegel and Weinstein 1996; Weinstein et al. 1997). The panel recommended that economists use a “reference case” for conducting cost-effectiveness analyses of health interventions, which is supposed to be a blueprint that promotes comparability across studies; the reference case is “defined by a standard set of methods and assumptions” (Russell and Gold 1996, 1173). Editors and journal reviewers can check these components while policy makers are assured that the published cost-effectiveness analysis meets professional guidelines. In that sense, guidelines constitute standards: they imply a professional seal of approval that the analysis meets state-of-the-art requirements. For that reason, standard creation follows established processes such as the Delphi method (Evers et al. 2005), as well as consultations with leading experts in the field, and is supported by authoritative entities such as the leading medical journals and professional health standard organizations.

To create equivalence between policy options, the variables that make up the cost-effectiveness procedure –including indicators of how much a prevented disability is worth— must first be quantified. *Quantification* is a process through which numbers are produced and communicated to mark or commensurate (Espeland and Stevens 1998), and it is often argued that quantification provides a veneer of objectivity that allows experts to appear distant and impartial (T. M. Porter 1995). In cost-effectiveness analyses of health technologies, standardized guidelines prescribe what kind of quantitative measures *ought* to be used, though the difficulty of reliably producing these measures for some aspects of health care means that objectivity is not always so easily achieved. As economic sociologists have shown, there are inherent difficulties in quantifying certain natural or social phenomena (Beckert and Aspers 2011; Fourcade 2011), and quantification does not always “drive out” non-numerical forms of knowledge (Hirschman, Berrey, and Rose-Greenland 2016). Recognition that quantification is not always a path-dependent social process and often does not erase the subjective opinions of experts is important for our understanding of cost-effectiveness analysis in newborn screening. Economic evaluations are intended to serve as devices for establishing equivalences between different moral categories, but there is too little consensus between economic experts on where the data should originate.

Indeed, the intent of standardized guidelines for cost-effectiveness analysis is not only to delineate the core requirements that make up this method but also to spell out ways in which researchers may meet these requirements (Drummond and Jefferson 1996). Cost-effectiveness analysis typically depends on a numerator of the total cost of treatment for various probabilities divided by a denominator reflecting diminished health

due to different disease burdens in order to calculate the net cost to achieve a given unit of health. Measuring each component of cost-effectiveness poses challenges.

Particularly complicated is how to formally represent effectiveness because a medical intervention has a potential wide range of medical, social, and financial effects that touch on disability, recovery, life expectancy, ability to participate in daily life, education, employment, relationships, satisfaction, and overall quality of life. As two prominent advocates of cost-effectiveness analysis explain: “Cost-effectiveness analysis will almost always include a series of assumptions, as it is generally not possible to measure everything necessary for a comprehensive analysis. In addition, even when measurements are available, they may not adequately represent values appropriate for the analysis at hand” (W. S. Weintraub and Cohen 2009, 55). We will see how this works out in evaluations of newborn screening programs later in the next section.

In addition to the aforementioned quantification-related issues, many cost-effectiveness analyses continue to rely on QALYs, which adjust one year of perfect health for disease burden based on perceived health state preferences (or utilities). The QALY is calculated by the sum of the duration (in number of years) spent in each year multiplied by the proportional utility weight between 0 and 1 for that health state. Preference weights can be estimated indirectly or through direct questioning of people about the trade-off to being returned to a state of full health with the probability of death (Gold, Stevenson, and Fryback 2002, 117). Alternatively, they refer to being returned to a state of full health for a given duration of time with the number of years of life that would be given up at some point in the future. In the U.S., it has become customary to use \$50,000 per QALY as fixed critical values for cost-effectiveness (Grosse 2008;

Neumann, Cohen, and Weinstein 2014). QALY measures then quantify an enormous range of lived experiences in a single indicator that values the worthiness of life with and without disease against a financial benchmark.

Where do the values for measures of effectiveness such as QALYs come from? The evidence-based medicine movement aimed to wean medicine from expert opinions and base decision-making on more trustworthy epidemiological instruments such as clinical trials (Timmermans and Berg 2003). Although general guidelines for cost-effectiveness propose that “the gold standard for assessing the efficacy of interventions is the randomized, double blind controlled trial” (Drummond and Jefferson 1996, 277) because it has the highest internal validity, they also note that such data is often lacking and tends to be available for pharmaceutical interventions (where trials are part of the FDA drug approval process) but not for more behavioral interventions. To compensate for the lack of reliable effectiveness data, “ad hoc synthesis of effectiveness data from several sources, *including expert opinion*, is justifiable when no relevant well controlled clinical studies have been performed” (Drummond and Jefferson 1996, 278). Thus, rather than setting a minimum requirement for data, the guidelines instead give researchers a wide range of options. These guidelines give researchers license to base effectiveness on “expert opinion,” where being an expert is of course in the eye of the beholder, or they may base their analysis even on “plausible assumptions.”

For example, the 1993 Panel on Cost-Effectiveness Analysis recommended that “details about estimates of effectiveness, costs, and preference weights in the analysis should be provided,” but also noted that in clinical trials, “few contained enough information concerning trials to form an opinion about their adequacy” (Siegel and

Weinstein 1996, 1340). Faced with such uncertainty regarding parameters, economists sometimes use “conservative assumptions” to create the “reference case” that serves as the standard and allows comparison with other studies. Using the more conservative reference case as a base, economists will then derive “‘best estimates’ of the true cost-effectiveness” of interventions by performing sensitivity analyses that test the robustness of the results achieved (Insinga, Laessig, and Hoffman 2002, 525). Even with a conservative reference case, pragmatically standardizing the components of a cost-effectiveness analysis expands the range of interventions that can be subjected to such an analysis, but it also introduces subjective values about cost and effectiveness that may be not better than educated guesswork.

Equally sociologically interesting about these standardized guidelines is that they were developed in the abstract, without reference to specific medical technologies or interventions. While the admonition to use standardized references cases gave a veneer of rigor and objectivity to evaluation research, these guidelines become problematic almost immediately when economists try to evaluate a specific intervention, which is ironic given that “in CEA one is most interested in how an intervention performs in real-life” (Mandelblatt et al. 1997, 52). Furthermore, a survey of healthcare cost-effectiveness analyses from 2010-2012 showed that just 15% of the studies conducted were on screening programs, whereas the rest of the analyses were performed on pharmaceutical, surgical, medical procedural, or care delivery interventions (Neumann et al. 2015, 273). Thus despite the presence of standardized guidelines for cost-effectiveness analysis, economists end up having to deviate from standards to perform meaningful analyses of the various different medical interventions that fall under the

same guidelines. For this reason, even as economists have continued to collaborate with physicians and others in the “health services research” space to evaluate the cost-effectiveness of various medical interventions, the bulk of the energy in health economics has shifted toward methods for establishing causal inference that the RAND experiment served as an early example of.

At first blush, by the 1990s, education policy experts seem to have closed the gap with health economists when it comes to cost-effectiveness analysis. In 2000, economist Henry Levin searched the federal database for education policy research, the Education Resources Information Center, and found that it supposedly housed nearly 12,000 articles on CEA, with nearly 20% of them being published in the preceding four years (Levin 2001). Levin, an eager early participant in the economics of education who was initially bullish on the “free market remedy” to the “failure of public schools,” which he attributed to the “monopolistic system” of education operated by government (Levin 1968), had been a staunch advocate for applying CEA to education since the Nixon administration. In 1970, Levin used the data from the Coleman Report to publish one of the first evaluations of teacher selection processes on student outcomes, with the explicit goal of communicating this kind of analysis to decision-makers in the education sector (Levin 1970). At the time, given how such evaluation techniques had diffused like wildfire across federal agencies in the late 1960s, there was reason to believe that cost-effectiveness analysis would catch on in education just as it had in healthcare and defense spending.

Over the years, Levin remained a proponent of cost-effectiveness analysis, cost-benefit analysis, and related structural techniques for estimating the effects of education

policy. In 1988, in the wake of the publication of several influential reports on educational accountability including the federally-funded *A Nation at Risk*, Levin argued that “the time has probably never been more propitious for incorporating cost-effectiveness analysis into educational policy” (Levin 1988). And yet at the same time, he lamented that despite his best efforts to drum up support for these evaluation techniques,

“At the present time, cost-effectiveness analyses are rarely used in educational decisionmaking. Education researchers and evaluators are trained in fields that do not incorporate cost analysis, so it is rare that costs are included in educational evaluations. Indeed, educational policymakers and practitioners are rarely familiar with the concepts, even though they often state that they seek cost-effective policies. This apparent contradiction is resolved when one realizes that they often think of cost-effectiveness as a generic criterion with ‘good’ programs rather than as a specific technique of evaluation that provides particular information on costs and effects” (Levin 1988, 52).

This commentary reflects similar statements from economists regarding other analytical techniques unique to economics that education policy researchers continued to ignore at the time, including the education production function (Hodas 1993), as well as the abiding sense that the economics of education was not making progress overall (Blaug 1985).

In a 1993 review of scholarship that referenced cost-effectiveness analysis, education policy experts David Monk and Jennifer King looked under the hood of the literature and discovered that between the top policy journals *Educational Evaluation*

and Policy Analysis and the *Journal of Policy Analysis and Management*, there was far less consideration of economic costs in the former. In 2001 Henry Levin, who had published an influential textbook on cost-effectiveness analysis for a general academic audience that was reprinted over a dozen times (Levin 1983), referred to the CEA literature in education as a “Waiting for Godot” situation. Citing the lack of training programs in the proper analytic techniques, persistent confusion in economics over how to measure educational outcomes, and a lack of demand by policymakers, Levin pointed out that “the tool has not flourished [in education] as it has in the area of health care” (Levin 2001). Holding out hope for a renewal of interest in CEA, Levin echoed Porter’s (1995) “mechanical objectivity” thesis in arguing that “the further that policymakers are removed from educational decision making, the more they will rely on cost-effectiveness or cost-benefit studies” (Levin 2001, 65). To that end, Levin established a Center for Benefit-Cost Studies of Education at Teachers College, Columbia University, in 2007 (Center for Benefit-Cost Studies of Education 2023). The Center both promotes the work of Levin and collaborators on cost-effectiveness analysis, while also making publicly available tools for estimating costs that were developed with the support of the federal Institute for Education Sciences. While cost-effectiveness analysis continues to be more widely used in health economics than for education, the tool continues to reenter public discourse periodically—for example, in recent debates over what to do about school closures in the aftermath of the COVID-19 pandemic (The Social Capital Project 2021). In structural forms of economic evaluation, as with experimental research, the incorporation of cost estimates into analysis has been more successful in healthcare settings, in which statistically-minded physicians

and other policy stakeholders are typically included in the process of conceptualizing research.

The Status of Costs and the Costs of Status

In the case of both the RAND HIE and Project STAR, the initial RCTs produced robust knowledge infrastructures based on the data collected as well as fertile intellectual space for quasi-experimental research and future experiments. In particular, the follow-up Oregon Health Insurance Experiment and class size reduction efforts in California and Wisconsin have allowed economists to continue evaluating the merits of efforts to make social services more cost-effective. In the debates about healthcare reform that animated the Affordable Care Act and more recent discussions of single-payer proposals, claims about the importance of cost-sharing as a form of “skin in the game” for individuals have persisted despite the continued acceleration of national healthcare costs (Gaffney and Waitzkin 2016). Meanwhile, in light of the inconclusive evidence produced by the battle over Project STAR and related experiments with class size, economists have used the considerable scientific capital accrued through the debate and moved on to the evaluation of other cost optimization policy levers such as measuring teacher effectiveness (Hanushek 2011). The status of cost, then, at the individual and systemic level, remains largely unchanged: even with the renewed sense of fiscal abundance brought about by “Bidenomics” (Mason 2021) structural reforms to welfare state programs remain elusive policy goals.

Conversely, the research programs spawned by both the RAND HIE and Project STAR have elevated the status of economic research on healthcare and education and

allowed the economists most closely associated with each project to accrue considerable scientific capital within the discipline. Though healthcare, education, and a variety of other social policy topics became pertinent objects of inquiry for economists in the mid-twentieth century, they nevertheless remained marginalized until knowledge infrastructures of broad, discipline-wide interest were established. For economists who initially felt their work was unable to bridge a divided paradigm between health and healthcare (Somers 1965), the early 1970s assembly of a prominent field experiment with federal support catalyzed the careers of economists including Joseph Newhouse, Mark Pauly, Martin Feldstein, and later the principal investigators Amy Finkelstein and Katherine Baicker of the Oregon Health Insurance Experiment. The theory of moral hazard and associated concept of ‘skin in the game’ made possible by cost sharing practices became important components of microeconomic theory in principles courses (Grignon et al. 2018). Meanwhile, when Project STAR was initially carried out in the 1980s, the economics of education had largely stalled as a research paradigm aside from human capital and signaling theory, both ideas more closely related to higher education and labor economics (Blaug 1985). Though the heated 1990s policy debates about class size reduction resulted in a veritable stalemate, economists such as Alan Krueger and Eric Hanushek emerged as prominent policy experts despite coming to the issue after a decade of research by lesser-known researchers from other disciplines (Achilles 1999).

In emphasizing the pursuit of scientific capital as the primary goal of economic research on social policy, this chapter is in no way meant to contradict scholarship on the influence of economics as a style of reasoning (Hirschman and Berman 2014;

Berman 2022). Instead, I want to push sociologists of expertise to consider how the insularity of economics in combination with the inertia of the welfare state in the U.S. has helped to further entrench the policy status quo. In spite of the prevailing idea that the neoliberal era has been defined by a constant drive to achieve cost control by slashing public spending and imposing market discipline on social programs, the cost of maintaining social insurance programs and public schools continues to balloon upward at a fierce pace (Teles, Hammond, and Takash 2021; Hacker 2004). As initial analysis of the RAND experiment and Project STAR wrapped up in the 1980s, the urgency of reforming the healthcare system in the direction of cost control and reorienting education around an ethos of accountability once again rose to prominence in the federal policy agenda.

Toward the Twenty-First Century: Theory's Last Gasp and the Failure of Healthcare Reform

After a period of relative inactivity in federal healthcare reform, the battle that characterized the first year of Bill Clinton's presidency marked a brave new world for the technical aspects of national healthcare policymaking. Prior to Clinton's election in 1992, the previous fifteen years had seen less direct contestation of the system than in the 1960s and 1970s. The biggest change to federal policy during the Reagan administration came when the National Commission on Social Security, headed by libertarian economist and future Chair of the Federal Reserve Board Alan Greenspan, changed the way Medicare reimbursed hospitals such that elderly patients received less care and hospitals increased their profits (Blumenthal and Morone 2009, 302). To

counter the blow this change dealt to elderly patients, Congress enacted the Medicare Catastrophic Coverage Act in 1988 during Reagan's second term, before budgetary concerns forced repeal of virtually the entire legislation just over a year later (Himelfarb 1995). These developments during the Reagan years had consequences for individuals already receiving health insurance benefits, but did not tackle the two biggest problems with American healthcare: continually rising costs and the large uninsured population.

Thus when Clinton took over the executive branch as the first Democratic president in 12 years, there was a lot of energy oriented toward the possibility of finally addressing what had been a thorn in the side of liberal policymakers for some thirty years. The proposed plan for reform developed over the course of Clinton's first year in office, the "Health Security Act," that would implement a nationwide "managed competition" schema, was an early indication of how far to the right the Democratic Party elite was willing to move to appear competent (Schmidt 1999, 312–52).⁷⁰ Yet while the Clinton presidency was largely notable for catering to the interests of the professional-managerial class by hiring a new crop of economic experts culled from the financial services industry (Mudge 2018), the chief expert behind the administration's healthcare plan was a holdover from an earlier era, Alain Enthoven. The system overhaul that Enthoven's research promised was designed to triangulate between different interest groups: liberal activists demanding more expansive insurance coverage, moderate and conservative lawmakers worried about the specter of "socialized medicine," and health policy experts still intent on finding a way to hold costs

⁷⁰ The language of "health security" was actually common on the left in the 1960s and 1970s when Senator Ted Kennedy and the UAW's Committee for National Health Insurance were agitating for universal healthcare.

down. Yet the way Enthoven's schema proposed to accomplish this—a “consumer-choice health plan” that was based on “regulated competition in the private sector” (Enthoven 1978a; 1978b)—was much more reminiscent of social policy from the conservative Reagan years than the heyday of American liberalism.

While the 1980s had been a relatively uneventful decade for health insurance policy at the federal level, it was over this same period that Enthoven's plan for a healthcare system based on consumer choice was incubated. In the mid-1970s, as the last window for establishing universal healthcare closed shut, Enthoven and pediatric neurologist Paul Ellwood started a closely-knit health policy group out of Ellwood's living room in Jackson Hole, Wyoming (Ellwood, Enthoven, and Etheredge 1992). The “Jackson Hole Group,” consisting of “an informal collection of health industry leaders, public officials, and health services researchers,” gradually honed their principles for national reform on the basis of the two policy papers that Enthoven had published in 1978 in the *New England Journal of Medicine* (Ellwood, Enthoven, and Etheredge 1992, 149). Though the group's goal was ostensibly an overhaul of the healthcare system that would expand coverage to the uninsured, the list of “Jackson Hole Initiatives” that the group came up with appealed mostly to insurance and pharmaceutical executives, economists, and lawmakers eager to make some—any—kind of progress on healthcare.

The basic premise of the Jackson Hole Group's plan—“managed care”—was that while direct regulation of health insurance by the federal government would reinforce the system's existing problems, by regulating *competition* among different health insurance providers, an insurance market would generate financial incentives that would

lower prices and improve efficiency (Ellwood, Enthoven, and Etheredge 1992; Enthoven 1978b). The group's success came not from sticking firmly to left- or right-wing ideological principles, as earlier iterations of federal healthcare policymakers had done, but rather from blending together the interests of industry, government, academics, and the media—a potent strategy for policy experts in the modern U.S. (Medvetz 2012a). Though labor organizations such as the UAW's CNHI were vehemently opposed to managed care proposals—CNHI Director Mel Glasser at one point wrote a report referring to them as “Have Less” proposals⁷¹—the declining influence of labor meant that the Jackson Hole Group had less incentive to appeal to unions than experts would needed to just a decade earlier. The Group was praised in national newspapers as “one of several free market-oriented groups that are trying to influence...health care proposals” during the last year of George H.W. Bush's presidency in 1992 (Chen 1992), and then lauded at the outset of the Clinton administration for how “The White House talks positively about managed competition and has tapped two of its Jackson Hole Group architects [to work on healthcare reform]” (Priest 1993). As Enthoven argued in a 1993 clarification of his ideas, while managed care was designed to “us[e] rules for competition derived from microeconomic principles,” it was nonetheless “compatible with Americans' preferences for pluralism, individual choice and responsibility, and universal coverage” (Enthoven 1993, 25).

The detailed narrative describing how the Clinton plan rapidly gained steam legislatively and then quickly fizzled out is captured elsewhere (Starr 1994; Skocpol 1996). While these accounts are in agreement that the Clinton plan's attempt to

⁷¹ “Have Less” (“Competition”) Health Insurance Proposals: An Analysis, Walter P. Reuther Library, Committee for National Health Insurance Records, Box 53-6.

appease different interest groups was the best route to reform, they disagree over why it failed. Starr has argued that a less ambitious reform proposal would have succeeded (Starr 1995), while Skocpol makes the opposite point—that by focusing on cost control and an effort to diminish the federal deficit, Clinton’s proposal was not expansive enough (Skocpol 1996). Skocpol argues furthermore that the demise of the plan was not just a failure of policy, but indicative of a broader rightward shift in U.S. politics (Skocpol 1995). Whatever the case may be, it would be another fifteen years before federal reform was attempted again, once again guided by a plan for overhaul featuring technocratic elements dreamed up by economists. As historian Laura Anne Schmidt makes clear in a fascinating dissertation about corporate involvement in the design of U.S. healthcare policy, “the appeal of economic ideas in American healthcare today is precisely their simple elegance. Economic ideas make a pretty graceful transition from the academic debate to public discourse on health affairs, at least in comparison to much else that gets debated by academics” (Schmidt 1999, 351). In the next chapter, we will see how the Affordable Care Act was designed to comport with such a “grateful transition,” as well as how the revival of a robust reform movement in education policy did not lead to as seamless of a translational process (despite the continued internal consistency of ideas in the economics of education).

“The Golden Chalice, but also Fetishized”: Causal Inference and the Production of Policy-Based Evidence in Economics

Twenty-First Century Social Policy: Fodder for the Evidence Mill

Technocracy From the Right: No Child Left Behind

As early as the 1960s, economists researching educational production had noted that teachers' contribution to educational achievement was poorly distributed throughout school districts and therefore a potential policy target for government intervention (Hanushek 1970b; 1968; Bowles 1970; Bowles and Levin 1968). At the time, this research was framed as part of the ongoing debate about the *Coleman Report* and equality of opportunity, and the idea that individual teachers could become the target of federal policy was not realistic. However, the 1980s shift toward thinking about U.S. education policy in terms of holding schools (and, perhaps implicitly, teachers) accountable made the findings of Hanushek and others about the inefficient distribution of teacher quality relevant to federal policy-makers. Not only that, but new statistical techniques for measuring teacher effectiveness emerged in the 1980s just as 'accountability' was beginning to dominate policy discussion about education reform (McLean and Sanders 1983; Amrein-Beardsley 2014; Horn and Wilburn 2013).

After the Carter administration split up the Department of Health, Education, and Welfare, the newly erected Department of Education became a point of intense contestation during the 1980 presidential election. Ronald Reagan, a critic of the federal government's growing education policy apparatus who had spent much of his time as California governor converting the state's public university financing to rely more heavily on tuition (for which students increasingly relied on student loans), pledged to abolish

the Department of Education altogether. While education reform served Reagan's agenda primarily as a means of getting into office and was relegated to the backburner after his first year in office (Davies 2007, 246–67; T. H. Bell 1986), a barrage of influential reports, most prominent among them the 1983 Department of Education production *A Nation at Risk*, set the tone for the future of education politics (The National Commission on Excellence in Education 1983; Vinovskis 2008). Reforming the education system would need to be conducted in a systematic way such that teachers and other educational professionals be held 'accountable,' and quantitative techniques being honed by economic and statistical experts would be used to audit education workers for punishment and/or reward.

These techniques were first made possible by advances in computing power that revolutionized various subfields of economics (R. E. Backhouse and Cherrier 2017b), and became especially relevant to policy research when administrative datasets that could account for the "nested" structure of education (students grouped within teachers grouped within schools) became more widely available (Hutt 2016, 254). These new technical methods, which were firmly situated in the style of economic reasoning that casts education as a system of production, promised to reform education not according to concerns of equity, or even of systemic accountability, but rather by measuring the effectiveness of each individual teacher and then disciplining or rewarding them accordingly. This was a fundamentally "performative" style of measurement that would place the burden of responsibility squarely at the feet of teachers (Ball 2003).

Over the course of the 1990s, economic experts made the rounds with education policymakers at think tanks and proselytized the use of new statistical tools that would

allow school districts to evaluate and rank individual teachers. This resulted in economic arguments about holding teachers accountable through new, seemingly more objective evaluation systems becoming widely circulated at the highest levels of elite policy circles by the time George W. Bush took office in 2001 (Goldstein 2014, 164–88). In the year 2000, Hanushek and Sanders gathered together, along with U.S. Undersecretary of Education Eugene Hickok, at a conference cosponsored by the Hoover Institution at Stanford that was devoted to econometric analysis of teacher quality. The report that emerged from this conference includes a preface written by former Reagan Secretary of Education William Bennett, a prominent champion of educational accountability, who praised the efforts of experts working to “set high standards for teachers, to develop strong accountability systems for measuring performance, and to reward those who perform and frown upon those who do not” (Bennett 2002, x). Further bolstering the new performance measurement paradigm, just before George W. Bush was elected President and signed No Child Left Behind (NCLB) into law, a private organization called the National Council on Teacher Quality was formed, solidifying this particular issue as a concern for the federal government.

The cumulation of these developments and dogged persistence of economists led to teacher quality becoming a key focus of federal education policy after the year 2000. As Bush was readying his presidential campaign, key studies using newly available administrative data were published by two groups of economists, one led by Hanushek at Stanford (Hanushek, Kain, and Rivkin 1998), and the other by Dan Goldhaber and Dominic Brewer of the Urban Institute and RAND Corporation, respectively (Golhaber and Brewer 2000). Using huge amounts of data and statistical

power, each of the studies made forceful arguments for the primacy of teacher quality in U.S. education policy, and according to Google Scholar, these articles have been cited a combined 6,500 times by other researchers. When Bush signed NCLB into law in 2001, it gave the accountability rhetoric that had been around since the 1980s a concrete means of being enforced. The education production function was no longer in tension with the dominant federal policy paradigm, but rather reinforced it.

A few short years later, the Obama Administration followed up NCLB with new legislation, *Race to the Top* (RTTT). RTTT was a component of the federal stimulus package of 2009 that aimed to replace some of the most deeply resented features of NCLB including the ‘accountability’ strategy of rigid, centrally imposed achievement standards and penalties. Devised under the supervision of Secretary of Education (and VAM advocate) Arne Duncan, RTTT was set up as a contest among state applicants for over four billion dollars of federal funding. Rather than imposing policies, RTTT allowed states to advance their own policies but scored their plans according to a rubric that rewarded plans for evaluating teachers and principals that “take into account data on student growth...as a significant factor” (U.S. Department of Education 2009, 9). Though RTTT did not mandate the use of specific models for assessing effectiveness and holding educators accountable, most poured their resources into the development of new evaluation systems (C. Collins and Amrein-Beardsley 2014).

One remarkable element of this period is the way that so many positions in the policy field came to rally around evaluating teacher effectiveness as *the strategy* for ensuring accountability. From the new technocratic foundations like the liberal, equality-promoting Gates Foundation and the free-market reform promoting Broad and Walton

Foundations to the old line, teacher-oriented Carnegie Foundation, all supported so-called Value Added Models (covered in more detail later in this chapter) as an accountability strategy. Even Randi Weingarten, president of the American Federation of Teachers, had expressed moderate support for such efforts, writing the foreword to a prominent economists' volume on the subject of teacher evaluation (Harris 2011). These new techniques promised data-driven solutions to principal-agent problems in the education policy field in that appealed to the technocrats, and a version of 'accountability' that seemed to focus on the achievement growth for which teachers might actually be responsible thus viewed by teacher advocates as welcome relief from the oppressive hand of NCLB. In the early 2010s, models for evaluating teacher and school effectiveness embodied a policy vision that could transcend a wide range of political commitments. But the *research field* was much more strongly divided, and, as we will see, the ultimate upshot of such developments was to catalyze a new style of expertise in economics: the production of *policy-based evidence*. But before coming to that, we need to also bring the story of healthcare reform into the twenty-first century.

Technocracy From the Left: The Affordable Care Act

The conventional wisdom about the Patient Protection and Affordable Care Act (colloquially known as Obamacare, but hereafter referred to as ACA) is that it was a heroic accomplishment, "fulfilling a century-long quest and bringing the United States to parity with other industrial nations," as one prominent account pronounces (L. R. Jacobs and Skocpol 2012). The story of how the legislation passed has been the subject of intense interest for both journalists and academics. What is less commonly analyzed is how the ACA was designed by economists on the basis of a more successful state-level

system that had recently been implemented in Massachusetts, or how the Massachusetts plan drew on earlier economic ideas from the 1993 Clinton proposal's failure and the 1970s reform battle (Gaffney and Waitzkin 2016). These contextual features paint the ACA in a different light from many of the celebratory accounts, but they also explain why single-payer reform has become a lightning rod so soon after the fulfillment of a "century-long quest."

To quickly recap: in the 2008 federal elections, Democrats regained control of both legislative chambers and the executive branch for the first time since the failure of Clinton's Health Security Act, and they immediately set their sights on healthcare reform. Fearing what had happened in the 1990s, the architects of the plan deliberately used a big tent strategy that allowed pharmaceutical corporations, health insurers, and professional associations to have a say in how the industry would be regulated. In addition to the imposition of a new crop of regulatory standards that sought to bring down costs, the plan featured several changes to federal policy meant to expand coverage—most famously a system of state-regulated private insurance marketplaces and the expansion of Medicaid through higher eligibility cutoffs—with the cherry on top being a mandate that required all individuals to purchase an insurance plan or pay a fine. An additional goal for the Democrats was to create a low-cost publicly financed insurance plan (a so-called public option) that anyone could buy into—an idea pushed by political scientist Jacob Hacker (2009), but this was dropped from the final legislation. After the demise of the public option, the bill almost failed completely, until House Speaker Nancy Pelosi brokered a watered-down version through a legislative process known as budget reconciliation (Grim 2018). The upshot of all of this is that in 2010,

President Barack Obama signed a bill to completely overhaul the nation's healthcare system—a complicated and incredibly controversial bill, but a bill nonetheless.

The great irony of the ACA is that a comparable system had recently been implemented at the state level by Obama's rival in the 2012 Presidential election, Mitt Romney, when he was Governor of Massachusetts. In the early 2000s, Romney commissioned a team of economists to model the impact of instituting an individual insurance mandate and regulated statewide exchange, a project that eventually became known as the "Massachusetts Health Connector." The primary economist on the team was Jonathan Gruber, the MIT professor introduced on page one of this dissertation who specializes in mandated private insurance benefits (Gruber and Krueger 1991; Gruber 1992). Gruber had developed software that was designed to closely approximate the effects of making regulatory changes to insurance markets, and while he was a registered Democrat who viewed Romney's proposed plan as an opportunity to maximize efficiencies in the marketplace, this was compatible with what Romney saw as "a traditional Republican moral issue of personal responsibility, getting rid of free riders in the system, not as much of an economic issue" (Rampell 2012).

The debate over the insurance exchanges and the individual mandate played out in public, in highly politicized fashion. Ironically, because healthcare policy after the 1970s had gradually become more right-wing *as well as* technocratic, the ACA was smeared as both a "right-wing conspiracy" and "socialist plot" (Quadagno 2014). Whereas in creating the Massachusetts exchange Governor Romney had been in favor of the mandate for traditionally conservative reasons, in 2009 Obama and the Democrats could point to decades of economic research on health insurance markets

that supported the legislation. Furthermore, the ACA had an advantage that the Clinton Health Security plan never had: because the Massachusetts Health Connector had served as a kind of high-profile public experiment, “economists could use evaluations of state-level reform efforts to confidently advise on national legislation” (Panhans 2018). Even economists who were not directly involved in the institutional design of the ACA influenced the legislation by writing open letters to the Obama administration about technical issues they wished to see addressed in the final bill (Rampell 2009). When all was said and done, the final ACA legislation adhered to four key elements of health economics: the inclusion of differential cost-sharing, reduction of adverse selection, attention to the “agency behavior” of physicians, and changes to the way employer-sponsored plans are taxed (Glied and Miller 2015, 385–89). All this despite the fact that, when compared with Medicare or the single-payer Health Security Act proposed by Ted Kennedy and the UAW in 1970, the ACA itself had “brought to fruition a conservative model of health reform that can be traced to Richard Nixon” (Gaffney and Waitzkin 2016, 244; see also Woolhandler and Himmelstein 2017).

Policy-Based Evidence Takes Center Stage

As this dissertation pointed out on page one, in the mid-2010s, after a bruising legislative battle to pass the Affordable Care Act, the U.S. Congress abruptly repealed two of the most discussed—and most controversial—components of the legislation (Kliff 2020). The contrast between the failure of the economics ideas most touted by the Obama administration and the successful expansion of a comparatively mundane welfare program raise questions about the avenues through which economic knowledge

influences policy. As one economist who had been heavily involved in implementing the ACA provisions at the federal level explained to me, “the empirical side was probably more important than the theory side” (Economist #15).

In addition to these developments, since the passage of the ACA, the healthcare system has grown dramatically more expensive overall and key health outcomes such as life expectancy have declined, despite the continued prominence and growth of health economics (Case and Deaton 2020). This begs the question: has economics, in fact, successfully contributed to policy change? Or—as economist Steven Klees suggested some three decades ago—is the discipline’s cultural authority a version of the ‘emperor’s new clothes’ (Klees 1991)? Research in the sociology of expertise demonstrates the widespread diffusion of an “economic style of reasoning” (Berman 2022; Hirschman and Berman 2014) throughout policymaking in the United States. Yet economics is not always successful in transforming policy, and the ubiquity of economics (Markoff and Montecinos 1993) can in fact undermine experts’ jurisdiction over interpretation of technical knowledge (Rilinger 2022). Furthermore, economics is not always used as a proscriptive guide to policy decisions, and increasingly often serves as a technology of justification that evaluates policy choices after their enactment (Griffen and Timmermans 2020). How, then, can we reconcile the well-established claims to superiority promoted by the economics discipline (Fourcade, Ollion, and Algan 2015) with the fact that on some of the most prominent contemporary policy issues that economists study, economic research is often less influential than claimed by observers of the field?

Building on the historical backdrop of the preceding account of the economics of health and education, this chapter develops a novel theory about the contemporary politics of knowledge production to answer a simple question: *how*, exactly, is economics influential in U.S. social policy? Is influence defined by the discipline's ubiquity in policy spaces? By the "performativity" (MacKenzie 2006) of economic theory in certain domains? Or is it due to the field's scientific dominance over neighboring fields (Fourcade, Ollion, and Algan 2015)? Drawing on a systematic comparison of health economics and the economics of education, I analyze the fields' varying success across different modes of influence.

In the end, the chapter ultimately argues that economics is most influential as a scientific field dedicated to the *production of policy-based evidence*, and that other modes of influence are ultimately subordinated to the pursuit of scientific capital. I argue that when it comes to the evaluation of applied policy topics, economists accrue status from the novelty of *methodological rigor*, even in instances that result in policy failure (Griffen and Panofsky 2021). Building on the theory of scientific capital (Bourdieu 1975), I develop the notion of *rigorous capital*, which I argue has deep historical roots and serves an important sociological function for the economics discipline: it enables economists to claim legitimacy as policy experts even if they often choose to remain notionally detached from political discourse in the public sphere. Drawing on counterfactual examples, I show how even when economic expertise is explicitly marshalled as a means of designing social policy—through recently established federal agencies created to scale up the results of policy experiments and in settings where economists are able to directly intervene in market design—the logic of policy-based

evidence still governs practice in the field. In conclusion, I return to the question of social structure first raised in Chapter One and consider whether recent changes in the field's overarching logic of practice has affected social organization at the subfield level: that is to say, does the discrepancy between vibrant fragmentation and stagnant coherence still hold?

Causal Inference: "The Golden Chalice, but also Fetishized"

While the emergence of large-scale randomized controlled trials provided powerful new forms of evidence for economists of health and education in the 1970s and 1980s, the field's coalescence around methods for establishing causal inference was more forcefully driven by the explosion of *quasi*-experimental research beginning in the 1990s. For questions that economists have long been interested in but unable to find adequate funding to run large field experiments, the increasing availability of administrative data has made it possible to study a vast array of policy topics that were previously harder to analyze without making a slew of theoretical assumptions that affect research generalizability; as one health economist I spoke to quipped, "theorists are not cool anymore...it's all about the data" (Economist #6). In interviews, economic experts drawn from both inside and outside the academy, some of whom have worked in government but also those with more disinterested research inclinations, all reiterated to me that causal inference has become the defining feature of the field. As one prominent economist of education put it to me in an interview, causal inference is "the golden chalice, but also fetishized" (Economist #2).

Prior research has already established that the elevated status of causal inference in economics has emanated from the field's disciplinary elite (Panhans and Singleton 2017; Angrist and Pischke 2010). What is striking about the policy-based evidence paradigm is how this methodological toolkit serves as a kind of "trading zone" (Galison 1997) that brings together experts from widely varying positions in the academic and political fields under a shared umbrella. As one health economist who previously earned an MD and frequently translates expertise across more academic and applied policy domains explained:

"Well, the causal inference research designs and those styles of studies, I think, put you in a better position to really communicate your findings...why they're important, and also why your interpretation seems credible. Like it seems like it's the right interpretation of the data. Rather than, you know, I have my black box of statistical wizardry, you have your black box of statistical wizardry, this is just a mystery...and now we both you know are coming to the opposite conclusions and who knows who's right. You know, it [causal inference] gives you a better starting point to avoid those kind of stalemate positions" (Economist #38)

In interviews, economists frequently connect this desire to be credible to their use of causal inference methods, which they also associate with the notion of empirical 'rigor.' This is done not just to signal status to other economic experts, although that certainly is important (particularly among economists working in highly ranked departments), but also to establish the bona fides of economists vis-à-vis other social policy experts. As one researcher who was trained in a health policy department but frequently uses econometric techniques in their work told me,

“I review for medical journals a lot, and people will do correlational analyses and then ascribe causal language to them, and that’s worse [than just doing correlation}. Like, you’re not even trying. So...that’s kind of what drew me to economics in the first place...the focus on this rigorous, these rigorous methods, and really trying to interpret and understand when I get a number. What does that mean? And what does it not mean?” (Economist #18).

Similar sentiments are common among economists who study social policy topics in these spaces characterized by jurisdictional disputes (Abbott 1988). “Economic imperialism happens because we have the best empirical methods...economists spend a lot more time studying methodology” one economist of education (Economist #3) told me, shortly before they expressed serious doubts about the translatability of economic expertise to the practical business of policymaking.

The issue of translating economic expertise to broader policy audiences is one that economists take different positions on depending upon social location. While nearly every economist I spoke with described causal inference as key to methodological rigor, beliefs about how to make causally identified research findings meaningful to non-experts are less consistent. One health policy expert who told me that they would “never, ever, ever, ever get tenure in an economics department” (Economist #17) argued that while RCTs and descriptive research are easy to communicate to journalists and policymakers, translating quasi-experimental research to the same audience requires substantially more effort on the part of the expert. However, health economists in general express more optimism about the field’s ability to engage with and influence

policy matters, in part reflecting more established practices of knowledge exchange that have occurred between clinical professionals and economic experts. Economists of education were not nearly as sanguine. One economist who deliberately changed institutions to run a well-funded education “policy lab” said to me that:

“Within a school district, programmatic leaders sort of protect their, their turf if you will...they oversee some set of programs, and they may quite honestly feel that they’re effective, and some research is done that shows that they aren’t effective, they are, they are very protective of their programs...So it’s really hard to make policy change, even if you have strong evidence that something’s working or not working. And that’s been frustrating, to be honest” (Economist #21).

Another economist of education who had recently experienced the failed policy success of their work on teacher evaluation described being “depressed” about the field and said that economic expertise was a poor fit because “the education system *can’t* operate efficiently” (Economist #3). Similarly, an economist who has worked had to translate causal findings about charter school effectiveness to education policy audiences lamented that compared to some other domains,

“In education, things are complicated because it is extremely political...you know [local school district] is like a big bureaucracy and there’s a lot of different people working on particular things, but no one speaks to one another, so you could have like one set of the district literally pushing for some like innovative great policies, and then you know they’re about to launch them, and you know, there’s this other camp of the district that says wait hold up don’t do this...it’s very

frustrating to see that you know you have this big bureaucracy, they have a lot of power, they have the resources to do a lot, but just because no one really wants to there's just too many chiefs...that's very unfortunate" (Economist #12).

These frustrations expressed by economists about the difficulty of translating causally identified work to policy audiences with decision-making power were only occasionally qualified with doubts about the broader style of reasoning that microeconomics has embraced in recent decades. The appeal of empirical "rigor" is such that even for experts I talked to who work in applied policy settings and aim for journals with more flexible methodological standards, the policy-based evidence paradigm reigns supreme. Economics has "grown into an almost all-purpose, applied statistics, social science type of field" (Economist #19): ready to analyze anything, anywhere, anytime—provided the data are available.

Comparative Case Studies in Policy-Based Evidence-Making

To further illustrate the way causal inference mediates the relationship between expert status and policy influence, I turn now to evidence drawn from comparative case studies of economic expertise in action: models for evaluating professionals (physicians and schoolteachers) and policy changes that have shifted public resources into privately controlled marketplaces. While in the 1960s the U.S. federal government's capacity to perform economic analysis of key social programs was just being institutionalized for the first time, today the interpenetration of researchers and state bureaucracy is vast. Visit the online databases of the Department of Education's Institute of Education Sciences or its counterpart in Health and Human Services, the Agency for Healthcare

Research and Quality, and within minutes one can get lost in a sea of research reminiscent of Hacking's "avalanche of printed numbers" (Hacking 1990). This raises a methodological issue: how to select cases that accurately reflect the state of economics research and its relationship to social policy during this period?

My approach in this chapter is inductive and by no means comprises the full scope of policy research in the recent economics of social policy. Based on my archival research and my knowledge of the historical literature on the economics of education and health economics, it became clear that beginning in the 1990s, the influence of economics on social policy in the U.S. was increasingly concerned with incremental policy changes that could serve as the basis for quasi-experimental research and causal inference, with policy and expertise ping-ponging back and forth in an iterative fashion. I used four criteria for selecting cases that would be characteristic of this transition: expert interventions needed to be 1) conceptually similar for both healthcare and education; 2) well-represented in the empirical literature; 3) relevant to nationwide social policy; and 4) related to or extensions of period-specific trends in the economics discipline. The resultant selections are by no means a complete set of examples that fit these criteria, but they are certainly some of the most well-established cases in which economists have engaged social policy actors since the 1990s.

The six cases are listed in Table 3 below. They include examples of economic policy devices, privatization schemes, and market design initiatives that have had durable effects (ranging in terms of success) on education and healthcare policy in the U.S. The economic policy devices selected are evaluation technologies, Value Added Models and Value-Based Payment, that can be used to assess professionals (teachers

and physicians) quantitatively for disciplinary or reward purposes. For privatization schemes, I examined charter schools and Medicare Advantage, two prominent rollbacks of public regulatory authority that are underpinned by large evidence bases in economics. And finally, following a theoretical elaboration of my argument in favor of the policy-based evidence model, a further comparative case study—that of economists engaged in *market design*—will be then present some counterfactual evidence to be discussed in the chapter’s conclusion. The market design initiatives I looked at are matching algorithms for school assignment and the National Residence Matching Program, both of which fit individuals (students and physicians) to institutions (schools and hospitals, respectively).

Table 3: Cases of Policy-Based Evidence

	Education	Health
Economic Policy Device	VAM	VBP
Privatization Scheme	Charter Schools	Medicare Advantage
Market Design	School Assignment	Medical Match

Value-Based Payment and Value-Added Modeling

As a field, economics has been concerned with the way competition is regulated within professions since at least the mid-century publication of a study by two future Nobel Prize winners analyzing the economics of five different professional groups (Friedman and Kuznets 1945). Research on physicians has mostly been about whether there is or is not a “doctor shortage” due to the American Medical Association’s monopoly power (Fein 1967; R. A. Cooper et al. 2002), whereas in education there has

been more interest in whether teacher unions keep salaries high at the expense of student outcomes (Freeman 1986; Hoxby 1996). This difference in emphasis matters not just for how economists understand these occupations differently, but is also related to the kinds of “economic policy devices” they have developed to estimate professional value and enable either the disciplining or rewarding of teachers and physicians. These devices are Value Added Models (VAM) in education and Value-Based Payment initiatives in healthcare.

On the education side, VAM was developed primarily by a Tennessee-based statistician in the 1980s, though the production function approach that undergirds the idea of “value added” can be traced back to the work of economists including Eric Hanushek, Samuel Bowles, Henry Levin, and Richard Murnane in the 1960s and 70s (Griffen and Panofsky 2021). The basic premise of VAM is that teacher quality can be isolated and measured by estimating their “value added” to student achievement using standardized test scores controlling for a variety of other inputs (D. N. Harris 2011). After pilot programs were launched in several states in the 90s, the technology was catapulted to national relevance with the passage of the No Child Left Behind (NCLB) act in 2001 (Horn and Wilburn 2013). NCLB not only encouraged states to adopt “objective” teacher evaluation policies, but also created the data infrastructure to do so by mandating standardized tests for students in grades 3-8 (Olson 2004). This made VAM into an intriguing research opportunity for economists, as increased availability of administrative datasets and an explosion in computing power were revolutionizing the field at this time (R. E. Backhouse and Cherrier 2017a). Before long, economic experts not just in academia but at powerful policy organizations such as the RAND

Corporation, Mathematica Policy Research, and the American Institutes for Research were exploring the viability of VAM as a policy device for reforming teacher evaluation across the U.S.

In 2004, a team of educational researchers at the RAND Corporation was commissioned to publish a report that compared and assessed several different VAMs. Arguing that “no reviews have carefully compared recent VAM efforts or systematically discussed the wide variety of issues they raise” (McCaffrey et al. 2004, xii), the research team concluded that VAMs have been plagued by numerous statistical issues that raise doubts about the models’ legitimacy. These included problems of modeling specification (how to select an appropriate model), confounding (whether a teacher effect could be isolated from other factors), and uncertainty (concerns that small class sizes yield imprecise estimates for each teacher), as well as the basic premise of VAM that standardized tests are a reliable dependent variable for growth in student achievement. The RAND group also suggested an alternative way of thinking about evaluation that has become especially popular in recent years: linking VAMs to other methods of teacher evaluation such as classroom observations and student surveys. The use of VAMs in more holistic evaluation processes designed to incorporate ‘multiple measures’ of teacher effectiveness would eventually become popularized by the Gates Foundation’s Measures of Effective Teaching (MET) project, which was conducted in collaboration with researchers from RAND. Indeed, Gates and a handful of other powerful foundations have been able to steer the development of numerous new teacher evaluation systems with strategic investments in high-profile initiatives and by focusing on evidence-based education policy (Reckhow 2013). Lest the Gates

Foundation's focus on "multiple measures" of teaching effectiveness be misconstrued as a concession to VAM critics, it is important to point out that alternative measures of teacher quality are still "benchmarked" against VAM scores (Felch 2010). According to Thomas Kane, the lead researcher of the MET Project, "the evidence on student achievement is like a giant divining rod...it says, dig here if you want to learn what great teaching looks like" (Felch 2010).

Through the first few years of the Obama administration, when Race to the Top further incentivized the implementation of VAM at the state level, there were dozens of states experimenting with new teacher evaluation systems (C. Collins and Amrein-Beardsley 2014). In some places, VAM was primarily used as a means of providing feedback to teachers for professional development purposes, whereas a handful of school districts went for more aggressive policies that assigned merit pay or even quantitative thresholds below which teachers would be dismissed after a certain number of years (Amrein-Beardsley 2014). While economists and other statistically-minded education policy experts heralded these models as a rationalizing tool that would bring teacher labor markets more in line with mainstream economic thinking, most teachers were understandably confused about how the models actually worked. This resulted in a massive backlash: lawsuits were filed across the U.S. alleging that VAM was unconstitutional, lacked transparency, and was not consistent with union contracts (Paige 2016). The case of VAM thus demonstrates the danger of using quantitative indicators that do not match the qualitative understanding people have of their work (Labaree 2011; Merry 2016).

There is one domain in which VAM continues to animate further discussion: within the field of economics itself. In the early 2010s, several large-scale research projects conducted by economists from elite universities garnered significant scientific acclaim and media attention. The Harvard economist Raj Chetty and his colleagues carried out a quasi-experimental study that was deemed worthy of being split into two separate *American Economic Review* articles (a feat that has only been accomplished once before and resulted in a Nobel Prize). Meanwhile, another Harvard economist was recruited by the Gates Foundation to carry out a randomized controlled trial that assigned a sample of teachers randomly to different schools and measured their effects on student outcomes. This research, while high-profile, comports with the policy-based evidence paradigm in economics: as one economist who has spent their career associated with the RAND Corporation explained to me, “there’s no demand” for theorizing the education production function anymore, which can be black boxed; what matters is just the causal relationship that estimates whether value has been added (Economist #43). The divergence between VAM’s ultimate failure as an economic policy device but success as a way of increasing scientific capital is a counterintuitive finding in the sociology of economic expertise (Griffen and Panofsky 2021), and can be contrasted nicely with a less contested evaluation technology developed for physicians, Value-Based Payment.

Much like in education, for the last two decades policy debates over healthcare reform have focused increasingly on optimizing the ‘value’ of care. Experts have proposed overhauling the largely fee-for-service U.S. healthcare system to better reward physicians and hospitals that prioritize ‘quality’ care with suggestions like “From

Volume to Value: Better Ways to Pay for Health Care” (H. D. Miller 2009) and “From Quantity to Quality: Meeting the New Demands of Value-Based Care” (Bendix 2015). Similar to education, much of the research on these proposed reforms has been dedicated to developing economic policy devices that can incentivize physicians in ways that are conducive to optimum performance. And yet, unlike in education, the professionals being evaluated and priced—physicians—are powerfully represented by the American Medical Association (Laugesen 2016), and as I have argued throughout this dissertation, there is far greater opportunity for mutual respect and overlap between health economists and other stakeholders in the medical system than we see on the education side.

The problem with this approach, when considered in comparison with evaluating teachers, is that how to define and measure something like ‘quality’ or ‘value’ in healthcare is far more unclear. While educational researchers settled decades ago on standardized test scores as an acceptable—if flawed—metric of success (Labaree 2011), what makes healthcare valuable is much more contested across a heterogeneous patient population. As Harvard economist Michael Porter notes,

“In any field, improving performance and accountability depends on having a shared goal that unites the interests and activities of all stakeholders. In health care, however, stakeholders have myriad, often conflicting goals, including access to services, profitability, high quality, cost containment, safety, convenience, patient-centeredness, and satisfaction. Lack of clarity about goals has led to divergent approaches, gaming the system, and slow progress in performance improvement” (M. E. Porter 2010).

The confusion over which aspects of 'value' to focus on have resulting in competing approaches to evaluation: reforms adopted by both Medicare and private healthcare providers have included "bundled payments, hospital readmission reduction programs, and hospital value-based purchasing programs, all with the intension of reimbursing quality over quantity" (Gowrisankaran, Joiner, and Lin 2019). Perhaps the most prominent initiative of these is Value-Based Payment, which gained traction following the passage of the 2010 Affordable Care Act.

Unlike VAM, VBP is not as rigidly associated with a particular statistical model that outside experts impose on the medical profession. The Centers for Medicare and Medicaid Services website lists a variety of different VBP programs that pertain to different sectors of the healthcare system: "Hospital-Acquired Condition Reduction," "Hospital-Readmission Reduction," "Hospital Value-Based Purchasing," "Value Modifier," "Other," and "Quality Payment." The last of these is a program that created with bipartisan support as part of the Medicare Access and CHIP Reauthorization Act of 2015, and though program itself relies on an economic policy device to adjust physician payments according to value (rather than volume) of care provided, it was in fact considered by physicians themselves to be preferable to previous Medicare payment schemes (Spivack, Laugesen, and Oberlander 2018). This no doubt reflects that unlike with VAM, development of VBP has been carried out with an eye to more cross-fertilization collaboration with physicians.

While in the U.S. education system teachers exist in an antagonistic relationship with school management, all within a decentralized structure, in healthcare the opposite is true. The American Medical Association wields considerable authority over the

healthcare system (Starr 1982a), and in recent decades consolidation has vested much of the administrative power with a handful of state and private institutions. So it is not altogether surprising that economic policy devices for shaping physician incentives could be more seamlessly integrated into the profession. And while some experts have expressed similar concerns to critics of VAM (Frakt and Jha 2017; Gupta et al. 2018), there has been nothing like the front-page news controversies that enveloped VAM upon implementation. Thus while there are still major questions regarding the future of VBP in a healthcare system that seems destined for further institutional reform, the greater transparency and possibility for economists, physicians, and other policy experts to collaborate on implementation has made these economic policy devices on the whole successful.

Medicare Advantage and Charter Schools

While economic policy devices such as VAM and VBP are “technical...[and] locally specific” (Hirschman and Berman 2014, 796) interventions in labor markets, economists have also gained traction in social policy design by championing and building a research base to support the privatization of public institutions. The two initiatives reviewed in this section are the spread of charter schools to school districts—particularly urban districts—across the U.S., as well as the advent of Medicare Part C, colloquially referred to as Medicare Advantage. While neither of these schemes is associated with a particular economic policy device, both of them emerged as policy options in part because of economic ideas and have in the last two decades become to subject of research programs that support their continued existence. Much like the last

section, I will briefly outline each of these initiatives in turn and then draw some conclusions through comparison.

While charter schools emerged on the national policy scene in the 1980s through the advocacy of former American Federation of Teachers union leader Albert Shanker (R. M. Cohen 2017), their conceptual origins can be traced to a famous 1955 Milton Friedman paper on “the role of government in education” (Friedman 1955). Similar to contemporary discussions about consumer choice over healthcare insurers, Friedman argued that in any given neighborhood, students should be provided with schools that are both privately and publicly administered and funded. The goal of this policy change would be to “make for more effective competition among various types of schools and for a more efficient utilization of their resources” (Friedman 1955). While Friedman’s more specific policy suggestion was for the government to administer school financing differently—shifting resources to vouchers that could be used to select among a menu of different schools—this way of thinking about schools in terms of efficiency and consumer choice would prove beneficial for the charter movement decades later.

The implementation of charter schools as a concrete policy instrument—publicly financed, privately administered schools that students could opt into by choice—has a murky history, often traced to an obscure University of Wisconsin academic but perhaps most closely associated with a “policy entrepreneur” named Ted Kolderie who spearheaded a pilot program for charters in Minnesota in the early 1990s (R. M. Cohen 2017; Reichgott Junge 2012). Similar to VAM, after charter zones were established in several states around the country, the 2001 No Child Left Behind act encouraged states to convert schools that were failing to reach benchmarks into charters (Berends 2015).

The Bush administration then used the Hurricane Katrina disaster to reorganize the entire New Orleans school system (N. Klein 2007), turning an entire city's educational infrastructure into an opportunity for economics research. Since the mid-2000s, the charter school movement has been the subject of a cottage industry of economics research. In this sense, charter schools have had a "looping effect" back on the field of economics: while the origin story of charters is in part related to research in economics, the spread of charters has also influenced research currents in the discipline.

Similar to the way economists have used VAM as a tool for accumulating scientific capital, economic research on charters has made use of clever research design and new statistical methods, making this an attractive topic for applied microeconomists to focus on (Davis and Raymond 2012). The rapid growth of charters in urban school districts has created the conditions for conducting experiments, as was the case in New Orleans, and more commonly for doing quasi-experimental research. Several of the states that have pursued educational reform particularly aggressively have also made administrative data publicly available, so economists have focused quasi-experimental research on states such as Florida (Singleton 2019; Sass 2006) and North Carolina (Ladd, Clotfelter, and Holbein 2015; Jackson 2012). Though charters originated as a deregulatory, right-wing reform strategy, the Obama administration embraced them together with VAM as key components of its education agenda, leading even school districts in ostensibly liberal states such as California and Massachusetts to get on board with the charter movement and make the data available to researchers (Angrist et al. 2011).

As economists have sought to exploit the growth of the charter sector in various states for their own pursuit of scientific capital, they have also started advocating for further changes to school districts that would advance the marketization of educational choice even further. The idea of creating entire “charter districts”—similar to the current situation in New Orleans (D. N. Harris 2020) has surfaced in the economics literature, and rather than approaching this question from the perspective of student success, economists are thinking about this possibility in terms of market principles: economies of scale, externalities, and transaction costs (Levin 2012; Ladd and Singleton 2018; Cohodes, Setren, and Walters 2019). In contrast to the mid-century free market dream for educational choice promoted by Milton Friedman, economists today argue that school choice programs should be modeled after ideas such as “managed competition” in healthcare (D. N. Harris 2017) or through “portfolio management,” taking a cue from the financial services industry (Bulkley, Henig, and Levin 2010). These approaches to the growth of charters reflect an admission on the part of economists that school choice does not exist in a vacuum and requires some degree of public infrastructure to subsist—as one expert who works with these data regularly put it to me, “the holy grail of the economics of education, or one of them, is really identifying supply-side effects of school choice models,” but “in education, things are very complicated because things are very political” (Economist #12).

In these schemas, charter schools remain public institutions insofar as their financing and access to resources are concerned, but are administered privately, free from the accountability of both state standards and the disciplining effects of teachers unions (Michaels 2021). How successful economists will be in convincing education

policy-makers to continue pushing this public-private restructuring scheme while facing pushback from increasingly hostile teachers unions remains to be seen. What is certain is that the charter movement and economics discipline have mutually benefited from one another for the last two decades in a co-productive sense (Jasanoff 2004), even if economists are not the main drivers of education policy.

As is the case with the economic policy devices examined in the previous section, while the relationship between education privatization schemes and economics began at the local level and then filtered onto the national stage, for healthcare policy the initiatives have been largely top-down. In 1973, the Nixon administration implemented the Health Maintenance Organization act, which formalized a new type of healthcare delivery system that people could opt into. HMOs were the product of neoclassical economic critiques of the medical profession's monopoly power (Hacker 1997, 42–47), and they were designed to bring down costs by promoting competition in the healthcare sector. While the other two major attempts to reform the entire U.S. healthcare system—the Clinton administration's failed "managed competition" program and the Obama administration's Affordable Care Act—would prioritize competition in healthcare provision in a manner similar to HMOs, in terms of overall scale, the most successful policy scheme for privatizing healthcare was accomplished by reforming the largest extant healthcare program, Medicare.

The legislative history of Medicare Part C is somewhat complicated, but the repeated transformations to the program's structure has had important effects on healthcare costs and outcomes for seniors that economists have been tracking closely for years (Mcguire, Newhouse, and Sinaiko 2011). Medicare Part C was first created in

1982 as part of the Tax Equity and Fiscal Responsibility act, and initially the program gave some Medicare beneficiaries the opportunity to opt into HMOs. In 1997, the Balanced Budget act signed by President Clinton formalized Medicare Part C and the program was rebranded as Medicare+Choice. The newly structured Part C expanded the types of private healthcare plans that could be offered within Medicare beyond traditional HMOs: “preferred-provider organizations (PPOs), provider-sponsored organizations (PSOs), and private fee-for-service plans (PFFS)” (Mcguire, Newhouse, and Sinaiko 2011, 308). Despite the fact that Medicare+Choice had been implemented at the behest of economists concerned about rising healthcare costs, the promised competitive effects of plan expansion never materialized and “between 1997 and 2003 Medicare continued to lose money on beneficiaries who enrolled in MA plans” (Mcguire, Newhouse, and Sinaiko 2011, 312). Finally, in 2003, the unified Republican government passed the Medicare Modernization act that renamed Part C “Medicare Advantage” and “established a larger role for private health plans in Medicare largely based on a shift away from cost containment and regulation and...an ideological preference for market-based solutions” (Mcguire, Newhouse, and Sinaiko 2011, 314).

The creation of a large new market in the healthcare sector was, like the spread of charter schools, a gift to the economics discipline. Economists have been particularly interested in two questions that have haunted health policy experts since the famous RAND Health Insurance Experiment was conducted in the 1980s: does increased competition bring down overall healthcare costs, and does it improve the efficiency of healthcare delivery? The jury is still out on the first question, with confusion arising due to the fact that the variety of payment plans offered by private insurers through

Medicare Advantage make it difficult to estimate whether it is in fact less of a tax burden than traditional Medicare (Frakt 2016). Regarding the second question, economists have found that “Medicare Advantage plans are more efficient in reducing health expenditures but incur higher administrative costs” (Brockett, Golden, and Yang 2018) and that there are spillover effects from enrollment in Medicare Advantage that leads to reduction in healthcare expenditures for people enrolled in traditional Medicare (Baicker and Robbins 2015). Other economists have found that hospital utilization is significantly increased in patients who leave Medicare Advantage to re-enroll in Traditional Medicare (Duggan, Gruber, and Vabson 2018), though the health effects of such transitions are still unclear (Afendulis, Chernew, and Kessler 2017). Regardless, given that Medicare Advantage is growing rapidly and now enrolls almost half of the elderly U.S. population (Herman 2021), combined with the fact that beneficiaries frequently switch from Medicare Advantage to Traditional Medicare or between Medicare Advantage plans, creates a plethora of data-laden scenarios for economists to exploit.

The fact that there are not clear-cut answers to most questions that have been raised about Medicare Advantage, at least from an economist’s standpoint, means that research on this privatization scheme will likely continue without obvious policy takeaways, at least until the next major reform to the U.S. healthcare system takes place. As one economist with extensive experience in government explained to me in an interview, from the perspective of economic efficiency, Traditional Medicare and Medicare Advantage “work pretty well together” by operating at opposite ends of the ideological spectrum when it comes to health coverage (Economist #29). Similar to the “portfolio management” approach to administering school districts with both public and

private options, we see here how economics has contributed to a form of governance in which public resources are privately managed, with the mixture of administrative schemas making it possible for economists to extract available data to conduct causal analyses.

What can we ascertain from comparing economists' research on privatization schemes in education and healthcare? Unlike the case of VAM vs. VBP, the influence in this case mostly runs in reverse, with the reorganization of social domains around private interests to create "market-like entities" (Breslau 2013) having "looping effects" back on the economics discipline (Hacking 1996). While economists are partially responsible for conceptualizing these schemes, their expertise has been useful as a means of *justifying* policy programs after their creation, rather than being the primary cause of intervention. In the final empirical sections of the chapter, we will look at cases in which the relationship between economics and social policy is even more precise: the establishment of government agencies to evaluate and scale up social programs, and direct interventions into the creation of markets by economists. But first, a theoretical excursus to return to our original question: do economists make policies? Or do policies make economics?

Do Policies Make Economics? *Rigorous* Capital and the Production of Policy-Based Evidence

In their insightful and clarifying article that asks whether economists make policies, Hirschman and Berman (2014) draw attention to undertheorized processes such as the *indirect* role that economists often play in policy design and the capacity for

economists to influence policy at the meso-social level by spanning different social fields (as opposed to, say, advising the U.S. President as a CEA member). In prior work with Timmermans, I have argued that there is another dimension to economists' influence: as a means of *justifying* policies that have already been enacted, a process which can protect policies from challenges by shoring up the robustness of the evidence base regarding program efficacy (Griffen and Timmermans 2020). This reverse sequencing of the relationship between expertise and policy serves as the basis for conceptualizing the policy-based evidence paradigm: as a health economist explained to me,

“If the data is there, people will creatively find a way to write a paper about it... There is still a bias towards analysis of policy change that limits the ability to guide prospective policy, but also just limits the study space, you know, the domain of research, to areas where policy is being changed. You know, like if there's some sort of long-standing problem that nobody's really active on at the moment, like there's not going to be a lot of research on that” (Economist #33).

So while economists make policies, when it comes to social policy in particular, the politically constraining effect that the “economic style of reasoning” has exerted on the U.S. policy process over the years (Berman 2022) has resulted in a situation where the opposite process is also worth theorizing: how *policies make economics*.

Just as economists make policies and policies make economics, there is also a dialectical relationship between evidence-based policy and policy-based evidence. In arguing for a theory of policy-based evidence, my aim is to not to dispute the fact that there is a growing appreciation for a particular economic style of evidence in U.S.

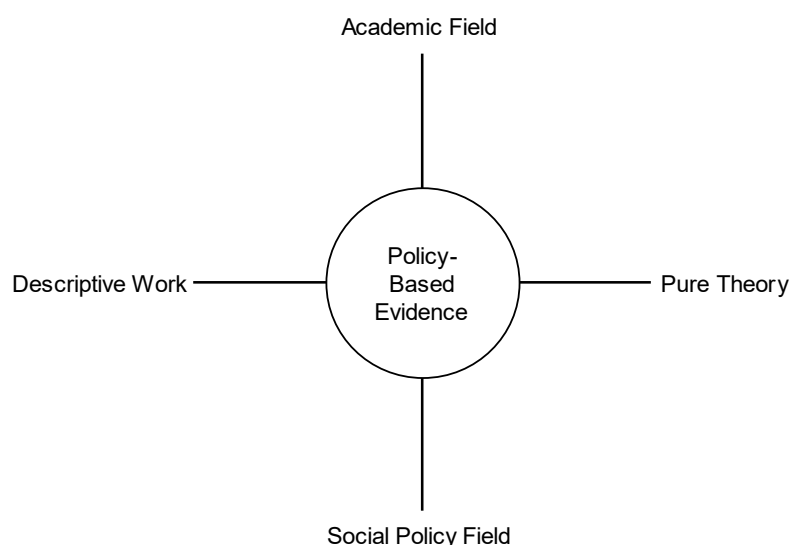
polymaking spaces, but rather to rearticulate this as an iterative process, the *engine* of which is the incentive structure in economics that favors policy-based evidence production. Whereas MacKenzie argued that economic expertise serves as an engine of change, not a camera for capturing it (MacKenzie 2006), I argue that for social policy, economics operates as both engine and camera—though over time, the logic of practice that structures the work of economics has shifted toward the latter.

The incentive structure animating contemporary economics can help us make sense of the practical logic governing how economists work within the field. In economics, as with other scientific fields, legitimacy and professional status are obtained primarily through the process of publishing and communication research. And yet in comparison to adjacent fields—sociology, political science, psychology, research in policy and even management—economics stands out in two ways. Firstly, as prior research has established (Berman 2022; MacKenzie 2006), economists have gained the ability to influence policy fields and the private sector in ways that their competitors have not. And secondly, when it comes to applied microeconomics in particular, the standards for what constitutes “rigorous” research are intransigently applied and policed (Cartwright 2019; 2021), which has constituted a rigid hierarchy in the field that is constantly being managed and enforced by those located at the top (Fourcade, Ollion, and Algan 2015).

By expanding my pool of interview subjects beyond elite academic economics and incorporating case studies in which economists have entered into the policy arena at the tail end of implementation debates, I am able to observe how the economics of social policy has legitimated and elevated ‘methodological rigor’ via ‘clean identification’

of causal factors and ‘clever’ research design. The discourse of ‘rigor’ is not just straightforward application of pre-determined methods, but an ongoing practical struggle to define what counts as scientific capital—what makes conducting economic research “worth the candle” (Bourdieu and Wacquant 1992, 98). This practical struggle is conceptualized visually below, in Figure 2.

Figure 2: The Policy-Based Evidence Field



Here, policy-based evidence is represented as a social space that depicts the opposing interests impinging on economic experts.⁷² The horizontal axis illustrates the tension between descriptive policy research based on social statistics and pure, quantitative economic theory, whereas the vertical axis represents whether the audience for research is fellow academics or the more applied domain of social policy and decision-making. Similar to other research on interstitial spaces of knowledge production

⁷² This diagram is roughly adapted from Eyal (2002), whose theory of expertise builds on Bourdieu’s critique of Weber’s sociology of religion (Bourdieu 1987).

(Medvetz 2012a; Eyal 2002; Panofsky 2014; Stampnitzky 2013), my research finds that social authority and power are achieved by situating oneself toward the center of the diagram rather than the outskirts. Notorious accomplishments in the production of policy-based evidence, such as the Oregon Health Insurance Experiment or Measures of Effective Teaching project, are deliberately positioned at the intersection of these competing pressures.

Given this field's structure, the pursuit of scholarly 'rigor' is not strictly speaking a disinterested academic affair. Instead, the drive to produce 'rigorous' research is also driven by practical and empirical concerns. This is a far cry from the 1960s, when the gap between the theoretical core of neoclassical microeconomics and applied work of aggregating statistics were two distinctly separate approaches to economic analysis. Instead, the field of policy-based evidence is characterized by a middle ground of causally identified work that researchers situate themselves in relation to; as Josh Angrist points out in his Nobel Memorial Lecture, "the credibility revolution in applied microeconomics owes at least as much to compelling empirical analyses as to methodological insights" (Angrist 2022, 2509). To be "rigorous" is not to practice strictly applied or theoretical research, but rather to occupy the center of the field by blending these strategies: to *use* policy changes as a means of informing academic work. According to economists themselves, this rigorous, retrospective analysis is the *starting point* at which their expertise becomes useful for making policy: with "a little entrepreneurial spirit, and a lot of luck," as a policy-minded health economist put it (Economist #38).

Returning to the Roots of Causation: A Tale of Two Agencies

While this chapter has focused primarily on quasi-experimental methods for establishing causal inference, the roots of the causal identification paradigm are in randomized controls trials. Project STAR and the RAND Health Insurance Experiment, while historic and uniquely influential, did not follow well-established experimental scripts, but rather were *experiments with experiments*. Social programs had only been fodder for randomized controlled trials on an ad hoc and occasional basis before the 1990s, and much of the research that *had* been carried out was either on too small of a scale to enable much statistical power (Rockoff 2009; Hedges and Schauer 2018) or had been carried out in development contexts that allowed for ethically questionable policy interventions (de Souza Leão and Eyal 2019). While economists had long recognized the potential value of experimental methods as the discipline's theoretical paradigm calcified and the appeal of empirical research took root, to actually design and implement an experiment required vast resources and coordination that were rarely available, leading to the policy-based evidence paradigm reliant on quasi-experimentation.

At the same time, for many economic experts, experimental evidence has remained the “gold standard” for estimating causal effects of policy relevance. Even researchers whose work is generally more descriptive and only adjacent to the core of academic economics have expressed to me that RCTs are the most useful policy instruments in their methodological toolkit. As one health policy expert explained to me,

“There *are* some really *big* attempts at doing causal inference work, particularly RCTs that are incr...I mean an RCT is relatively easy to understand. Think

Oregon Health Insurance Experiment, right?...so powerful, so robust, um, *sea change* in policy debates. Um, you know, who knows, like...it's just a huge, it was just a *very big deal* to have those studies, right?"

Broadly speaking, the attitude economists have continued to express throughout the credibility revolution is that while evidence created by methods such as difference-in-difference or regression discontinuity is analytically a step up from purely descriptive or theoretical work, RCTs are still preferable where it's possible to carry them out.

To that end, one area where economists have exercised influence inside the U.S. policy apparatus is in setting up new federal agencies to support experimental research on a smaller scale. Berman (2022) meticulously documents how economists trained in techniques such as cost-benefit analysis were able to infiltrate the federal branch and institutionalize an "economic style of reasoning" in various agencies throughout the 1960s and 70s. Similarly, during the George W. Bush and Barack Obama administrations, experts were able to ensconce an updated version of the economic style in key agencies responsible for evaluating social policy programs nationwide: the Institute of Education Sciences and the Center for Medicare and Medicaid Innovation (also known as the "Innovation Center"). These agencies regularly collaborate with and fund academic research dedicated to experimentation, making possible an array of smaller-scale RCTs that otherwise never would have been carried out.

The Institute of Education Sciences (IES) was established in 2002 as part of a companion piece of legislation to No Child Left Behind, the Education Science Reform Act. In contrast to previous research agencies set up within the Department of Education, its structure and purpose are more clearly devoted to a particular definition

of “science”: “it is currently unimaginable that someone would be appointed as IES director without solid quantitative research credentials as it would be for a science historian or workaday physician to be appointed head of the National Institutes of Health” (Whitehurst 2018, 125–26). Whereas historically much federally-funded education research was overseen by political appointees and career bureaucrats, IES was set up to mimic the academic field, with a thorough external peer review process designed to guarantee quality and shield research from charges of partisanship (Whitehurst 2018, 126). For economists of education, the historical absence of such an agency was considered an impediment to their gaining a foothold in the policy process, and in interviews a number of economists expressed admiration for the agency as they consider it to have accelerated research progress in the field.

In particular, three functions of IES have made it vital to the production of policy-based evidence. The first is the “What Works Clearinghouse,” a publicly accessible, standardized tool that “rate[s] randomised field trials as the most rigorous research design, enabling randomised trials to meet its highest standards ‘without reservations’” (Hedges and Schauer 2018, 272). Consistent with the policy-based evidence paradigm, designing the agency in this way required WWC officials to “create a clear definition of ‘rigorous research’” (Hedges and Schauer 2018, 272). In addition to its focus on randomization, the WWC stands out from previous federal education research agencies due to its sheer *scale*: as of 2018, Clearinghouse officials had reviewed over ten *thousand* research reports and identified some 350 that met its standards for causally-identified design (Whitehurst 2018, 127).

Beyond the WWC, which assesses the quality of externally conducted scholarship, IES also has its own in-house research capabilities for carrying out impact evaluations. Prior to the agency's creation, in the nearly 50 years that the federal government had a cabinet-level Department dedicated to education, only two impact evaluations that met the evidentiary standards of a randomized controlled trial or quasi-experimental research design had ever been conducted *by* the federal government itself (Mosteller and Boruch 2002). The IES has dramatically ramped up the government's ability to carry out evaluations, with several dozen studies having been implemented in its two decades of existence (Whitehurst 2018, 127). The evaluation style favored by IES is again consistent with the policy-based evidence paradigm, with such a rigid commitment to ideological non-partisanship that results sometimes directly contradict the policy goals of the current President and Secretary of Education (Whitehurst 2018, 127–28).

Finally, and perhaps most importantly in terms of promoting a specific agenda in the economics of education, IES has a research *training* arm. Since the mid-2000s, IES has spent hundreds of millions of dollars on grant funding for graduate training programs that accustom future education researchers to the stylistic norms of causal inference (Whitehurst 2018, 129). As one education policy expert explained to me,

“IES started making these grants in causal training, in methods training...I would say that it has caused a causal *revolution* in sort of, education policy research. Um, it was a very effective grantmaking program in that sense. Um, and obviously IES references you know, econometric, rigorous causal studies in their grantmaking and so, IES in a lot of ways, has funded a lot of the graduate

students and postdocs and faculty who then can go to AEFPP [the American Education Finance and Policy annual meetings], and so I think in some ways, indirectly, it has made it into a more causal and econ-y type conference, even though a lot of the folks who go *don't* have econ PhDs” (Economist #36)

In this way, we can see how economics becomes enrolled in the policy-based evidence paradigm through these funding streams: on the research *supply* side, IES incentivizes particular methodological approaches to education policy research. Whether actors with decision-making power in the K-12 education system ultimately are attuned to causal findings and elect to implement reforms on the basis of such research is a separate matter; existing scholarship suggests that this is generally not the case as of yet (Nakajima 2021).

Roughly a decade after the creation of IES, in 2010 the Affordable Care Act established a similar research arm within the Centers for Medicare and Medicaid Services (CMS) at the Department of Health and Human Services, the Center for Medicare and Medicaid Innovation (CMMI; also commonly referred to as the CMS Innovation Center). CMS, the broader agency within which CMMI is housed, was itself the product of a 2001 reorganization of the Health Care Financing Administration that had jointly administered the two major U.S. health beneficiary programs since their bureaucratic consolidation in the 1970s (Greenberg 2003). CMMI has a broad mandate to implement and evaluate a variety of healthcare reforms, not least of which is the Value-Based Payment mechanisms surveyed earlier in this chapter. On a technical level, CMMI is the mirror image of IES but for healthcare, with its staff and various

contractors engaged in experimental reforms to state and federal healthcare payment structures that are designed to improve care delivery as efficiently as possible.

To that end, CMMI's structure and aims closely reflects the priorities of economists. Given the stagnant and burdensome history of U.S. healthcare reform, Congress appropriated CMMI roughly \$1 billion annually through the ACA, providing the agency with the authority to experiment with payment plans that experts believed might bring down overall costs in the healthcare system (Levy, Bagley, and Rajkumar 2018). While the "value"-oriented programs CMMI implemented, such as the much-ballyhooed "Accountable Care Organization" model, were initially only participated in on a voluntary basis by recipients of Medicare and Medicaid funding, experts at the agency found that this generated too little data to reach sufficient statistical power for economic analysis (Levy, Bagley, and Rajkumar 2018, 1664). In 2015, CMMI began mandating that providers in certain regions participate in experimental payment schemes. While the medical establishment and Congressional leaders were largely opposed to the creation of yet more mandated insurance practices, once again this was to the benefit of economists and the policy-based evidence paradigm.

In addition to having directly launched several dozen experimental new payment models across the U.S. healthcare system in its decade-plus in existence (Werner et al. 2021), like IES, CMMI also awards grants to researchers interested in evaluating *piecemeal* changes to the healthcare system. As one economist at a major D.C. think tank told me,

"Generally, [health economists are interested in] improving the health care system, so they really want to learn what works and what doesn't so it's really

this iterative process where...many care programs at CMS, they're relatively small, intimate, it's not like the Affordable Care Act like this huge role, encompassing healthcare for what it is, like a small program where they kind of give incentives to providers and they change a small thing and how they reimburse for certain types of healthcare...I think that's really interesting, it's kind of all this analysis laboratory where all these little policies are being implemented, and then we have our competitors evaluate them to kind of really generate this body of knowledge...*this is kind of where my personal motivation is coming from*" (Economist #34, emphasis mine).

To make the results and analysis of CMMI experiments palatable to the public, the agency is staffed by government officials fluent in both the language preferred by lobbyists and Congressional leaders, as well as economists and policy experts. As the aforementioned economist explained,

"They [CMMI staff members] have like a pretty good understanding, I mean they actually sometimes have a background in economics, so they might not have a map and a PhD but they might have a master's in economics, or that's a master's in public health, public policy, so they have, they definitely have a good understanding of causal inference method, they probably have taken some statistics classes and they have a pretty good understanding, so they are really appreciative [of] the work that we [economists] do" (Economist #34).

In this way, the work of CMMI, while formally dedicated to incremental policy reform, is subordinated to the desire to carry out causally-identified research and produce policy-based evidence.

In comparison, where the brief history of CMMI diverges from IES is in the susceptibility of the two agencies to politicization and partisan currents in the federal bureaucracy. Whereas IES has largely maintained political independence throughout its existence, with impact evaluations sometimes contradicting the interests of the governing administration (Whitehurst 2018, 127–28), the role of CMMI has changed from one administration to the next. In part, this likely reflects what was until very recently a bipartisan consensus around K-12 education reform: while Congressional leaders and political appointees sometimes emphasize culture war issues, technocrats across both parties have been similarly focused on educational “accountability” and standards-based reforms. By contrast, throughout the 2010s, healthcare reform was a lightning rod for bipartisan disagreement not just in the public sphere, but among experts as well, with robust debate among economists committed to either further privatization of the insurance market and hospital consolidation or expanding coverage through something like a public option (Cohn 2021).

The partisan sway at CMMI is reflected not in its baseline technical focus—the agency’s leadership and staff has emphasized “value” throughout its existence. Rather, there have been substantial differences in the ends toward which policy-based evidence is produced. During the latter half of the Obama administration, CMMI’s initial experiments reflected the technocratic, cost-effectiveness analysis approach favored by the vaunted “Obamanauts” (Levy, Bagley, and Rajkumar 2018; Robin 2019). Later, when Trump capture the White House and the GOP narrowly failed to repeal the ACA in its entirety, consultant Seema Verma was brought in to oversee CMS. Verma was renowned for having imposed austere Medicaid policies in red states being forced to

expand the program due to popular mandate (II 2017), and she wasted no time in bringing a personal friend of Trump son-in-law Jared Kushner to administer CMMI, Adam Boehler (Lahut 2020). Under Boehler’s direction, the agency focused on implementing a payment scheme known as “direct contracting” that would privatize *Traditional* Medicare, separate from the bipartisan-supported privatization efforts occurring the expansion of the Medicare Advantage program.

In another ping-pong maneuver, the Biden administration once again reset the priorities of CMMI in early 2021. While the administration did not discard the Trump-era direct contracting provisions (much to the consternation of many in the medical community), they did revamp direct contracting models—as well as CMMI’s overarching mission—to focus more closely on health *equity*. On Day One of the Biden administration, the incoming President had signed an executive order calling for agencies across the federal bureaucracy to build means of accounting for equitable outcomes into their missions (The White House 2021). Agencies such as CMMI, which are particularly attuned to the latest trends in social scientific research, were particularly well-positioned to reorient their agenda toward “equity.” While a fuller accounting of these developments will be presented in the concluding chapter, suffice it to say that this amounted to a fundamental shift in CMMI’s funding priorities—as the economist who described the agency’s work explained to me, the network of research contractors surrounding CMMI shifted almost entirely from studying the effects of Medicaid work requirements, a GOP priority during the Trump years, to how insurance payment schemes could promote ‘equitable’ health outcomes.

Coda: The Success of Market Design

Beyond the numerous epiphenomenal means through which economists have gained a foothold in social policy decision-making are more direct channels of influence. Most conspicuously, since the 1930s, economists have been called upon to serve directly in the White House in an ever-expanding array of official capacities as technocrat-laden federal agencies have multiplied over the years (Bernstein 2001; Bowmaker 2019; Barber 1996). Slightly more under the radar, economists are regularly appointed to various commissions and technical panels such as the Medicare Payment Advisory Commission that determines the rates at which professionals are paid, and thereby the government's outlays toward key social services (Laugesen 2016). In Hirschman and Berman's schema, these means of influence amount to "professional authority" or "institutional positioning" (Hirschman and Berman 2014). By contrast, the comparative cases reviewed so far in this chapter make up the "cognitive infrastructure" of policymaking, though economists' role in these cases has been limited either by design or due to push back from other actors in the social policy domain.

The last two cases in this examination of economics and social policy are ones in which economists have quite directly been involved in the design of markets. Mechanism design, a subfield of economics with roots in game theory, interprets policy as a series of information problems that can be solved with auctions or matching mechanisms. Sociologists and STS scholars have previously examined how economists have designed markets for airport slots (Nik-Khah and Mirowski 2019), communications bandwidth at the Federal Communications Commission (Mirowski and Nik-Khah 2007), and electricity allocation (Breslau 2013). Here, I focus on two issues relevant to

nationwide social policy in the U.S.: how to assign students to schools and which doctors should be matched to which residency programs. Both of these matching problems have been addressed with “deferred acceptance algorithms” (Roth 2008), a methodological approach first pioneered for thinking about college admissions and marriage stability in the 1960s (Gale and Shapley 1962). Once again, we will see how the relationship between economics and social policy is more seamless and top-down in healthcare than for educational interventions.

The desire to create matching mechanisms for student assignment to schools comes out of the same ideological space as the charter movement: school choice. Students in any urban metropolis are naturally located close to any number of elementary and secondary schools. Traditionally, districts across the country have assigned students to schools by having students and educational institutions mail their preferences back in forth. Economists considered this system to be cumbersome and inefficient, and they worried that many schools prioritized students’ first choice to such an extent that it encouraged students to hide their “true preferences” (Roth 2015, 153). Thus, when the game theorist and experimental economist Alvin Roth and his colleagues were commissioned by the New York City public school system to redesign its high school selection mechanism, they jumped at the chance.

In the mid-2000s, Roth’s team of economists created centralized clearinghouses for school choice in both New York City and Boston. The way Roth tells it, their expertise was primarily helpful because it solved a set of information problems created by school administrators and students (and their parents) not being able to fully trust one another (Roth 2015, 153–65). This seems to be economics at its best: technocratic,

devoid of ideology, and useful for engineering social reform to maximize everyone's utility. However, if one looks more closely at student assignment mechanisms, it becomes clear that this is related to a broader educational agenda that seeks to marketize school systems by prioritizing "choice" over student outcomes—particularly when it comes to students from disadvantaged backgrounds. The creation of the Institute for Innovation in School Choice has led to the spread of market design for school systems across the U.S., but while school assignment processes have been made more efficient from economists' standpoint, the mechanisms that sort students into better and worse schools based on categorical inequalities have not been addressed (E. A. Harris and Fessenden 2017).

On the healthcare side, economists' involvement in market design actually long predates the school assignment mechanisms, but Roth and his colleagues became the chief consultants in charge of redesigning the medical match just a few years earlier, in the late 1990s. The National Residency Matching Program has actually existed since the 1950s, when it was created to ease the immense competition for medical residents that led to the best hospitals quickly snatching up all of the most-qualified candidates and depleting the labor supply for doctors elsewhere (Roth 2003). The NRMP hired Roth to redesign the program in the 1990s due to concerns from certain types of residents—for example married couples—that the existing algorithm discriminated against them by not producing the "stable matches" that were created without fail for the majority of residents. The changes Roth made to the program were accepted by the NRMP and adopted by its clearinghouse fairly quickly, and this system has been in place ever since. However, as with the market design approach to school assignment,

there has been pushback some arguing that the system continues to prioritize the market principles favored by economists at the expense of other considerations.

In 2002, a lawsuit was filed against the NRMP arguing that while the clearinghouse sorted residents efficiently, it constituted a monopoly that was anticompetitive and made it practically impossible for medical residents to organize and bargain for better labor rights (F. H. Miller and Greaney 2003). This brought market design into contact with another domain in which economics has been increasingly connected to public policy: antitrust. In 2004, a piece of federal legislation essentially doomed the lawsuit against the NRMP by framing it as economically efficient, with congressional findings indicating that “[a]ntitrust lawsuits challenging the matching process, regardless of their merit or lack thereof, have the potential to undermine this highly efficient, pro-competitive, long-standing process” (U.S.C. 2004). By defining the NRMP as consistent with U.S. antitrust law, this legislation made it almost impossible for the plaintiffs to succeed in federal court. While the 2010 Affordable Care Act would improve medical residents’ labor rights somewhat by placing limits on things like the amount of hours surgeons could work consecutively, this remains an issue on which the principle of market efficiency consistently wins out.

These two cases demonstrate most clearly how economists have influenced social policy in the last few decades: by engineering markets to behave as efficiently as possible. While the algorithms used at school choice clearinghouses and the NRMP have no doubt solved some of the information problems that made these processes so difficult, in each case there are inequality-related concerns that appear not to have been factored into the design processes. Though it is tempting to think of that as par for the

course for economics, this has also happened at a time when other areas of the discipline are thinking about inequality more than ever before (Hirschman 2021). Going forward, it will be interesting to see if economists are able to incorporate concerns beyond efficiency into market design frameworks, and whether this will be more possible at the local level as with school assignment or nationwide, like with the NRMP. As it stands, economists are just beginning to apply the tools of market design in thinking about insurance marketplaces (Einav, Finkelstein, and Tebaldi 2019), and CMMI is likely to become more involved in such initiatives as the Medicare Advantage program continues to grow and subsidies continue for the ACA exchanges.

Reflecting Back: Fragmented or Coherent Social Structure?

As this dissertation has argued throughout, the relationship between the field of economics and public policy in the U.S. is a mutually constitutive one. Where economists argue for evidence-based policy, I observe the presence of policy-based evidence. Over the last hundred years or so, economics has diffused throughout academic networks and become a key source of policy knowledge at various levels of government, in particular at the federal level (Berman 2022; Hirschman and Berman 2014; Bernstein 2001). At the same time, policy-making has had “looping effects” (Hacking 1996) on the field of economics: as the institutions of government have evolved, economists have—more often than not with a time lag—adapted their ideas to changed political circumstances.

What should be the takeaway from examining the recent history of economics? We have seen different kinds of relationship between economics and U.S. social policy

in the twenty-first century: one in which economics creates policy devices to intervene in labor markets, another in which the design of social institutions around market principles spurs new advances in the economics discipline, and an example in which economics uses matching algorithms to create markets in a domain that was previously governed by other principles. Does this tell us anything other than the fact that economics and social policy are intertwined in ways that make influence possible in either direction? To answer this question, we need to think comparatively about the social domains that these relationships are established over: education and healthcare.

On the education side, this trio of initiatives is much more coherent as a research program in economics. Consider, for example, that the School Effectiveness and Inequality Initiative at MIT not only includes economic experts on VAM, charter schools, and school assignment, but actually produces cutting-edge research that uses blends these interventions together. One study used the matching mechanism that assigns students to charters or regular public schools in Boston as leverage to estimate value added (Angrist, Hull, et al. 2017). Other research on charter schools in Florida has sought to calculate their impact on student achievement, again using a measure of teacher value added (Singleton 2019). Even though VAM has mostly failed as a policy device and charter schools are being met with increasingly militancy by teachers unions, new developments in social policy continue to push a well-defined research agenda for economists who work in this area.

In healthcare, the situation is very much the opposite. VBP, Medicare Advantage, and resident matching are three wholly separate research programs with very little direct overlap. The primary difference between scholarship on healthcare and education

is that the economics of education is in general more self-referential and detached from empirical realities of program implementation, whereas health economics is a more fragmented subfield that allows economists to play different social roles—either as policy consultants, detached academic researchers, or something in between. That health economics is able to be so flexible is not to its detriment, and this may account for why the social program initiatives that health economists have engaged with have proven more durable and palatable to the medical establishment. This is in fact consistent with what other sociologists have written about the field of economics writ large—by not posing purely as academics or policy consultants, economists have managed to maintain a sense of superiority by engaging in a never-ending balancing act (Reay 2012; Fourcade, Ollion, and Algan 2015).

This finding—that the relationship between policy implementation and economic expertise has been tighter in healthcare than in education in the twenty-first century—is consistent with earlier periods as well. When economists first began studying social policy topics in the 1960s, they had a profound influence on the U.S. healthcare system (economists working in the Kennedy and Johnson administrations were crucial to the design of Medicare and Medicaid). Meanwhile, the major educational legislation passed in the 1960s was done so mostly without relying on economic expertise, and the language in both the Elementary and Secondary Education Act and Higher Education Act was basically devoid of economic rhetoric (Berman 2022, 112). From the 1970s through the 1990s, again economics featured heavily in debates over expanding healthcare access, creating new healthcare delivery systems such as HMOs, and how best to administer insurance payment. In the domain of education policy, debates

focused more on issues such as desegregation and bussing, areas where economists cannot claim much expertise. It was not until the 1990s and the emergent debate over class size reduction—which prominent economists disagreed about (Krueger, Hanushek, and Rice 2002)—that the field of economics again began to take education policy seriously as a domain of inquiry.

One final comparative observation to make is that while the last few decades of research in economics on healthcare have been related to top-down, system-wide interventions, initiatives such as VAM, charter schools, and student assignment mechanisms have all been local. This reflects a general difference in the organization of education and healthcare policy, but may also account for why the more fragmented health economics field has been more successful than a coherent education policy program. The detached posture of the economics of education aligns it closer with the ideal of “mechanical objectivity” that is usually valued in quantitative expertise (T. M. Porter 1995), but also tends to pit economists against other professionals in this domain. In other words, we can see in these cases how building a coherent knowledge base across multiple policy topics in the same field is not necessarily conducive to policy influence. At a time when expertise appears increasingly to be in crisis (Eyal 2019), this should not be surprising.

Conclusion

Where Are We Now in the Economics of Social Policy?

The previous chapter argued that the increasingly laser-like focus on causal inference and emphasis on a discourse about ‘rigor’ has resulted in economics becoming increasingly decoupled from an ideologically straightforward social policy agenda. Deploying the language of Bayesian statistics, economists frequently discuss policies in terms of ‘priors’ that can be reinforced, discarded, or altered upon the release of a new working paper in the National Bureau of Economic Research database or finding reported at a major conference. In contrast to what we learn from rich histories of the Chicago School of Economics (Van Horn, Mirowski, and Stapleford 2011), Mont Pelerin Society (Burgin 2012), and the systematization of quantitative economics (E. R. Weintraub 2002), the economics of today is simultaneously more ideologically malleable when it comes to policy matters *and* technically standardized in terms of methods. Economic theory, often maligned in left of center discourse as simplistic and crude in application, is increasingly less central even to publishing in the field’s top journals (Biddle and Hamermesh 2017; Hamermesh 2013; 2018), which have valorized ‘credibility’ and ‘clever identification’ as a seemingly more sound means of doing science.

Economists themselves credit this shift with making the field’s insights more useful to those working to implement public policy (Angrist and Pischke 2010). In interview after interview, economists described to me how their field’s emphasis on empirical detail at the expense of theoretical abstraction has in recent decades

improved its standing as a policy science. And yet my argument about policy-based evidence is a tangential one: yes, economists have become more interested in the minutiae of social policy programs, but at the expense of projecting a well-defined policy agenda. In focusing analysis on programs already enacted, economics has become “retrospective, rather than prospective” (Economist #33). If economics has become the language of U.S. public policy overall, as Berman (2022) argues, the position economists take on any particular issue has also become increasingly murky, dependent on a series of datasets and technical details. If the old joke that an economist proposing how to open a can on a deserted island began by asking one to ‘assume the existence of a can opener,’ we might now say that economists would start by asking: if the can has been opened, how can we determine what caused it?

This concluding chapter accomplishes three primary tasks. Firstly, I summarize continuities and changes that have occurred in the economics of social policy since the 1950s. While I have traced some key, persistent differences between health economics and the economics of education, there have also been common shifts in terms of how experts identify with their specialties—the *habitus* of being an applied microeconomist has changed considerably along with methodological advancements and the diffusion of economics as a style of reasoning (Berman 2022; Hacking 1994). Second, based on my interviews with economists and analysis of recent publications, conference proceedings, and developments in U.S. social policy, I inquire into what constitutes the state of the art in economics and what sort of issues the field appears ready to tackle going forward. This is directly connected to the third goal of the conclusion, which is to take into consideration how the COVID-19 pandemic and related political developments from

recent years have changed priorities in the economics of social policy and its relationship to adjacent fields. As the dissertation has already made clear, policy change and variation is the lifeblood of microeconomic research in the twenty-first century. The pandemic is no exception: it has radically altered the kinds of data collected and thereby questions asked for economists whose primary interest is in the healthcare and/or education systems. Nearly every expert I spoke to for this project focused on its importance at some point during their interview, so to ignore its effects would be an incomplete analysis. In particular, my research has revealed the extent to which temporality is central to the relationship between economics and social policy, and the way in which a crisis moment upends how policymakers experience the flow of time is important to consider. How has economics responded to the compressed temporal demands that the pandemic brought into being, and what effects will this have on the future of governance?

Transformation in the Microeconomic Habitus

As this dissertation has documented, “health economics” and the “economics of education” emerged as monikers in the 1960s and within a few years, observers were able to categorize a substantial volume of research output as belonging to one subfield or the other (Culyer, Wiseman, and Walker 1977; Blaug 1978; 1970b; 1966; 1964). At the same time, it was uncommon for an economist to *identify* as a “health economist” or “economist of education” before the 1990s. My tracing of the gradual emergence of this subfield identification since the 1950s demonstrates how, as economists have erected (porous) boundaries within the broader disciplinary field based on shared

understandings of social institutions and methodological approaches, they have re-conceptualized the meanings of these subfields via “looping effects” (Hacking 1996). An economist receiving a PhD today might have received training in labor economics or industrial organization, but also a robust exposure to the healthcare and education systems as social institutions in which economics is just one form of expertise. I argue that this change in the microeconomic habitus toward greater specialization is not only a key feature of the field’s overall shift away from a heavy emphasis on abstract theorization, but also reflective of the policy-based evidence paradigm.

As described in Chapters One and Four, health economics has persistently been less coherent, with a conceptual split between research focused on health outcomes and the healthcare system having been institutionalized early on in the subfield’s development. While the NBER Program in Health Economics was established in 1966, the Health Care Program was created much later, in 1990. A longtime health economics specialist told me that the Health Care Program was created at the explicit urging of NBER Director Martin Feldstein and that “it didn’t happen organically...it was something he wanted” (Economist #32). Similarly, while the *Journal of Health Economics* was founded in 1982, a more sweeping attempt to systematize health economics came in the 2010s with the creation of the American Society of Health Economists, which features its own flagship journal, an annual medal awarded biennially to an economist under 40 who has made significant contributions to the subfield (mirroring the vaunted American Economics Association’s John Bates Clark Medal), and an annual must-attend conference for participants in the subfield.

In interviews, more established economists pointed to a handful of figures whose careers took shape in the 1990s as being instrumental to the inception of “health economist” as an identity: Jonathan Gruber, David Cutler, and students of theirs such as Amy Finkelstein. These were the pioneers who began teaching standalone courses of health economics and bringing a deeper institutional knowledge of the healthcare system into empirical research. And yet, while at the time of this writing health and healthcare are some of the most-studied topics in microeconomics, much like the way things played out in the 1960s, health economics lagged the economics of education in adopting the tenets of the “credibility revolution” and shifting focus to causal research design. As one well-renowned health economist told me, “for me, it [the credibility revolution] was less of a revolution because it was the language I grew up speaking...in health economics, the diffusion of these ideas was slower” (Economist #11).

Meanwhile, though I have argued throughout this dissertation that the economics of education has always been a more coherent intellectual subfield, it was nevertheless similarly not commonly adopted as an identifier within the broader disciplinary field until relatively recently. The NBER Economics of Education Program began much later than its counterparts in Health and Healthcare, with annual meetings and sponsored conferences having commenced in 2002 (Hoxby 2003). The *Economics of Education Review* began publishing in 1981, just a year before the *Journal of Health Economics*. But the association that today serves as the core organizing apparatus for research in the economics of education—the Association for Education Finance and Policy (AEFP)—only began publishing its flagship journal in 2006, and as one economist explained to me,

“there’s an association that used to be called the Education Finance Association [now AEFPP], that was about as close as you could get to an economics of education association, um, that was mostly *not* economists. It was mostly lawyers and policy analysts and people like that, working on school finance cases, so economics of education was *very* narrow...that’s into the 90s, so the transition occurred...really in the mid-2000s” (Economist #10).

The same economist explained to me that as more experts trained in cutting-edge econometric methods for establishing causal inference entered the education policy space, many of the aforementioned “lawyers and policy analysts” left out of frustration with the methodological transformation.

While the economics of education is today largely a well-defined area of inquiry replete with self-proclaimed experts, the subfield’s policy prospects remain murkier than health economics. This will be explored further in the next section of the chapter, but suffice it to say that the economics of education serves as something of a “negative case” (Emigh 1997) when thinking about the ties between economics and policy influence.⁷³ Even some of the most successful experts who have shepherded the economics of education through the “credibility revolution” and into the policy-based evidence paradigm have expressed frustration with the state of the subfield:

“A lot of the low-hanging fruit has been picked...economics’ perspective is narrow” (Economist #10).

⁷³ Thanks to Rebecca Emigh for pointing this out to me.

“It’s been a little frustrating, to be perfectly honest...in terms of implementing findings, it’s been rather uneven...it’s really hard to evolve policy change, even if you have some evidence if it’s effective” (Economist #21).

In the economics of education, then, an attitude has developed that continues to prioritize econometric methods and the subfield’s standpoint when it comes to policy analysis, while also lamenting that change has been harder to effect than researchers had hoped. Unsurprisingly, the individuals that *do* manage to consistently influence policy are those who take a similar approach to many health economists who collaborate with physicians: for example, a more junior economist who acknowledges the political barriers to policy implementation and described leveraging foreign language skills and ethnic background to establish connections with several major school districts based on mutual trust.

That being said, in both the contemporary economics of health and education, experts consistently make a concerted effort to distance themselves from political partisanship. While most of the economists I spoke with for this project were happy to discuss their political affiliations and ideological proclivities, they also were careful to delineate clearly between *politics* and *policy*. The relationship between political ideology, policy preferences, and party affiliation continues to be a complicated issue in the field of economics, as right-wing thought has long been associated with a cabal of the discipline’s elite (Burgin 2012; Van Horn, Mirowski, and Stapleford 2011; Jones 2012), whereas specific policy ideas have been most successfully shepherded by the U.S. center-left (Mudge 2018; Berman 2022) and a majority of economists working today are registered Democrats (Gross 2013). What holds the field together is both a

common faith in the methodological toolkit and style of reasoning that experts are socialized to agree upon, as well as the belief that political forces can be bracketed out when considering any particular policy idea.

State of the Art in Health Economics

For health economists, the future is all about “value” (M. E. Porter 2010). And whereas the notion of “value” and how people apply evaluative judgments have varied, pluralistic meanings in social life (Lamont 2012; E. Anderson 1993), for contemporary economists the concept is generally deployed in a specific, normative framework.

“Value-based” care—such as the payment and incentive mechanisms reviewed in the previous chapter—compensate physicians and insurers at fixed rates meant to encourage keeping patients healthy, as opposed to fee-for-service arrangements that lead to “overutilization” of medical services, economists argue (Garrison et al. 2018). While interest in value-based approaches has been growing for some 15-20 years, in part due to the inscription of Value-Based Payment into the ACA, the last few years have served as an inflection point as economists’ interest in more traditional means of reforming the healthcare system and controlling costs have receded into the background.

Historically, the major pillars of health economics have been research analyzing the structure of the health insurance system, including its industrial organization, and scholarship that tries to analyze what the effects of the health system are on people’s health. This research will no doubt continue: in particular, economists remain interested in assessing how different healthcare systems are designed at the state level or

internationally (Hsiao et al. 2011; Hsiao 1992; 2007), and economists who specialize in industrial organization told me in interviews that the creation of the ACA marketplaces and growth of Medicare Advantage have raised new questions at the intersection of competition policy and causal inference. There is also perennial interest in scrapping the entire insurance network and starting anew with a universal, basic, catastrophic coverage system that would allow interested individuals to purchase additional insurance (Einav and Finkelstein Forthcoming). At the same time, other economists cite a number of reasons for why they are less concerned with the apportionment of insurance benefits compared to the field a decade or two ago.

Two factors account for this change of tides. First of all, the ACA, while seemingly a partisan Democratic piece of legislation, was in fact structurally quite similar to decades-old GOP healthcare reform plans dating back to the Nixon administration (Woolhandler and Himmelstein 2017). So despite all of the protestations to the contrary, Republicans ultimately have come to accept the legislation in an uneasy bipartisan consensus that has diminished the demand for major health system overhaul proposals from experts (McDonough 2022). And secondly, despite the tremendous energy dedicated to healthcare reform in the leadup to the 2020 Democratic primary, when it came time for the federal government to face the music and find a way to cover more people during a world-historical healthcare crisis—the COVID-19 pandemic—rather than transforming the system in a radical way, policymakers relied on the same tools that have always been deployed. Medicaid was expanded, the ACA individual exchanges and Continuation of Health Coverage (COBRA) program were further subsidized, and much of the rest of the safety net stayed roughly the same. For

economists, there is little incentive to continue focusing on the potential effects of widescale healthcare reform proposals when the government appears intent to simply enhance the capacity of the current fragmented, behemoth system during a crisis.

Instead, health economists have by and large embraced the idea that the goal of health policy should be to maximize the “value” that can be delivered to people throughout the healthcare system. This idea has deep roots in the work of Nobel laureate Thomas Schelling (1968), who coined the notion of the “value of a statistical life” as a means of estimating the monetary value of human life for use in economic research on cost-effectiveness across a variety of social policy domains (Banzhaf 2014). While health economists and government analysts have long been interested in such means of calculating value (Rice and Cooper 1967), as health reform efforts have languished and the likelihood of any significant overhauls to the U.S. safety net have become increasingly far-fetched, in the 2000s business economist Michael Porter articulated a renewed vision for how to design health policy on the basis of “value” (M. E. Porter and Teisberg 2006). According to Porter and a coauthor, the goal of this policy platform is to

“...move away from a supply-driven health care system organized around what physicians do and toward a patient-centered system organized around what patients need. We must shift the focus from the volume and profitability of services provided—physician visits, hospitalizations, procedures, and tests—to the patient outcomes achieved. And we must replace fragmented system, in which every local provider offers a full range of services, with a system in which services for particular medical conditions are concentrated in high-delivery

organizations and in the right locations to deliver high-value care” (M. E. Porter and Lee 2013).

Conversations I have had with economists confirm that this strategy of incremental reform based on the principals of cost-effectiveness have spread throughout the field. As one economist who served as a high-level adviser to the George W. Bush administration described the focus on value, “to me the goal is not how to spend less, it’s how to spend *better*...the problem is how much we’re spending for the outcomes we’re getting” (Economist #8).

By proposing to tinker with these various components of healthcare delivery, while leaving the structure of the insurance system fundamentally intact, economists stand to benefit from the value-based agenda in several ways. Firstly, it removes the need to engage in unpopular arguments about healthcare system reform that provoke political contestation and ideological posturing from audiences. While economists usually tend to couch debates about system design—private, single-payer, public option, etc.—in technical language, by taking debates about these topics off the table, economists can appear politically neutral without having to force the issue (Baicker, Chandra, and Shepard 2023). Secondly, if the healthcare system’s overall structure is not changed at the federal level and instead states are incentivized to experiment with more piecemeal, insurer-friendly reforms (as the Center for Medicare and Medicaid Innovation has encouraged since its establishment in 2010), changes to healthcare policy generate a wealth of fine-grained data while most other inputs into healthcare delivery are held constant. The emphasis on ‘value,’ then, is not only consistent with the cost-effective approach that economists tend to favor across social policy issues, but it

also enhances the variety of research possibilities for economists working within the policy-based evidence paradigm. This also leaves open the door for continued private encroachment on public-sector insurance through channels such as the Medicare Advantage program and conversion of Medicaid benefits to HMOs (Kelly 2023), which serve a secondary purpose of “value”-oriented healthcare: financialization (Mazzucato and Roy 2019).

Along similar lines, there is growing interest in the topic of medical price transparency, which the Trump administration took action on in late 2020. Similar to the expansion of Medicare Advantage, price transparency is a policy issue with bipartisan buy-in that is likely to create troves of new data for the production of policy-based evidence (Z. Cooper et al. 2019). The basic idea is a relatively simple one: while nearly every facet of the U.S. healthcare system is exorbitantly expensive, much of the pricing is black-boxed and nearly inaccessible for the average patient. Whether making price information readily available will improve care or not is a question that depends on one’s theory of consumer behavior, and not all economists are convinced that transparency will be a policy panacea and significantly affect healthcare costs (Glied 2021). Center-left policy experts are interested in price transparency as a means of eliminating “surprise billing” practices that they deem unfair, whereas economists on the right hold up price transparency as a means of introducing discipline and incentives to the experience of healthcare consumption.

More broadly speaking, in interviews, a number of economists pointed to price transparency reform as one component of a shift toward “supply-side reform” in healthcare policy (J. S. Hartley 2022; Teles, Hammond, and Takash 2021). This

emerging paradigm, which is variously referred to among policy thinkers as the “abundancy agenda” (Thompson 2022), “supply-side progressivism” (E. Klein 2021b) and “cost-disease socialism” (Teles, Hammond, and Takash 2021), holds that experts have spent too much time thinking about how to grow the welfare state and deliver benefits to people with subsidies and transfers. Instead, so the thinking goes, social policy needs to be conducted on the supply side: through initiatives that increase transparency, eliminate regulatory burdens to increase the supply of professionals (teachers, physicians, housing contractors, etc.), and encourage innovation in areas such as pharmaceutical development. As such, this supply-side approach to social policy reform fits neatly with the “value”-based agenda covered earlier in this section: by shifting away from questions about how people access healthcare, economists are opening up intellectual space to think about how to deliver the most valuable benefits as abundantly as possible.

State of the Art in the Economics of Education

As compared to health economics, the economics of education has been at more of a crossroads in recent years. The previous chapter demonstrated how the period from the late 1990s to the mid-2010s was a major revival for research in the economics of education policy, with a number of technical innovations and new sources of administrative data being made available alongside a flurry of federal legislation that brought education policy in line with economic reasoning. The suite of Value Added Models that were developed during this time became enshrined in dozens of state teacher evaluation systems. And yet, at the height of this sea of policy change—when

the Opportunity Insights researchers at Harvard were receiving widespread press attention for their work on VAM—the movement ran into a series of stumbling blocks that quickly cut it down to size. Harnessing the frustration and resources of teachers unions, lawsuits nationwide successfully challenged the legality of VAM and led to it being rolled back or eliminated entirely in most states (Griffen and Panofsky 2020; Paige 2016). Furthermore, while during the 2010s VAM was becoming an increasingly useful tool for publishing in outlets such as the *American Economic Review* or *Quarterly Journal of Economics*, it proved more difficult to implement in policy settings than education reformers had hoped.

In previous work, I have described the above scenario as a case of “ambivalent economization” (Griffen and Panofsky 2021). And that is exactly the feeling that economists of education generally expressed to me in interviews about the state of the subfield: ambivalence. In one particularly poignant interview, an economist who began our discussion boasting about the superiority of econometric methods for establishing causal inference later went on to describe himself as depressed about the subfield’s influence because “data are eating science” and “these things [education policy interventions] were imposed on public agencies that don’t want to use them” (Economist #3). While some have argued that “economization” or “economic imperialism” has rendered education policy entirely captured by economic experts (Allais 2012; Ellison 2014; Jabbar and Menashy 2022), both the relative failure of high-profile policy initiatives such as VAM as well as economist’s own attitudes about their work suggest that the situation is far more nuanced. And while economists such as Emily Oster became lightning rods in center-left media due to their support for keeping schools open

during the pandemic (Cartus and Feldman 2022), the extent to which this kind of work—which notably does *not* rely on the tools economists are best known for—has actually influenced policy decisions is minimal.

Interestingly, while the early chapters of this dissertation showed how the economics of education began as a more coherent subfield than health economics, in just the last several years that coherence has begun to dissemble. Experts across microeconomics certainly agree about the set of methodological tools that are most useful for analysis, but there is a growing dissensus about what outcomes of schooling are best reflective of educational quality. For years, standardized tests were used as an agreed-upon proxy measure, but in recent decades economists have grown increasingly interested in so-called “non-cognitive” measures developed by psychologists (Heckman, Stixrud, and Urzua 2006) to indicate successful “investment in human capital,” to use the economic terminology. This turn away from solely emphasizing standardized tests is partly born out of necessity: the movement to pare back testing in college admissions and educators’ inability to effectively administer tests during the pandemic have made testing data more difficult to come by and diminished their utility.

Ironically, the growing dissensus in the economics of education may actually serve as a means to propel forward new policy-relevant research in this domain. Throughout this dissertation, I have argued that what makes health economics a more influential and vibrant subfield is precisely the lack of total coherence. There have been disputes about the relationship between *health* economics and the economics of *healthcare*, how best to measure health status has long been a subject of consternation

despite the existence of metrics such as QALYs and DALYs, and the line between health economics and related fields such as health services research and public health have often been blurred. Perhaps for education research, the breakdown of coherence will enable more creative thinking on the part of economists when it comes to what kind of inputs and outputs in the education system are most worth studying. As Berman (2022, 230–31) points out with respect to thinking about student loan forgiveness during the Biden administration, on certain issues other kinds of experts are finally getting a foothold in policy spaces and economists will likely need to adapt to stay relevant in those conversations.

Consider, for example, the proliferation of rankings used to evaluate colleges and universities in the U.S. Sometimes this can appear comical, as with the *New York Times*' "Build Your Own College Rankings" tool developed in collaboration with Opportunity Insights (Bui and Ma 2023). And yet, the very existence of such a broad array of fine-grained data suggests that experts are now accepting of a more dynamic conception of educational quality than in the past (Espeland 2016). We see this in K-12 education as well: part of the story of VAM's failure is its incorporation into the 2015 Every Student Succeeds Act's "multiple measures" frameworks for education system evaluation that economists have wholeheartedly embraced as superior to VAM as a single metric (Close, Amrein-Beardsley, and Collins 2018). Thus even recent work from some of the most fervent supporters of VAM and school accountability takes into account "multiple measures" approaches as improvements on teacher evaluation and compensation programs (A. Morgan et al. 2023). Going forward, we should expect to see the economics of education develop further in this direction.

Commonalities Across Subfields: The Return of ‘Equity’?

In many ways, health economics and the economics of education have diverged in recent years in terms of the state of the art in each subfield. As the discourse of ‘value’ and cost-effectiveness has become further engrained in the policy work health economists are pursuing in the wake of the Affordable Care Act, the No Child Left Behind Act’s similar push to enshrine accountability measures into federal legislation via VAM wound up eventually backfiring. And yet in other ways both subfields are proceeding in similar fashions: specialists in the economics of health and education share with other microeconomists an interest in causal inference and hew closely to the policy-based evidence paradigm. Furthermore, despite the comparatively much larger volume of research being published regularly in health economics, researchers across these subfields have embraced the proliferation of new datasets and social policy programs as opportunities to advance economic research rather than attempting to foist an ideologically constrained, more abstract agenda into policy domains.

To that end, following Timmermans and Tavory’s (2012) recommendation to pursue “surprising” findings in qualitative data analysis, I discovered that the discourse around ‘equity’ that has emerged across various social sciences in recent years has begun to take root in economics. As I interviewed economists, I realized that when I asked about what questions and topics are state of the art in the economics of social policy, a good number of them brought up ‘equity’ unprompted. This was unexpected, as sociological research has documented that for decades, the trajectory in microeconomics has trended away from concerns with equity, justice, fairness, and

equality, and toward a more narrow focus on ‘efficiency’ and cost-effectiveness (Berman 2022; Griffen 2022). And perhaps even more surprising was the fact that the economists I spoke with saw little contradiction in attempts to commensurate between the emergent equity-focused research agenda and traditional concerns with efficiency.

While ‘equity’ has long lurked in the background of health economics—for example, the oft-overlooked Dorothy Rice was calling for more attention to be paid to equitable outcomes and ethical care as early as 1991 (Rice 1991)—the concept is now being operationalized in such a way that it comports with the policy-based evidence paradigm. As economic theory recedes into the background of policy analysis, economists need not build models that normatively aim for equitable outcomes into their research designs. Rather, programs designed to encourage equity at the corporate, local, state, or federal level can be analyzed using the tools of causal identification just as any other policy change would. Going forward, if the search for equitable outcomes catches on to the extent that my interview subjects indicate it likely will, it will be interesting to observe how and whether technical definitions of equity that emerge from neoclassical economics clash with pop-scientific conceptions of the idea, and how economists navigate this uncertain terrain.

COVID-19, Economics in Popular Media, and the Transformation of Governance

While policymakers themselves may not place as high of a premium on causal analysis—or social scientific research more generally—as economists would like (Nakajima 2021; Weiss 1977), such language has certainly filtered into public discourse. Take for example the proliferation of “Freakonomics”-style reasoning on bestseller lists,

newsletters, and blogs. This phenomenon arguably reached its apotheosis during the pandemic, when outlets such as the *New York Times*' daily newsletter "The Morning," usually penned by economics columnist David Leonhardt, frequently turned to "data-driven" economic analyses to explain various facets of the U.S. policy response (Bacharach 2022). Similarly, Brown University economist and author Emily Oster, whose three parenting books similarly approach the subject from a "data-driven" perspective, used her widely-read newsletter ParentData as a springboard from which to question epidemiological modeling deemed insufficiently rigorous for causal analysis (Cartus and Feldman 2022).

In general, the pandemic has unsettled relationships among forms of expertise and the jurisdictions that they previously laid claim to. This dissertation has of course demonstrated that economists have been increasingly invested in matters related to health and healthcare since the mid-twentieth century, but the social policy questions economists have historically asked have most generally been related to healthcare system design and the social determinants of health outcomes. Economists certainly have a long history of intervening in crises in the macroeconomy (which they also contributed to at the onset of the pandemic), and the modern history of economic crisis is closely related to the history of macroeconomic policymaking as a form of expert governance. Expert responses to distressed economies have been conceptualized as opportunities for progressive change (Barber 1996), as vehicles for the imposition of austerity measures (Mirowski 2013; Van Gunten 2015), or simply as consequential moments that reorient consensus positions around macroeconomic management (Farrell and Quiggin 2017; Fligstein, Stuart Brundage, and Schultz 2017). While these

cases differ across time and space, they are similar insofar as macroeconomic depressions are “eventful” features of capitalist economies (Sewell 2008) that have traditionally prompted the rapid enrollment of economic experts in crisis response. And yet, the tools and style of analysis favored by economists are not especially well-suited to the kind of policy questions posed by a rapidly spreading public health threat.

Meanwhile, the crisis that began in 2020 was not only precipitated by an event that occurred outside the formal economy, but it also quickly spilled beyond the terrain of macroeconomic institutions and into other realms of the social fabric. In contrast to management of “the economy” writ large (Hirschman, n.d.; Breslau 2003; Mitchell 2005; Shenk 2022), the crafting of social policy is not particularly time-sensitive and allows for evidence to build cumulatively over years before economists are likely to reach policy consensus. Take, for example, the case of the minimum wage: the first experimental challenge to neoclassical price theory models that assumed minimum wage laws would reduce employment in the U.S. was conducted in the early 1990s, and only after nearly 30 years and dozens of studies did a new consensus take root in the field (T. C. Leonard 2000; Manning 2021). Broadly speaking, the “economic style of reasoning” (Berman 2022) has been gradually institutionalized throughout federal agencies, universities, and think tanks over the course of decades, and is not particularly well-equipped to inform decisive policy action in the midst of a crisis.

This has not prevented economists from trying, and the effects can be disorienting for those used to the careful throat-clearing and pages upon pages of appendices that characterize research focused on causal inference. Oster’s work is a useful example: her published economic research is paradigmatic, reflecting precisely

the style of analysis required to garner scientific capital and impress colleagues in elite economics departments. Her research generally focuses on catchy topics that provide the opportunity to curate unique datasets for the application of causal analysis. In the ParentData newsletter and Oster's bestselling parenting books, she deploys the econometric toolkit to evaluate a wide array of childrearing practices in a kind of extended meta-analysis that frequently pits her expertise up against public health experts, physicians, and non-economist education researchers (Oster 2021; 2019; 2014). In podcasts and interviews, her economist colleagues heap praise on Oster, a child prodigy whose parents were also both economists and volunteered her as a research subject in early life, leading to a book about language development based on her speech patterns (K. Nelson 2006). Her penchant for approaching flashy, provocative topics with the disinterested toolkit of applied microeconomics has landed Oster in controversy before: for example, data collection issues plagued her early work on "missing women" due to Hepatitis B (Oster 2005a) as well as work arguing that HIV antiretroviral treatment in Africa was not cost-effective (Oster 2005b).

And yet, when it comes to Oster's intervention into COVID-10 public health debates, the carefully maintained dispassionate analysis appears to fall mostly to the wayside. Arguments about reopening schools from 2020 onward were particularly contentious and partisan due to the inability to contain the pandemic on display at nearly every level of government. They also presented economists with a dilemma: how could one carry out causal analysis of the effects a real-time, world-encompassing infectious disease would have on social and economic life? If the economics of social policy indeed operates in a "retrospective, rather than prospective" (Economist #33)

mode and generally requires years if not decades to have passed for analysis to pass methodological muster in the discipline, then how could one opine on a topic like reopening schools without resorting to ideologically-informed positions and personal preferences?

For Oster, threading this needle required carrying out a delicate discursive performance that crisscrossed the boundary spanning the academic field and popular media. Partnering with philanthropic organizations such as the Walton, Templeton, and Chan Zuckerberg Foundations, as well as the right-wing Mercatus Center and school principal and administrator organizations, Oster spearheaded a team of several dozen people to assemble a dataset that would track school reopening throughout the U.S. While this COVID-19 School Response Dashboard was more comprehensive than most other data gathered on these issues, it was an entirely voluntary project on the part of school districts themselves, which obviously skewed the data collection process and, according to numerous critics, led Oster to underestimate the risks of potentially exposing schoolchildren to the coronavirus (Cartus and Feldman 2022). This gave it the veneer of “rigor” and “credibility” associated with her academic economics publications, without the same level of precision and ability to control for confounding factors. In her popular writing, Oster was then able to leverage her notoriety to push repeatedly for reopening schools before much was known about the disease’s effects on children (Oster 2020b; 2020a), much to the consternation of the epidemiological community. A CDC memo written by Oster’s team in 2021 was even cited by Florida Governor Ron DeSantis in an announcement of a state change in education policies.

The case of Oster is instructive not merely as a warning sign for how economic research can lead policymakers to throw caution to the wind in a crisis, though numerous critics have argued precisely that. From the perspective of the sociology of expertise, we can observe how work that crosses this interstitial space introduces a kind of “cleft habitus” (Bourdieu 2008) in economics between academic research that carefully sticks to the rigid methodological standards of microeconomics and policy writing, where the possession of symbolic capital can trump the absence of quality data. Thus the way expertise is mobilized to frame the policy response to a crisis like COVID-19 depends not just on the ideological orientation of experts involved, but also practices of evidence gathering that affect the urgency with which experts advocate for state intervention. Much of the data collected for the COVID-19 School Response Dashboard was done hastily and piecemeal; while this certainly reflects a failure on the part of government agencies that Oster has expressed frustration with (A. Rothschild and Srinivasan 2020), it nonetheless remains the case that impartial data collated during a global crisis is far from an ironclad source of evidence as far as policymaking is concerned. At a moment when economists are influential policy experts and the practices of data collection are “fueling a transformation in political rationality” (Fourcade and Gordon 2020), sociology can provide a useful lens through which to understand how relations between expertise and political governance are being reassembled.

Another recent example that is instructive in this regard is the work of Jennifer Doleac. Doleac, who had already cultivated a large following within the “Econ Twitter” community, received wider public attention in 2018, with a controversial study of the effects of the harm-reduction drug naloxone. In the initial working paper, Doleac and a

coauthor argued that while naloxone has important harm-reduction properties, the drug also encourages opioid users to engage in riskier behaviors that can increase mortality (Doleac and Mukherjee 2018). Reaction to the paper was swift and condemnatory, with experts from across the fields of epidemiology and criminology, as well as some fellow economists, taking the opportunity to publicly accuse Doleac of ignoring the extant literature on naloxone access and making crucial methodological errors in interpreting her data (Frank, Humphreys, and Pollack 2018; Gertner 2018; Khazan 2018). In particular, the working paper's argument rested on the theory of "moral hazard" that, as this dissertation has demonstrated, has been a bedrock of health economics and U.S. health insurance policy for decades—making it a lightning rod for criticism from the uninitiated.

For Doleac's part, the paper served as an opportunity to forcefully state a position that the economist has become a fierce public advocate for: a "hierarchy of evidence," in which the modern toolkit of applied microeconomics sits at the top (Doleac 2019). According to this view, the hierarchy is organized as follows:

"...raw correlational analyses near the bottom, outranked by studies with rich control variables, then by studies using matched comparison groups, then studies using natural experiments to avoid selection bias (e.g., studies using sound difference-in-difference, regression discontinuity, and instrumental variable designs), then randomized controlled trials (RCTs) at the top" (Doleac 2019).

While many social scientists might immediately note that this statement contains no room for qualitative research of any kind, it also explicitly organizes the valuation of quantitative research in such a way that the most cutting-edge econometric techniques

outrank other forms of policy expertise. Furthermore, sociologically speaking it is noteworthy that not only does this position take its “hierarchy of evidence” as a stable consensus existing outside the flow of temporal development (Kim 1996), but it also discounts the opinions of numerous researchers such as many I interviewed *with expertise in economics* who argue that descriptive and even qualitative research is often more seamlessly translated into policy action.

To that end, what makes the Doleac case so interesting is how her penchant for selecting controversial research topics—not only naloxone, but others including algorithmic risk assessment of criminal offenders (Stevenson and Doleac 2019) and the use of DNA databases as crime deterrents (Doleac 2017)—has been leveraged beyond the confines of academic economics and into the domain of U.S. public policy more broadly. Similar to Oster, Doleac’s public work is demonstrative of the *entrepreneurial* opportunities that contemporary economics can afford to well-positioned individuals. The scientific capital that she has accumulated via publications in elite economics journals has been converted into symbolic capital with ventures including 1) the Texas Economics of Crime Workshop and Virtual Crime Economics seminar (both replete with Ted Talk-esque acronyms, TxECW and ViCE), 2) a signature policy shop, Doleac Initiatives, 3) a Justice Tech Lab located at Texas A&M University, 4) a Criminal Justice Expert Panel co-directed with the President of the Social Science Research Council, and 5) a podcast dedicated to the economics of crime titled Probable Causation (Doleac 2023). While Doleac’s own research has gained notoriety largely due to the controversy generated by her choice of topics and framing, her capacity to influence policy discourse is arguably more a result of her success in cultivation a multifaceted network

of expertise that spans domains with different audiences and key actors (Eyal 2013; Latour 1987).

While Oster and Doleac might seem like isolated individual cases, they are worth analyzing sociologically for two reasons. First of all, the gender dynamics involved differ considerably in comparison to earlier instances in which women made significant contributions to the economics of social policy. In the 1960s, experts such as Dorothy Rice, Barbara Cooper, Mollie Orshansky, Agnes Brewster, and Selma Mushkin often did not possess the same credentials as their male counterparts and made their marks by innovating with tedious number-crunching that was of more interest to policymakers and bureaucrats than those operating within the core of academic economics. By contrast, Oster and Doleac have been thoroughly trained and socialized into the heart of the disciplinary hierarchy—despite the fact that economics remains a thoroughly male-dominated field of inquiry (CSWEP 2021). The tension between the collaborative nature of work in STEM-adjacent scientific fields and the way rewards for “meritorious” research are allocated for individual creativity and assertiveness (Blair-Loy 2022) is increasingly evident in contemporary economics.

Secondly, both Oster and Doleac have accumulated significant media attention as social policy experts by wielding the language of causal inference in settings that are resonant to such arguments but where audiences are not always equipped to evaluate the claims being made. As Sarat and Silbey argue with respect to the “pull of the policy audience” in legal research, policy experts are often able to “separate policy from politics and operate as if policy focused research were not itself political,” such that “the desire to speak to power invites researchers to speak with authority in the political arena

while simultaneously denying and devaluing political discourse and public debate about the uses of power” (Sarat and Silbey 1988). This method of blurring the boundaries between policy and research while skirting around political considerations is certainly characteristic of Oster’s work on school closures. More recently, Doleac has elected to shift gears professionally by taking a new position as the director of the portfolio for crime research at Arnold Ventures, one of the largest funders of criminal justice research in the world. The move has been met with considerable outrage from non-economist researchers in the field of crime policy (Owermohle 2023). In both cases, we can observe how the policy-based evidence style of economic expertise is received differently depending on the audience in any given social field (Lamont 1987), as “public ideas” (Hallett, Stapleton, and Sauder 2019) regarding controversial topics resonate differently when they emerge decontextualized from the methodological straightjacket of academic economics.

This entrepreneurial model, in which major philanthropic organizations fund and package economic scholarship as publicly accessible snippets that promise low-cost, incremental policy solutions without fundamentally altering the social compact, has become a popular strategy in recent years. These initiatives are distinct from the traditional think tank model, which is a (relatively) bounded field of social action with its own logic of practice and set of well-developed norms (Medvetz 2012a). Instead, the entrepreneurial model is a network centered around an individual or small group of economists whose core research model is conceptualized as a ‘lab,’ a term that euphemistically describes a team of researchers who spend their time ‘cleaning’ data and running statistical software. Much as Latour and Woolgar described in *Laboratory*

Life (1979), these labs operate based on “cycles of credit” in which scientific capital accrues to the lab head and a team of postdoctoral researchers, graduate students, and so-called ‘pre-docs’⁷⁴ are paid a salary and the opportunity to have their name listed in paper acknowledgements or potentially as a coauthor, dependent on seniority.

In some circumstances, these entrepreneurial endeavors can receive considerable funding and public attention. The Opportunity Insights lab at Harvard, for example, which offers “policy solutions to the American dream,” includes among its donors the Bill & Melinda Gates Foundation, the Chan Zuckerberg Initiative, Bloomberg Philanthropies, and the W.K. Kellogg Foundation (Opportunity Insights 2019). The lab, whose research team includes dozens of pre- and post-doctoral workers, graduate students, and a bevy of affiliated experts who specialize in the economics of social policy, is prolific in its output. Credit for major papers from the lab (which can reach into the triple digits when accounting for appendices and figures) typically goes primarily to Raj Chetty, John Bates Clark Medal recipient and one of the youngest tenured professors in Harvard’s history. Chetty’s personal life and career has been profiled in outlets including *The Atlantic* (Cook 2019), *Esquire* (Warren 2010), and the *Wall Street Journal* (Cronin 2013), and through a deal with the *New York Times*, Opportunity Insights papers are released to great fanfare with animated graphics and write-ups in David Leonhardt’s widely circulated newsletter “The Morning.” And lest anyone mistake Chetty for an academic celebrity with more interest in selling his image than his work, *Esquire* assures readers that Chetty is “so boring that he wants to transform the field of

⁷⁴ There is a paper to be written about what the rise of ‘pre-docs’ says about shifts in the political economy of knowledge production in economics toward lab-based natural science models.

economics into an endeavor as rigorous as the most rigorous of hard sciences” (Warren 2010).

As far as other economists are concerned, what most stands out about the work of Opportunity Insights is not the flashy *New York Times* content or the lab’s impressive funding streams, but rather their access to *data*. For over a decade now, Opportunity Insights has been in possession of IRS data on some 25 million individuals in the U.S., a veritable cornucopia of information that allows the research team to precisely estimate the relationship between non-monetary life outcomes and wealth in a way that most economists can only dream of (Cook 2019). Then in 2018, it was reported that Facebook had made its user data available to Opportunity Insights in a move that raised concerns among privacy advocates due to the social media company’s complicated potential involvement in the 2016 U.S. presidential election (Scola 2018). While numerous economists emphasized the importance of data quality and structure to me in interviews, many of them (particularly those without access to the resources of an organization like Opportunity Insights) made it clear that they spend much of their time dealing with the ‘keys under a streetlamp problem’: fishing around for research questions and topics for which data were already available. Between the IRS and Facebook (now Meta) data Opportunity Insights has access to, the organization’s ability to provide fine-grained estimates of the outcomes of U.S. social policy initiatives is unparalleled in the field of economics.

Despite this, and consistent with the theory about policy-based evidence developed in this dissertation, Chetty and his team have not always been successful at swaying policy in the way Opportunity Insights purports to. Consider, for example, the

case of VAM reviewed in the previous chapter: the organization's analyses of VAM appeared online as working papers, replete with write-ups in the *New York Times*, just as the technology was being dismantled as a tool for making practical decisions in local educational settings. Beyond the VAM case, another economist explained to me how some of Chetty's most useful work, policy-wise, is actually descriptive research carried out separately from Opportunity Insights that is unable to generate the kind of causal leverage that they are best known for being experts in (Economist #31). These are: a) a 2016 *Journal of the American Medical Association* study that found a robust link between income and life expectancy in the U.S., which has helped spawn a large and growing research enterprise dedicated to the causes of shortening life spans (Chetty et al. 2016), and b) an analysis of the infamous housing mobility experiment Moving to Opportunity, which showed extensive geographic variation in terms of outcomes that raises a number of interesting causal questions for economic researchers going forward (Chetty, Hendren, and Katz 2016).⁷⁵ As with the cases of Oster and Doleac, the Chetty example demonstrates how economists navigate the gap between an ability to publish well-identified causal research in top journals and the way research is interpreted by media and policy consumers. When technical findings are translated across these spaces, the boundary between descriptive and causal work is easily blurred—but the rhetoric that economists deploy in claiming superiority as methodological experts nonetheless remains present.

⁷⁵ In one of the most colorful interviews I conducted (Economist #37), a very senior economist railed against Moving to Opportunity, which they considered a waste of time, resources, and expertise—but, they went on to argue, MTO was nevertheless great for economics because it led to so many papers published showing how badly designed the RCT was.

Of course, not every economist employing the entrepreneurial ‘policy lab’ model finds it successful. Consider a senior economist of education I spoke with whose research on VAM had received considerable attention in the academic community in the 2000s, leading to their recruitment by a major philanthropic foundation in the hopes that they would set up a successful policy lab at a different university. The foundation had set up similar labs affiliated with universities in eight or nine cities nationwide, with the express goal of funding RCTs and quasi-experimental research to influence education policy. Then, “a couple of years into the grant,” the foundation decided to change course and “they basically shifted their focus to more advocacy kind of work, recognizing that funding evidence-based policy is very much a long game” (Economist #21). This particular economist expressed a great deal of disappointment with the policy lab model, given that the prospect of keeping the lab going relies on private funding that can disappear at any point in time. To sustain the kind of effort that Opportunity Insights or Oster’s COVID-19 Dashboard project require for an extended period of time necessitates cultivating relationships with donors that economists typically do not have the appropriate training to sustain (in comparison to, say, grant-writing).

Post-2020 Currents in the Economics of Social Policy: What is Old is New Again

While making sense of how experts accumulate and deploy symbolic capital for policy purposes is an important—and often neglected—facet of intellectual work (Swartz 2013), the confluence of the COVID-19 pandemic and changing U.S. political currents has also catalyzed materials shifts in social policy that economists have served as conduits for. Since the early days of the Biden presidency, a number of pundits and

policy experts have declared that the neoliberal consensus has fractured—or at the very least, is in a steady state of decline (E. Klein 2021a; Levitz 2021; Yglesias 2022; Tomasky 2022). In part, this reflects the initial macroeconomic approach to crisis management that administration officials pursued, which was more aggressive than the means-test laden response that the Obama administration pushed through in the wake of the Great Recession. At the same time, there has been a broader shift in Democratic Party priorities since the beginning of the pandemic, one that has roots in changing notions of what it means to invest in human capital (Griffen Forthcoming). By way of conclusion, I propose that we can interpret these developments as both a changing of the guard in terms of what ideas are animating center-left politics in the U.S., as well as the latest iteration of a decades-old policy consensus that will be difficult to break out of without a more fundamental reconceptualization of *who and what social policy is actually for*.

Proponents of the view that U.S. policymaking is undergoing a transformation away from the neoliberal policy consensus centered around marketized social arrangements, public-private partnerships, and means-tested benefits programs point to the nation's pandemic response as indicative of this shift. In the wake of COVID-19, there were bipartisan efforts to provide much of the population with a slew of social supports including unconditional stimulus checks; enhanced unemployment benefits; heavily subsidized and expanded access to Medicaid, COBRA (which allows individuals to stay enrolled in health coverage after termination of their employment), and ACA exchange insurance plans, an enhanced child tax credit; free school lunch benefits; and moratoriums on student loan payments and evictions (R. M. Cohen 2021). Since Joe

Biden came into office, there have been serious deliberations among administration officials and in the U.S. Congress regarding issues such as forgiving hundreds of billions of dollars in student loan debt, creating a nationwide system of universal pre-K education, and increasing the federal minimum wage to \$15 per hour. While none of this amounts to a full suite of social democratic reforms, so the argument goes, making permanent the pandemic social supports and carrying out additional reforms to reduce economic burdens for the working and middle class would represent a paradigm shift in U.S. social policy.

While many of these policy initiatives would seem to contradict the basics of neoclassical economic theory—what economists refer to as their ‘priors’ in the Bayesian parlance that has become ubiquitous in policy discourse—the output of policy-based evidence has largely supported the reforms. The supercharged child tax credit, which put thousands of extra dollars into the hands of parents, kept millions of children out of poverty, while failing to disincentivize parents from working—as economic theory might have previously predicted .(Ananat et al. 2022; Parolin et al. 2021; Pilkauskas et al. 2022). Government-supported healthcare programs such as Medicaid, the ACA insurance exchanges, and the Children’s Health Insurance Program saw their enrollments soar when administrative burdens to access were lowered in 2020 (Donohue et al. 2022; Branham et al. 2022). The unconditional economic relief payments, which some economists feared would be misallocated toward too many wealthy professionals (Chetty et al. 2020; Chetty, Friedman, and Stepner 2021), served to solidify “household balance sheets,” a key indicator of economic stability (Clemens, Hoxie, and Veuger 2022; Parker et al. 2022). And the expansion of unemployment

insurance, which in the U.S. is a wonky state-level patchwork system that emerged during the New Deal, had welfare benefits and did not reduce employment in a statistically significant way—again, contrary to the expectations of economic theory (Marinescu, Skandalis, and Zhao 2021). In fact, the pandemic response policy with the most unambiguously negative results, as far as mainstream economics is concerned, was the so-called Paycheck Protection Program for small businesses, which wound up being a highly regressive support program for workers coming mostly from the top quintile of households (Autor et al. 2022).

Most of these programs have proved to be short-lived, with Congress citing budgetary concerns in declining to reauthorize them during the waning of the pandemic. And yet, given the initial findings economists have made regarding the efficacy of an expanded social safety net on outcomes, it is likely that there will be an onslaught of additional causally-identified research using pandemic policies as leverage in the coming years. The great irony is that given the nature of policy-based evidence—“retrospective, rather than prospective” (Economist #33)—by the time this body of evidence becomes conventional wisdom within economics, the window of opportunity to reestablish a semblance of these programs will have long passed. Policy-based evidence is more effective as a policy *engine* when it occurs in an iterative fashion: the state Medicaid expansions leading up to the Affordable Care Act, for example, filtered into an evidence base that catalyzed the legislation, which created new opportunities to expand Medicaid and analyze what works (Rocco and Kelly 2020).

Beyond the emergent accumulation of policy-based evidence, additional political machinations since 2020 have collided with the business-as-usual neoliberal agenda.

As Berman (2022, 230–31) has demonstrated, the conventional economic view on student loan forgiveness being a regressive policy that disproportionately benefits wealthy professionals is being challenged, not just by outsiders but by card-carrying economists as well. In early 2022, the Biden administration created the Department of Education’s first ever Chief Economist (Kvaal 2022). The economist tapped for the job, Jordan Matsudaira, was quickly tasked with assembling a team of researchers to provide analysis for the administration’s effort to forgive several hundred billion dollars of student loan debt via executive action, a move that stirred controversy among mainstream economists (Lowrey 2022; McHale 2022; Yannelis and Tracey 2022). Ultimately, the issue of whether student loans are forgiven en masse or not is not one that economists are likely to have much say over one way or another: instead, if political actors on the center-left are able to muscle policy through the legal system, it will provide economists with a veritable embarrassment of riches in terms of new data sources to mine and leverage for “rigorous” analysis.

On labor issues as well, the Biden administration has broken to some extent with its historical predecessors. The initial draft of the signature “Build Back Better” legislation included a proposal to raise the federal minimum wage to \$15 per hour, a move which would have nearly doubled the existing minimum. While the initiative ultimately was stripped out of the final legislation, it received support from a majority of Democratic votes in the Senate. Much like loan forgiveness, this is a topic which economic theorists have historically been adamantly opposed to, with the consensus only fracturing in recent decades as a more nuanced body of policy-based evidence has accumulated and led a growing cadre of economists to offer qualified support for

increases (Dube 2019; Dube and Lindner 2021; Manning 2021). Altogether, on a scattered host of policy issues for which the pandemic necessitated action, the subsequent production of economic research has served to justify policy decisions that contradict what neoclassical theory might predict more often than not.

Of course, there is another interpretation of recent currents in the economics of social policy: that these are examples of a pushing of the limits of the neoliberal paradigm, while ultimately remaining constrained within it—and arguably reinforcing some of its strongest tendencies. Perceptive observers of the U.S. welfare state have argued that neoliberalism and social conservatism—the two underlying ideologies animating U.S. policymaking in the second half of the twentieth century—are not in fundamental contradiction with one another, but rather mutually reinforce a model of society centered around the risk-navigating nuclear family as the bedrock of social policy initiatives (M. Cooper 2017a; Brown 2006). In this view, the bipartisan nature of the policy agenda legislators embraced in response to the pandemic’s emergence is not only unexpected, but deliberate. Promoting a permanent expansion to the child tax credit, for example, not only reduces childhood poverty but also reinforces the nuclear family as the locus of safety net benefits (McCabe 2022)—especially when compared with a guaranteed child allowance that would reduce the administrative burdens needed to access the CTC. Similarly, by subsidizing the Affordable Care Act exchanges and COBRA benefits, the federal government opted to pay a premium to keep millions of people enrolled in programs that encourage individuals and families to shoulder the responsibility for their insurance.⁷⁶ And when it comes to student loan debt, by forgiving

⁷⁶ While Medicaid eligibility requirements were also lowered at the onset of the pandemic, many on the left argued that Medicare could have been expanded to cover the remaining population and avoid masses

\$10,000-\$20,000 of debt but neglecting to address the root causes of rapidly ballooning higher education costs, the Biden administration is ultimately allowing millions of people to remain in cycles of debt accumulation that foist the burden of risk on family units and tie generations to one another indefinitely (M. Cooper 2017b).

From this perspective, the qualified support for the Biden administration's social policy agenda from economists fits neatly into the historical trajectory of the U.S. welfare state since the "economic style of reasoning" was first institutionalized in the federal government back in the 1960s (Berman 2022). Furthermore, given the current state of play in the broader U.S. political field, attempts to reinforce the social compact centered around family values and the "responsibilization" of risk (Ewald 2020) may in fact provide an opening for unexpected alliances over policy issues that redound to the interests of the right. Consider, for example, the movement to erect a series of organizations nationwide dedicated to 'parents' rights,' which displaces the state as a guarantor of public education and allows individual parents to divert resources toward private, unregulated ends. In recent years, homeschooling has been rising rapidly in states across the U.S., particularly in the South, with demonstrable repercussions for the social understanding of gender roles as the private domain of family hierarchy (Averett 2021). And when it comes to public provision of care for early childhood, recent policy proposals are caught between the desire to create state-run programs that allow

of catastrophic insurance bills. Given how the Medicare program is specifically tailored to elderly healthcare needs, I am more persuaded by the argument that the federal government could have dropped the eligibility requirements for TriCare, the civilian component of the Defense Health Agency that operates as a single-payer system and is fully equipped to treat a much broader range of individuals (Walker 2020).

parents more time to be in the workplace and alternative arrangements or tax credits that would encourage parents to provide care themselves (R. M. Cohen 2023).

Ultimately, there are only hard choices when it comes to social policy.

Economists, with their advanced methodological training and predilection for causal identification, are also people inhabiting the social world like the rest of us. While theory may have driven economists' own preferences as the field first rose to prominence in the U.S. policy process, this dissertation has demonstrated how economics has also been transformed along with, and often because of, the welfare state. Whether the contemporary moment represents a break with the neoliberal consensus or winds up reinforcing it is likely to be determined by more far-reaching political forces than any particular style of expertise. But nevertheless, economists will be along for the ride, bolstering our stores of policy-based evidence on the way.

References

- Abbott, Andrew. 1988. *The System of Professions: An Essay on the Division of Expert Labor*. Chicago, IL: University of Chicago Press.
- . 2005. “Linked Ecologies: States and Universities as Environments for Professions.” *Sociological Theory* 23 (3): 245–74.
- Achilles, Charles M. 1999. *Let’s Put Kids First, Finally: Getting Class Size Right*. Thousand Oaks, CA: Corwin Press.
- Afendulis, Christopher C., Michael E. Chernew, and Daniel P. Kessler. 2017. “The Effect of Medicare Advantage on Hospital Admissions and Mortality.” *American Journal of Health Economics* 3 (2): 254–79.
https://doi.org/10.1162/AJHE_a_00074.
- Akerhielm, Karen. 1995. “Does Class Size Matter?” *Economics of Education Review* 14 (3): 229–41. [https://doi.org/10.1016/0272-7757\(95\)00004-4](https://doi.org/10.1016/0272-7757(95)00004-4).
- Akerlof, George A. 1970. “The Market for ‘Lemons’: Quality Uncertainty and the Market Mechanism.” *The Quarterly Journal of Economics* 84 (3): 488–500.
<https://doi.org/10.2307/1879431>.
- Allais, Stephanie. 2012. “‘Economics Imperialism’, Education Policy and Educational Theory.” *Journal of Education Policy* 27 (2): 253–74.
- Amadae, S. M. 2003. *Rationalizing Capitalist Democracy: The Cold War Origins of Rational Choice Liberalism*. Chicago: University of Chicago Press.
- Amrein-Beardsley, Audrey. 2014. *Rethinking Value-Added Models in Education: Critical Perspectives on Tests and Assessment-Based Accountability*. New York: Routledge.
- Ananat, Elizabeth, Benjamin Glasner, Christal Hamilton, and Zachary Parolin. 2022. “Effects of the Expanded Child Tax Credit on Employment Outcomes: Evidence from Real-World Data from April to December 2021.” Working Paper. Working Paper Series. National Bureau of Economic Research.
<https://doi.org/10.3386/w29823>.
- Anderson, Elizabeth. 1993. *Value in Ethics and Economics*. Cambridge, Mass: Harvard University Press.
- Anderson, Odin W. 1966. “Influence of Social and Economic Research on Public Policy in the Health Field: A Review.” *The Milbank Memorial Fund Quarterly* 44 (3): 11–51. <https://doi.org/10.2307/3348965>.

- Angrist, Joshua. 2022. "Empirical Strategies in Economics: Illuminating the Path From Cause to Effect." *Econometrica* 90 (6): 2509–39. <https://doi.org/10.3982/ECTA20640>.
- Angrist, Joshua, Pierre Azoulay, Glenn Ellison, Ryan Hill, and Susan Feng Lu. 2017a. "Economic Research Evolves: Fields and Styles." *American Economic Review* 107 (5): 293–97. <https://doi.org/10.1257/aer.p20171117>.
- . 2017b. "Inside Job or Deep Impact? Using Extramural Citations to Assess Economic Scholarship." Working Paper. <https://doi.org/10.3386/w23698>.
- Angrist, Joshua, Sarah Cohodes, Susan Dynarski, Jon Fullerton, Thomas Kane, Parag Pathak, and Christopher Walters. 2011. "Student Achievement in Massachusetts Charter Schools." Cambridge, MA: Harvard Center for Education Policy Research.
- Angrist, Joshua, Peter D. Hull, Parag A. Pathak, and Christopher R. Walters. 2017. "Leveraging Lotteries for School Value-Added: Testing and Estimation." *The Quarterly Journal of Economics* 132 (2): 871–919. <https://doi.org/10.1093/qje/qjx001>.
- Angrist, Joshua, and Jorn-Steffen Pischke. 2010. "The Credibility Revolution in Empirical Economics: How Better Research Design Is Taking the Con out of Econometrics." *Journal of Economic Perspectives* 24 (2): 3–30. <https://doi.org/10.1257/jep.24.2.3>.
- Appelbaum, Binyamin. 2019. *The Economists' Hour: False Prophets, Free Markets, and the Fracture of Society*. First edition. New York: Little, Brown and Company.
- Arias, Melanie Kayser Schmidt. 2013. "Experimental Citizens: The Experimental Housing Allowance Program and Housing Vouchers as American Social Policy in the 1970s and 1980s." UCLA. <https://escholarship.org/uc/item/2rq1v2r1>.
- Arrow, Kenneth J. 1963. "Uncertainty and the Welfare Economics of Medical Care." *The American Economic Review* 53 (5): 941–73.
- . 1973. "Higher Education as a Filter." *Journal of Public Economics* 2 (3): 193–216. [https://doi.org/10.1016/0047-2727\(73\)90013-3](https://doi.org/10.1016/0047-2727(73)90013-3).
- Ashmore, Malcolm., M. J. Mulkay, and T. J. Pinch. 1989. *Health and Efficiency: A Sociology of Health Economics*. Milton Keynes [England]; Philadelphia: Open University Press.
- Autor, David, David Cho, Leland D. Crane, Mita Goldar, Byron Lutz, Joshua Montes, William B. Peterman, David Ratner, Daniel Villar, and Ahu Yildirmaz. 2022. "The \$800 Billion Paycheck Protection Program: Where Did the Money Go and Why Did It Go There?" *Journal of Economic Perspectives* 36 (2): 55–80. <https://doi.org/10.1257/jep.36.2.55>.

- Averett, Kate Henley. 2021. *The Homeschool Choice: Parents and the Privatization of Education*. Critical Perspectives on Youth. New York: University Press.
- Axelrod, S.J. 1964. "Preface." In *The Economics of Health and Medical Care: Proceedings of the Conference on the Economics of Health and Medical Care*, v–vi. Ann Arbor, MI: University of Michigan.
- Bach, Peter B. 2008. "Cost Sharing for Health Care — Whose Skin? Which Game?" *New England Journal of Medicine* 358 (4): 411–13.
<https://doi.org/10.1056/NEJMe078207>.
- Bacharach, Jacob. 2022. "Why Is David Leonhardt So Happy?" *The New Republic*, March 15, 2022. <https://newrepublic.com/article/165729/david-leonhardt-happy-review-new-york-times-morning-newsletter>.
- Backhouse, Roger, and Jeff Biddle. 2000. *Toward a History of Applied Economics*. Durham: Duke University Press.
- Backhouse, Roger E., and Béatrice Cherrier. 2017a. "'It's Computers, Stupid!' The Spread of Computers and the Changing Roles of Theoretical and Applied Economics." *History of Political Economy* 49 (Supplement): 103–26.
<https://doi.org/10.1215/00182702-4166287>.
- . 2017b. "The Age of the Applied Economist: The Transformation of Economics since the 1970s." *History of Political Economy* 49 (Supplement): 1–33.
<https://doi.org/10.1215/00182702-4166239>.
- Baicker, Katherine, Amitabh Chandra, and Mark Shepard. 2023. "Achieving Universal Health Insurance Coverage in the United States: Addressing Market Failures or Providing a Social Floor?" Working Paper. Working Paper Series. National Bureau of Economic Research. <https://doi.org/10.3386/w30854>.
- Baicker, Katherine, and Jacob A. Robbins. 2015. "Medicare Payments and System-Level Health-Care Use: The Spillover Effects of Medicare Managed Care." *American Journal of Health Economics* 1 (4): 399–431.
https://doi.org/10.1162/AJHE_a_00024.
- Baicker, Katherine, Sarah L. Taubman, Heidi L. Allen, Mira Bernstein, Jonathan Gruber, Joseph P. Newhouse, Eric C. Schneider, Bill J. Wright, Alan M. Zaslavsky, and Amy Finkelstein. 2013. "The Oregon Experiment- Effects of Medicaid on Clinical Outcomes." *New England Journal of Medicine* 368 (18).
http://www.statecoverage.org/files/NEJM_OR_Experiment.pdf.
- Baker, Tom. 1996. "On the Genealogy of Moral Hazard." *Texas Law Review* 75 (2): 237–92.
- Balinsky, Warren, and Renee Berger. 1975. "A Review of the Research on General Health Status Indexes." *Medical Care* 13 (4): 283–93.

- Ball, Stephen J. 2003. "The Teacher's Soul and the Terrors of Performativity." *Journal of Education Policy* 18 (2): 215–28. <https://doi.org/10.1080/0268093022000043065>.
- Banzhaf, H. Spencer. 2014. "Retrospectives: The Cold-War Origins of the Value of Statistical Life." *Journal of Economic Perspectives* 28 (4): 213–26. <https://doi.org/10.1257/jep.28.4.213>.
- Barber, William J. 1996. *Designs within Disorder: Franklin D. Roosevelt, the Economists, and the Shaping of American Economic Policy, 1933-1945*. Historical Perspectives on Modern Economics. Cambridge: Cambridge University Press.
- Bauer, Raymond Augustine, ed. 1966. *Social Indicators*,. Cambridge, Mass.: M.I.T. Press.
- Baumol, William J, and David M De Ferranti. 2012. *The Cost Disease: Why Computers Get Cheaper and Health Care Doesn't*. New Haven, Conn.; London: Yale University Press.
- Becker, Gary S. 1962. "Investment in Human Capital: A Theoretical Analysis." *Journal of Political Economy* 70 (5): 9–49. <https://doi.org/10.2307/1829103>.
- . 1964. *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. New York: National Bureau of Economic Research : Distributed by Columbia University Press.
- Beckert, Jens, and Patrik Aspers. 2011. *The Worth of Goods: Valuation and Pricing in the Economy*. New York: Oxford University Press.
- Bell, Daniel. 1969. "The Idea of a Social Report." *The Public Interest* 15: 72–84.
- Bell, Terrel H. 1986. "Education Policy Development in the Reagan Administration." *The Phi Delta Kappan* 67 (7): 487–93.
- Bendix, Jeffrey. 2015. "From Quantity to Quality: Meeting the New Demands of Value-Based Care." *Medical Economics*. February 26, 2015. <http://medicaleconomics.modernmedicine.com/medical-economics/news/quantity-quality-meeting-new-demands-value-based-care>.
- Bennett, William. 2002. "Preface: What Works in Teaching." In *Teacher Quality*, edited by Lance T Izumi and Williamson M Evers, ix–xi. Stanford, California: Stanford University Press.
- Berends, Mark. 2015. "Sociology and School Choice: What We Know After Two Decades of Charter Schools." *Annual Review of Sociology* 41 (1): 159–80. <https://doi.org/10.1146/annurev-soc-073014-112340>.

- Berman, Elizabeth Popp. 2012. *Creating the Market University: How Academic Science Became an Economic Engine*. Princeton [N.J.: Princeton University Press.
- . 2014. “Not Just Neoliberalism: Economization in US Science and Technology Policy.” *Science, Technology & Human Values* 39 (3): 397–431. <https://doi.org/10.1177/0162243913509123>.
- . 2017. “From Economic to Social Regulation: How the Deregulatory Moment Strengthened Economists’ Policy Position.” *History of Political Economy* 49 (Supplement): 187–212. <https://doi.org/10.1215/00182702-4166323>.
- . 2018. Meet Your Council: Elizabeth Popp Berman Interview by Sarah Mosseri. <https://oowsection.org/2018/03/27/meet-your-council-elizabeth-popp-berman/>.
- . 2022. *Thinking Like an Economist: How Efficiency Replaced Equality in U.S. Public Policy*. Princeton, N.J.: Princeton University Press.
- Bernstein, Michael A. 2001. *A Perilous Progress: Economists and Public Purpose in Twentieth-Century America*. Princeton, N.J.: Princeton University Press.
- Biddle, Jeff E., and Daniel S. Hamermesh. 2017. “Theory and Measurement: Emergence, Consolidation, and Erosion of a Consensus.” *History of Political Economy* 49 (Supplement): 34–57. <https://doi.org/10.1215/00182702-4166251>.
- Blair-Loy, Mary. 2022. *Misconceiving Merit: Paradoxes of Excellence and Devotion in Academic Science and Engineering*. Chicago ; The University of Chicago Press.
- Blaug, Mark. 1964. *A Selected Annotated Bibliography in the Economics of Education*. [London]: University of London, Institute of Education.
- . 1966. *Economics of Education; a Selected Annotated Bibliography*,. Oxford; New York: Pergamon Press.
- . 1970a. *An Introduction to the Economics of Education*. London: Allen Lane.
- . 1970b. *Economics of Education; a Selected Annotated Bibliography*,. Oxford; New York: Pergamon Press.
- . 1976. “The Empirical Status of Human Capital Theory: A Slightly Janundiced Survey.” *Journal of Economic Literature* 14 (3).
- . 1978. *Economics of Education: A Selected Annotated Bibliography*. Oxford [England]; New York: Pergamon Press.
- . 1985. “Where Are We Now in the Economics of Education?” *Economics of Education Review* 4 (1): 17–28. [https://doi.org/10.1016/0272-7757\(85\)90034-2](https://doi.org/10.1016/0272-7757(85)90034-2).

- . 1998. “Where Are We Now in British Health Economics?” *Health Economics* 7 (S1): S63–78. <https://doi.org/10.1002/hec.4730070906>.
- . 2001. “No History of Ideas, Please, We’re Economists.” *Journal of Economic Perspectives* 15 (1): 145–64. <https://doi.org/10.1257/jep.15.1.145>.
- Blinder, Alan S. 1987. *Hard Heads, Soft Hearts: Tough-Minded Economics for a Just Society*. New York, NY: Basic Books.
- Block, Fred, and Margaret R. Somers. 2016. *The Power of Market Fundamentalism: Karl Polanyi’s Critique*. Cambridge, MA: Harvard University Press.
- Blumenschein, Karen, and Magnus Johannesson. 1996. “Economic Evaluation in Healthcare.” *PharmacoEconomics* 10 (2): 114–22. <https://doi.org/10.2165/00019053-199610020-00003>.
- Blumenthal, David, and James A Morone. 2009. *The Heart of Power: Health and Politics in the Oval Office*. Berkeley: University of California Press.
- Bockman, Johanna. 2011. *Markets in the Name of Socialism: The Left-Wing Origins of Neoliberalism*. Stanford, California: Stanford University Press.
- Bockman, Johanna, and Gil Eyal. 2002. “Eastern Europe as a Laboratory for Economic Knowledge: The Transnational Roots of Neoliberalism.” *American Journal of Sociology* 108 (2): 310–52.
- Bouk, Daniel B. 2015. *How Our Days Became Numbered: Risk and the Rise of the Statistical Individual*.
- Bourdieu, Pierre. 1975. “The Specificity of the Scientific Field and the Social Conditions of the Progress of Reason.” *Social Science Information* 14 (6): 19–47.
- . 1977. *Outline of a Theory of Practice*. Cambridge, U.K.; New York: Cambridge University Press.
- . 1987. “Legitimation and Structured Interests in Weber’s Sociology of Religion.” In *Max Weber, Rationality and Modernity*, edited by Scott Lash and Sam Whimster. London; Boston: Allen & Unwin.
- . 1990. *The Logic of Practice*. Stanford, Calif.: Stanford University Press.
- . 1993. *The Field of Cultural Production: Essays on Art and Literature*. New York: Columbia University Press.
- . 1996. *The Rules of Art: Genesis and Structure of the Literary Field*. Stanford, Calif.: Stanford University Press.

- . 1998. *Practical Reason: On the Theory of Action*. Stanford, California: Stanford University Press.
- . 2004. *Science of Science and Reflexivity*. Cambridge: Polity Press.
- . 2008. *Sketch for a Self-Analysis*. Chicago: University of Chicago Press.
- . 2014. *On the State: Lectures at the Collège de France, 1989-1992*. Edited by Patrick Champagne, Rémi Lenoir, Franck Poupeau, and Marie-Christine Rivière. Translated by David Fernbach. Cambridge [UK]: Polity Press.
- Bourdieu, Pierre, and Loïc J. D Wacquant. 1992. *An Invitation to Reflexive Sociology*. Chicago: University of Chicago Press.
- Bowles, Samuel. 1969. "Educational Production Function. Final Report." Report. Harvard University. <http://files.eric.ed.gov/fulltext/ED037590.pdf>.
- . 1970. "Towards an Educational Production Function." NBER Chapters. National Bureau of Economic Research, Inc. <http://econpapers.repec.org/bookchap/nbrnberch/3276.htm>.
- Bowles, Samuel, and Herbert Gintis. 1976. *Schooling in Capitalist America: Educational Reform and the Contradictions of Economic Life*. New York: Basic Books.
- Bowles, Samuel, and Henry M. Levin. 1968. "The Determinants of Scholastic Achievement-An Appraisal of Some Recent Evidence." *The Journal of Human Resources* 3 (1): 3–24. <https://doi.org/10.2307/144645>.
- Bowmaker, Simon W. 2019. *When the President Calls: Conversations with Economic Policymakers*. The MIT Press. Cambridge, Massachusetts: MIT Press. <https://doi.org/10.7551/mitpress/9882.001.0001>.
- Brain, Robert Michael. 2001. "The Ontology of the Questionnaire: Max Weber on Measurement and Mass Investigation." *Studies in History and Philosophy of Science Part A* 32 (4): 647–84. [https://doi.org/10.1016/S0039-3681\(01\)00026-7](https://doi.org/10.1016/S0039-3681(01)00026-7).
- Branham, D Keith, Christine Eibner, Federico Giroso, Jodi Liu, Kenneth Finegold, Christie Peters, and Benjamin D Sommers. 2022. "Projected Coverage and Become Uninsured If the American Rescue Plan's Marketplace Provisions Sunset in 2023." ASPE Office of Health Policy Report. Washington, D.C.: U.S. Department of Health and Human Services.
- Breslau, Daniel. 1998. *In Search of the Unequivocal: The Political Economy of Measurement in U.S. Labor Market Policy*. Westport, Conn.: Praeger.
- . 2003. "Economics Invents the Economy: Mathematics, Statistics, and Models in the Work of Irving Fisher and Wesley Mitchell." *Theory and Society Theory and Society: Renewal and Critique in Social Theory* 32 (3): 379–411.

- . 2013. “Designing a Market-like Entity: Economics in the Politics of Market Formation.” *Social Studies of Science*, August, 0306312713493962. <https://doi.org/10.1177/0306312713493962>.
- Brockett, Patrick L., Linda L. Golden, and Charles C. Yang. 2018. “Potential ‘Savings’ of Medicare: The Analysis of Medicare Advantage and Accountable Care Organizations.” *North American Actuarial Journal* 22 (3): 458–72. <https://doi.org/10.1080/10920277.2018.1436445>.
- Brook, Robert H, United States, Department of Health and Human Services, Rand Corporation, and Rand Health Insurance Experiment. 1984. *The Effect of Coinsurance on the Health of Adults: Results from the Rand Health Insurance Experiment*. Santa Monica, Calif.: Rand.
- Brown, Wendy. 2006. “American Nightmare: Neoliberalism, Neoconservatism, and De-Democratization.” *Political Theory* 34 (6): 690–714.
- Buchanan, James M. 1965. *The Inconsistencies of the National Health Service*. London: Institute of Economic Affairs.
- Buchholz, Larissa. 2016. “What Is a Global Field? Theorizing Fields beyond the Nation-State.” *The Sociological Review Monographs* 64 (2): 31–60. <https://doi.org/10.1002/2059-7932.12001>.
- Bui, Quoc Trung, and Jessia Ma. 2023. “Opinion | Build Your Own College Rankings.” *The New York Times*, March 27, 2023, sec. Opinion. <https://www.nytimes.com/interactive/2023/03/27/opinion/build-your-own-college-rankings.html>.
- Bulkley, Katrina E., Jeffrey R. Henig, and Henry M. Levin. 2010. *Between Public and Private: Politics, Governance, and the New Portfolio Models for Urban School Reform*. Cambridge, MA: Harvard Education Press.
- Bunning, Jonny. 2019. “Life as Investment: How Humans Became Capital, 1890-1980.” Ph.D., New Haven, CT: Yale University. <https://www.proquest.com/pqdtglobal/docview/2543728433/CBB11C4D44F24F0DPQ/1>.
- Bureau of Public Health Economics, ed. 1964. *The Economics of Health and Medical Care*. Ann Arbor: University of Michigan Press.
- Burgin, Angus. 2012. *The Great Persuasion: Reinventing Free Markets since the Depression*. Cambridge, Mass.: Harvard University Press.
- Burns, Jennifer. 2022. “Hidden Figures: A New History of the Permanent Income Hypothesis.” *History of Political Economy* 54 (S1): 43–68. <https://doi.org/10.1215/00182702-10085615>.

- Burtless, Gary T. 1996. *Does Money Matter?: The Effect of School Resources on Student Achievement and Adult Success*. Washington, D.C.: Brookings Institution Press.
- Çalışkan, Koray, and Michel Callon. 2009. "Economization, Part 1: Shifting Attention from the Economy towards Processes of Economization." *Economy and Society* 38 (3): 369–98. <https://doi.org/10.1080/03085140903020580>.
- Callon, Michel. 1998. "Introduction: The Embeddedness of Economic Markets in Economics." In *The Laws of the Markets*, 1–57. Blackwell Publishers Ltd.
- Cambrosio, Alberto, and Peter Keating. 1983. "The Disciplinary Stake: The Case of Chronobiology." *Social Studies of Science* 13 (3): 323–53. <https://doi.org/10.1177/030631283013003001>.
- Cardoso, Cláudia. 2008. "Health Economics or Health Care Economics?" *Tékhnē - Revista de Estudos Politécnicos*, no. 10 (December): 189–98.
- Carpenter, Michael, and Sue A. Haggart. 1970. "Cost-Effectiveness Analysis for Educational Planning." Santa Monica, CA: RAND Corporation. <https://www.rand.org/pubs/papers/P4327.html>.
- Carson, John. 2007. *The Measure of Merit: Talents, Intelligence, and Inequality in the French and American Republics, 1750-1940*. Princeton: Princeton University Press.
- Cartus, Abigail, and Justin Feldman. 2022. "Motivated Reasoning: Emily Oster's COVID Narratives and the Attack on Public Education." *Protean Magazine*, March 22, 2022. <https://proteanmag.com/2022/03/22/motivated-reasoning-emily-osters-covid-narratives-and-the-attack-on-public-education/>.
- Cartwright, Nancy. 2019. "What Is Meant by 'Rigour' in Evidence-Based Educational Policy and What's so Good about It?" *Educational Research and Evaluation* 25 (1–2): 63–80. <https://doi.org/10.1080/13803611.2019.1617990>.
- . 2021. "Rigour versus the Need for Evidential Diversity." *Synthese* 199 (5): 13095–119. <https://doi.org/10.1007/s11229-021-03368-1>.
- Case, Anne, and Angus Deaton. 2020. *Deaths of Despair and the Future of Capitalism*. Princeton, NJ: Princeton University Press. <https://doi.org/10.1515/9780691199955>.
- Center for Benefit-Cost Studies of Education. 2023. "History." CBCSE. 2023. <https://www.cbcse.org/history>.
- Chen, Edwin. 1992. "'Jackson Hole Group' Helps to Shape Bush Health Plan : Policy: A Small Circle of Doctors, Academics and Executives Exerts a Strong Influence on

- the White House." *Los Angeles Times*, January 17, 1992.
<https://www.latimes.com/archives/la-xpm-1992-01-17-mn-291-story.html>.
- Cherrier, Beatrice. 2017. "Classifying Economics: A History of the JEL Codes." *Journal of Economic Literature* 55 (2): 545–79. <https://doi.org/10.1257/jel.20151296>.
- Chetty, Raj, John N. Friedman, Nathaniel Hendren, Michael Stepner, and The Opportunity Insights Team. 2020. "The Economic Impacts of COVID-19: Evidence from a New Public Database Built Using Private Sector Data." w27431. National Bureau of Economic Research. <https://doi.org/10.3386/w27431>.
- Chetty, Raj, John N. Friedman, Nathaniel Hilger, Emmanuel Saez, Diane Whitmore Schanzenbach, and Danny Yagan. 2011. "How Does Your Kindergarten Classroom Affect Your Earnings? Evidence from Project Star." *The Quarterly Journal of Economics* 126 (4): 1593–1660. <https://doi.org/10.1093/qje/qjr041>.
- Chetty, Raj, John N. Friedman, and Michael Stepner. 2021. "Opinion | Who Spent Their Last Stimulus Checks?" *The New York Times*, February 8, 2021, sec. Opinion. <https://www.nytimes.com/interactive/2021/02/08/opinion/stimulus-checks-economy.html>.
- Chetty, Raj, Nathaniel Hendren, and Lawrence F. Katz. 2016. "The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment." *American Economic Review* 106 (4): 855–902. <https://doi.org/10.1257/aer.20150572>.
- Chetty, Raj, Michael Stepner, Sarah Abraham, Shelby Lin, Benjamin Scuderi, Nicholas Turner, Augustin Bergeron, and David Cutler. 2016. "The Association Between Income and Life Expectancy in the United States, 2001-2014." *JAMA* 315 (16): 1750–66. <https://doi.org/10.1001/jama.2016.4226>.
- Chingos, Matthew M. 2012. "The Impact of a Universal Class-Size Reduction Policy: Evidence from Florida's Statewide Mandate." *Economics of Education Review* 31 (5): 543–62. <https://doi.org/10.1016/j.econedurev.2012.03.002>.
- Cicarelli, James, and Julianne Cicarelli. 2003. *Distinguished Women Economists*. Westport, CT: Greenwood Press.
- Clemens, Jeffrey, Philip Hoxie, and Stan Veuger. 2022. "Was Pandemic Fiscal Relief Effective Fiscal Stimulus? Evidence from Aid to State and Local Governments." w30168. Cambridge, MA: National Bureau of Economic Research. <https://doi.org/10.3386/w30168>.
- Close, Kevin, Audrey Amrein-Beardsley, and Clarin Collins. 2018. "State-Level Assessments and Teacher Evaluation Systems after the Passage of the Every Student Succeeds Act: Some Steps in the Right Direction." Boulder, CO: National Education Policy Center.

- Coats, A. W. 1993. *The Sociology and Professionalization of Economics*. London; New York: Routledge.
- Cohen, Alan B., David C. Colby, Keith Wailoo, and Julian E. Zelizer. 2015. *Medicare and Medicaid at 50: America's Entitlement Programs in the Age of Affordable Care*.
- Cohen, David K, and Susan L Moffitt. 2009. *The Ordeal of Equality: Did Federal Regulation Fix the Schools?* Cambridge, Mass.: Harvard University Press.
- Cohen, Rachel M. 2017. "The Untold History of Charter Schools." *Democracy: A Journal of Ideas*, April. <https://democracyjournal.org/arguments/the-untold-history-of-charter-schools/>.
- . 2021. "The Coronavirus Made the Radical Possible." *The New York Times*, March 11, 2021, sec. Opinion. <https://www.nytimes.com/2021/03/11/opinion/covid-eviction-prison-internet-policy.html>.
- . 2023. "What Is the Child Care Crisis, Exactly?" *Vox*. April 17, 2023. <https://www.vox.com/policy/2023/4/17/23667770/child-care-crisis-prek-family-immigration>.
- Cohn, Jonathan. 2021. *The Ten Year War: Obamacare and the Unfinished Crusade for Universal Coverage*. New York, NY: St. Martin's Press.
- Cohodes, Sarah, Elizabeth Setren, and Chris Walters. 2019. "Replicating Successful Charter Schools in Boston." *VoxEU.Org* (blog). August 22, 2019. <https://voxeu.org/article/replicating-successful-charter-schools-boston>.
- Coleman, James S., United States, Office of Education, and National Center for Education Statistics. 1966. *Equality of Educational Opportunity*. Washington: U.S. Dept. of Health, Education, and Welfare, Office of Education; [for sale by the Superintendent of Documents, U.S. Govt. Print. Off.].
- Collins, Clarin, and Audrey Amrein-Beardsley. 2014. "Putting Growth and Value-Added Models on the Map: A National Overview." *Teachers College Record* 116 (1). <https://asu.pure.elsevier.com/en/publications/putting-growth-and-value-added-models-on-the-map-a-national-overv>.
- Collins, Harry M. 1981. "The Place of the 'Core-Set' in Modern Science: Social Contingency with Methodological Propriety in Science." *History of Science* 19 (1): 6–19. <https://doi.org/10.1177/007327538101900102>.
- Collins, Robert M. 2002. *More: The Politics of Economic Growth in Postwar America*. Oxford; New York: Oxford University Press.

- Cook, Gareth. 2019. "Raj Chetty's American Dream." *The Atlantic*, August 2019. <https://www.theatlantic.com/magazine/archive/2019/08/raj-chettys-american-dream/592804/>.
- Cooper, Melinda. 2017a. *Family Values: Between Neoliberalism and the New Social Conservatism*. Near Futures. New York, NY: Zone Books.
- . 2017b. "All in the Family Debt." *Boston Review*. May 31, 2017. <https://www.bostonreview.net/articles/melinda-cooper-all-family-debt/>.
- Cooper, Richard A., Thomas E. Getzen, Heather J. McKee, and Prakash Laud. 2002. "Economic And Demographic Trends Signal An Impending Physician Shortage." *Health Affairs* 21 (1): 140–54. <https://doi.org/10.1377/hlthaff.21.1.140>.
- Cooper, Zack, Stuart V Craig, Martin Gaynor, and John Van Reenen. 2019. "The Price Ain't Right? Hospital Prices and Health Spending on the Privately Insured*." *The Quarterly Journal of Economics* 134 (1): 51–107. <https://doi.org/10.1093/qje/qjy020>.
- Cowie, Jefferson. 2016. *The Great Exception: The New Deal and the Limits of American Politics*. Princeton, N.J.: Princeton University Press.
- Cronin, Brenda. 2013. "Economist Raj Chetty Is Awarded John Bates Clark Medal." *Wall Street Journal*, April 12, 2013, sec. US. <http://online.wsj.com/article/SB10001424127887324010704578419001694904538.html>.
- Crum, Norman J. 1969. "Cost-Benefit and Cost-Effectiveness Analyses: A Bibliography of Applications in the Civilian Economy." *Tempo* 69TMP-30. Santa Barbara, CA: General Electric Co.
- Crystal, Royal A., and Agnes W. Brewster. 1966. "Cost Benefit and Cost Effectiveness Analyses in the Health Field: An Introduction." *Inquiry* 3 (4): 3–13.
- CSWEP. 2021. "Committee on the Status of Women in Economics News." Committee on the Status of Women in the Economics Profession.
- Culyer, A. J, and Joseph P Newhouse. 2000. "Introduction: The State and Scope of Health Economics." In *Handbook of Health Economics*, edited by A. J Culyer and Joseph P Newhouse, 1A:1–8. Amsterdam; New York: Elsevier.
- Culyer, A. J, Jack Wiseman, and Arthur Walker. 1977. *An Annotated Bibliography of Health Economics: English Language Sources*. New York: St. Martin's Press.
- Currie, Janet, and Valentina Duque. 2019. "Medicaid: What Does It Do, and Can We Do It Better?" *The ANNALS of the American Academy of Political and Social Science* 686 (1): 148–79. <https://doi.org/10.1177/0002716219874772>.

- Currie, Janet, Henrik Kleven, and Esmée Zwiars. 2020. "Technology and Big Data Are Changing Economics: Mining Text to Track Methods." *AEA Papers and Proceedings*, Working Paper Series, 110: 42–48. <https://doi.org/10.3386/w26715>.
- Davies, Gareth. 2007. *See Government Grow: Education Politics from Johnson to Reagan*. Lawrence, Kan.: University Press of Kansas.
- Davis, Devora H., and Margaret E. Raymond. 2012. "Choices for Studying Choice: Assessing Charter School Effectiveness Using Two Quasi-Experimental Methods." *Economics of Education Review*, Special Issue: Charter Schools, 31 (2): 225–36. <https://doi.org/10.1016/j.econedurev.2011.08.012>.
- Department of Health, Education, and Welfare. 1967. "A Report to the President on Medical Care Prices." Washington, D.C.: U.S. Government Printing Office.
- Dolan, Ed. 2018. "From the Nixon Era, a Healthcare Proposal Ahead of Its Time." Niskanen Center. February 27, 2018. <https://niskanencenter.org/blog/mega-proposal-maximum-liability-healthcare/>.
- Doleac, Jennifer L. 2017. "The Effects of DNA Databases on Crime." *American Economic Journal: Applied Economics* 9 (1): 165–201. <https://doi.org/10.1257/app.20150043>.
- . 2019. "'Evidence-Based Policy' Should Reflect a Hierarchy of Evidence." *Journal of Policy Analysis and Management* 38 (2): 517–19. <https://doi.org/10.1002/pam.22118>.
- . 2023. "Jennifer Doleac | Associate Professor of Economics, Texas A&M University." 2023. <https://jenniferdoleac.com/>.
- Doleac, Jennifer L., and Anita Mukherjee. 2018. "The Moral Hazard of Lifesaving Innovations: Naloxone Access, Opioid Abuse, and Crime." IZA Discussion Paper. Bonn, Germany. <https://www.iza.org/publications/dp/11489/the-moral-hazard-of-lifesaving-innovations-naloxone-access-opioid-abuse-and-crime>.
- Donohue, Julie M., Evan S. Cole, Cara V. James, Marian Jarlenski, Jamila D. Michener, and Eric T. Roberts. 2022. "The US Medicaid Program: Coverage, Financing, Reforms, and Implications for Health Equity." *JAMA* 328 (11): 1085–99. <https://doi.org/10.1001/jama.2022.14791>.
- Dorothy P. Rice Public Health Policy Symposium. 1998. "The Continuing Legacy of Dorothy Rice." *Science of Caring* 10 (2): 2–5.
- Drummond, M., A. Brandt, B. Luce, and J. Rovira. 1993. "Standardizing Methodologies for Economic Evaluation in Health Care. Practice, Problems, and Potential." *International Journal of Technology Assessment in Health Care* 9 (1): 26–36.

- Drummond, M., and T. Jefferson. 1996. "Guidelines for Authors and Peer Reviewers of Economic Submissions to the BMJ. The BMJ Economic Evaluation Working Party." *BMJ: British Medical Journal* 313 (7052): 275–83.
- Dube, Arindrajit. 2019. "Minimum Wages and the Distribution of Family Incomes." *American Economic Journal: Applied Economics* 11 (4): 268–304. <https://doi.org/10.1257/app.20170085>.
- Dube, Arindrajit, and Attila Lindner. 2021. "City Limits: What Do Local-Area Minimum Wages Do?" *Journal of Economic Perspectives* 35 (1): 27–50. <https://doi.org/10.1257/jep.35.1.27>.
- Duflo, Esther. 2017. "Richard T. Ely Lecture: The Economist as Plumber." *American Economic Review* 107 (5): 1–26. <https://doi.org/10.1257/aer.p20171153>.
- Duggan, Mark, Jonathan Gruber, and Boris Vabson. 2018. "The Consequences of Health Care Privatization: Evidence from Medicare Advantage Exits." *American Economic Journal: Economic Policy* 10 (1): 153–86. <https://doi.org/10.1257/pol.20160068>.
- Duggan, Mark, Atul Gupta, and Emilie Jackson. 2022. "The Impact of the Affordable Care Act: Evidence from California's Hospital Sector." *American Economic Journal: Economic Policy* 14 (1): 111–51. <https://doi.org/10.1257/pol.20190279>.
- Düppe, Till. 2011. *The Making of the Economy: A Phenomenology of Economic Science*. Lanham, Md.: Lexington Books.
- Einav, Liran, and Amy Finkelstein. Forthcoming. *We've Got You Covered: Rebooting American Health Care*. New York, NY: Portfolio. https://www.amazon.com/Weve-Got-You-Covered-Rebooting/dp/B0BQ8HXKFC/ref=sr_1_2?qid=1682712287&refinements=p_27%3AAmy+Finkelstein&s=books&sr=1-2.
- Einav, Liran, Amy Finkelstein, and Pietro Tebaldi. 2019. "Market Design in Regulated Health Insurance Markets: Risk Adjustment vs. Subsidies."
- Ellison, Scott. 2014. "Attack of the Cyborgs: Economic Imperialism and The Human Deficit in Educational Policy-Making & Research." *Journal of Educational Controversy* 8 (1). <http://cedar.wvu.edu/jec/vol8/iss1/7>.
- Ellwood, Paul M., Alain C. Enthoven, and Lynn Etheredge. 1992. "The Jackson Hole Initiatives for a Twenty-First Century American Health Care System." *Health Economics* 1 (3): 149–68. <https://doi.org/10.1002/hec.4730010303>.
- Emigh, Rebecca Jean. 1997. "The Power of Negative Thinking: The Use of Negative Case Methodology in the Development of Sociological Theory." *Theory and Society* 26 (5): 649–84. <https://doi.org/10.1023/A:1006896217647>.

- Enthoven, Alain C. 1978a. "Consumer-Choice Health Plan (First of Two Parts). Inflation and Inequity in Health Care Today: Alternatives for Cost Control and an Analysis of Proposals for National Health Insurance." *The New England Journal of Medicine* 298 (12): 650–58. <https://doi.org/10.1056/NEJM197803232981204>.
- . 1978b. "Consumer-Choice Health Plan (Second of Two Parts). A National-Health-Insurance Proposal Based on Regulated Competition in the Private Sector." *The New England Journal of Medicine* 298 (13): 709–20. <https://doi.org/10.1056/NEJM197803302981304>.
- . 1993. "The History and Principles of Managed Competition." *Health Affairs* 12 Suppl: 24–48.
- Espeland, Wendy Nelson. 1998. *The Struggle for Water: Politics, Rationality, and Identity in the American Southwest*. Chicago: University of Chicago Press.
- . 2016. *Engines of Anxiety: Academic Rankings, Reputation, and Accountability*. New York, New York: Russell Sage Foundation.
- Espeland, Wendy Nelson, and Mitchell L. Stevens. 1998. "Commensuration as a Social Process." *Annual Review of Sociology* 24 (1): 313–43. <https://doi.org/10.1146/annurev.soc.24.1.313>.
- Evers, Silvia, Mariëlle Goossens, Henrica de Vet, Maurits van Tulder, and André Ament. 2005. "Criteria List for Assessment of Methodological Quality of Economic Evaluations: Consensus on Health Economic Criteria." *International Journal of Technology Assessment in Health Care* 21 (2): 240–45.
- Ewald, François. 2020. *The Birth of Solidarity: The History of the French Welfare State*. Edited by Timothy Scott Johnson. Durham, NC: Duke University Press.
- Eyal, Gil. 2002. "Dangerous Liaisons between Military Intelligence and Middle Eastern Studies in Israel." *Theory & Society* 31 (5).
- . 2013. "For a Sociology of Expertise: The Social Origins of the Autism Epidemic." *American Journal of Sociology* 118 (4): 863–907.
- . 2019. *The Crisis of Expertise*. Cambridge, UK: Polity Press.
- Eyal, Gil, and Moran Levy. 2013. "Economic Indicators as Public Interventions." *History of Political Economy* 45.
- Falk, I. S. 1970. "National Health Insurance: A Review of Policies and Proposals." *Law and Contemporary Problems* 35 (4): 669. <https://doi.org/10.2307/1190947>.
- Falkson, Joseph L. 1980. *HMOs and the Politics of Health System Reform*. Chicago: American Hospital Association. <http://books.google.com/books?id=rHE9AQAAIAAJ>.

- Fanshel, S., and J. W. Bush. 1970. "A Health-Status Index and Its Application to Health-Services Outcomes." *Operations Research* 18 (6): 1021–66. <https://doi.org/10.1287/opre.18.6.1021>.
- Farrell, Henry, and John Quiggin. 2017. "Consensus, Dissensus, and Economic Ideas: Economic Crisis and the Rise and Fall of Keynesianism." *International Studies Quarterly* 61 (2): 269–83. <https://doi.org/10.1093/isq/sqx010>.
- Fein, Rashi. 1958. *Economics of Mental Illness*. New York: Basic Books.
- . 1967. *The Doctor Shortage; an Economic Diagnosis*. Washington, D.C.: Brookings Institution.
- . 2002. "Eli Ginzberg: Listener and Scribbler." In *Eli Ginzberg: The Economist as a Public Intellectual*, 3–16. Transaction Publishers: New Brunswick.
- . 2007. "Rashi Fein Oral History." <https://www.emkinstitute.org/resources/rashi-fein-oral-history>.
- . 2015. "The Early Days of Medicare and Medicaid: A Personal Reflection." In *Medicare and Medicaid at 50: America's Entitlement Programs in the Age of Affordable Care*, 39–54. Oxford, UK: Oxford University Press.
- Felch, Jason. 2010. "Study Supports Teacher Ratings." *Los Angeles Times*, December 11, 2010. <http://www.latimes.com/local/teachers-investigation/la-teachers-gates-study-story.html>.
- Feldstein, Martin S. 1967. *Economic Analysis for Health Service Efficiency. Econometric Studies of the British National Health Service*. Contributions to Economic Analysis, 51. Amsterdam: North-Holland Pub. Co.
- . 1971a. "A New Approach to National Health Insurance." *The Public Interest* 23 (Spring): 93–105.
- . 1971b. "The Rising Cost of Hospital Care." Washington, D.C.: Information Resources Press.
- . 1973. "The Welfare Loss of Excess Health Insurance." *Journal of Political Economy* 81 (2): 251–80.
- . 1995. "The Economics of Health and Health Care: What Have We Learned? What Have I Learned?" *The American Economic Review* 85 (2): 28–31.
- Ferriss, Abbott L. 1979. "The U.S. Federal Effort in Developing Social Indicators." *Social Indicators Research* 6 (2): 129–52. <https://doi.org/10.1007/BF00343969>.

- Fine, Ben, and Dimitris Milonakis. 2009. *From Economics Imperialism to Freakonomics: The Shifting Boundaries between Economics and Other Social Sciences*. London; New York: Routledge.
- Finkelstein, Amy, Nathaniel Hendren, and Erzo F.P. Luttmer. 2015. "The Value of Medicaid: Interpreting Results from the Oregon Health Insurance Experiment." Working Paper 21308. National Bureau of Economic Research. <https://doi.org/10.3386/w21308>.
- Finkelstein, Amy, Nathaniel Hendren, and Mark Shepard. 2019. "Subsidizing Health Insurance for Low-Income Adults: Evidence from Massachusetts." *American Economic Review* 109 (4): 1530–67. <https://doi.org/10.1257/aer.20171455>.
- Finn, Jeremy D. 1998. "Class Size and Students At Risk: What Is Known? What Is Next?" Washington D.C.: Office of Educational Research and improvement, U.S. Department of Education.
- Fleury, Jean-Baptiste. 2010. "Drawing New Lines: Economists and Other Social Scientists on Society in the 1960s." *History of Political Economy* 42 (Suppl_1): 315–42.
- Fligstein, Neil, and Doug McAdam. 2012. *A Theory of Fields*. New York: Oxford University Press.
- Fligstein, Neil, Jonah Stuart Brundage, and Michael Schultz. 2017. "Seeing Like the Fed: Culture, Cognition, and Framing in the Failure to Anticipate the Financial Crisis of 2008." *American Sociological Review* 82 (5): 879–909. <https://doi.org/10.1177/0003122417728240>.
- Fontaine, Philippe. 2016. "Other Histories of Recent Economics: A Survey." *History of Political Economy* 48 (3): 373–421. <https://doi.org/10.1215/00182702-3638607>.
- Forget, Evelyn L. 2004. "Contested Histories of an Applied Field: The Case of Health Economics." *History of Political Economy* 36 (4): 617–37. <https://doi.org/10.1215/00182702-36-4-617>.
- Foster, Jacob G., Andrey Rzhetsky, and James A. Evans. 2015. "Tradition and Innovation in Scientists' Research Strategies." *American Sociological Review* 80 (5): 875–908. <https://doi.org/10.1177/0003122415601618>.
- Foucault, Michel. 2008. *The Birth of Biopolitics: Lectures at the Collège de France, 1978-79*. Edited by Michel Senellart. Basingstoke, UK: Palgrave Macmillan.
- Fourcade, Marion. 2006. "The Construction of a Global Profession: The Transnationalization of Economics." *American Journal of Sociology* 112 (1): 145–94. <https://doi.org/10.1086/502693>.

- . 2009. *Economists and Societies: Discipline and Profession in the United States, Britain, and France, 1890s to 1990s*. Princeton: Princeton University Press.
- . 2011. "Cents and Sensibility: Economic Valuation and the Nature of 'Nature.'" *American Journal of Sociology* 116 (6): 1721–77. <https://doi.org/10.1086/659640>.
- Fourcade, Marion, and Jeffrey Gordon. 2020. "Learning Like a State: Statecraft in the Digital Age." *Law and Political Economy* 1 (1): 78–108.
- Fourcade, Marion, Etienne Ollion, and Yann Algan. 2015. "The Superiority of Economists." *Journal of Economic Perspectives* 29 (1): 89–114. <https://doi.org/10.1257/jep.29.1.89>.
- Fourcade-Gourinchas, Marion. 2003. "What Is Sociological about the Sociology of Economics? Some Recent Developments." *Economic Sociology - European Electronic Newsletter* 4 (2): 30–38.
- Fox, Daniel M. 1979. "From Reform to Relativism: A History of Economists and Health Care." *The Milbank Memorial Fund Quarterly. Health and Society* 57 (3): 297–336. <https://doi.org/10.2307/3349782>.
- . 1990. "Health Policy and the Politics of Research in the United States." *Journal of Health Politics, Policy and Law* 15 (3): 481–99. <https://doi.org/10.1215/03616878-15-3-481>.
- Frakt, Austin B. 2016. "The Cost of Medicare Advantage." *JAMA* 315 (22): 2387–88. <https://doi.org/10.1001/jama.2016.6790>.
- Frakt, Austin B., and Ashish K. Jha. 2017. "Face the Facts: We Need to Change the Way We Do Pay for Performance." *Annals of Internal Medicine*, November. <https://doi.org/10.7326/M17-3005>.
- Frank, Richard G., Keith Humphreys, and Harold A. Pollack. 2018. "Does Naloxone Availability Increase Opioid Abuse? The Case For Skepticism." *Health Affairs Forefront* (blog). March 19, 2018. <https://www.healthaffairs.org/doi/10.1377/forefront.20180316.599095/full/>.
- Freeman, Richard B. 1986. "Unionism Comes to the Public Sector." *Journal of Economic Literature* 24 (1): 41–86.
- Frickel, Scott, and Neil Gross. 2005. "A General Theory of Scientific/Intellectual Movements." *American Sociological Review* 70 (2): 204–32. <https://doi.org/10.1177/000312240507000202>.
- Friedman, Milton. 1955. "The Role of Government in Education." In *Economics and the Public Interest*. New Jersey: Rutgers University Press.

- Friedman, Milton, and Simon Kuznets. 1945. *Income from Independent Professional Practice*. National Bureau of Economic Research. <https://www.nber.org/books-and-chapters/income-independent-professional-practice>.
- Froomkin, Joseph. 1969. "Cost/Effectiveness and Cost/Benefit Analyses of Educational Programs." *Socio-Economic Planning Sciences* 2 (2): 381–87. [https://doi.org/10.1016/0038-0121\(69\)90033-0](https://doi.org/10.1016/0038-0121(69)90033-0).
- Fuchs, Victor R. 1968. "Economics of Health." In *Toward Improved Social and Economic Measurement.*, edited by National Bureau of Economic Research, 58. New York: National Bureau of Economic Research.
- . 1969. "Improving the Delivery of Health Services. : JBJS." *The Journal of Bone and Joint Surgery* 51 (A2): 407–12.
- Fuchs, Victor R., and Irving Leveson. 1967. "Motor Accident Mortality and Compulsory Inspection of Vehicles." *JAMA* 201 (9): 657–61. <https://doi.org/10.1001/jama.1967.03130090021005>.
- Gaffney, Adam. 2015. "The Neoliberal Turn in American Health Care." *International Journal of Health Services* 45 (1): 33–52.
- Gaffney, Adam, and Howard Waitzkin. 2016. "The Affordable Care Act and the Transformation of US Health Care." *Cuadernos de Relaciones Laborales; Madrid* 34 (2): 239–61. <http://dx.doi.org/10.5209/CRLA.53456>.
- Gagne, Robert M. 1970. "Policy Implications and Future Research: A Response." In *Do Teachers Make a Difference?: A Report on Recent Research on Pupil Achievement*, 169–73. Washington D.C.: U.S. Department of Health, Education and Welfare, Office of Education, Bureau of Educational Personnel Development.
- Gale, Douglas, and Lloyd S. Shapley. 1962. "College Admissions and the Stability of Marriage." *The American Mathematical Monthly*. <https://www.tandfonline.com/doi/abs/10.1080/00029890.1962.11989827>.
- Galison, Peter. 1997. *Image and Logic: A Material Culture of Microphysics*. Chicago: University of Chicago Press.
- Garfinkel, Irwin. 1972. "The New Jersey Income Maintenance Experiment." *The Journal of Consumer Affairs* 6 (1): 1–11.
- Garrison, Louis P., Peter J. Neumann, Richard J. Willke, Anirban Basu, Patricia M. Danzon, Jalpa A. Doshi, Michael F. Drummond, et al. 2018. "A Health Economics Approach to US Value Assessment Frameworks-Summary and Recommendations of the ISPOR Special Task Force Report [7]." *Value in Health: The Journal of the International Society for Pharmacoeconomics and Outcomes Research* 21 (2): 161–65. <https://doi.org/10.1016/j.jval.2017.12.009>.

- Geisinger, Robert. 1968. "Systems Analysis and Education: Research Literature Review." Pennsylvania: Bureau of Research, Pennsylvania Department of Public Instruction.
- Gertner, Alex. 2018. "A Lifesaving Drug for Overdoses Doesn't Reduce Opioid Deaths? Be Skeptical. - Vox." Vox. March 14, 2018. <https://www.vox.com/the-big-idea/2018/3/13/17115558/naloxone-opioid-overdoses-deaths-theft-moral-hazard-study>.
- Geske, Terry G. 1979. "Some Observations on Cost-Effectiveness Analysis in Education." *Journal of Education Finance* 4 (4): 451–68.
- Ginzberg, Eli. 1964. "Medical Economics—More Than Curves and Computers." In *The Economics of Health and Medical Care: Proceedings of the Conference on the Economics of Health and Medical Care, May 10-12, 1962*. Ann Arbor, MI: The University of Michigan Press.
- Glied, Sherry A. 2021. "Price Transparency—Promise and Peril." *JAMA* 325 (15): 1496–97. <https://doi.org/10.1001/jama.2021.4640>.
- Glied, Sherry A., and Erin A. Miller. 2015. "Economics and Health Reform Academic Research and Public Policy." *Medical Care Research and Review* 72 (4): 379–94. <https://doi.org/10.1177/1077558715579866>.
- Go, Julian, and Monika Krause. 2016. *Fielding Transnationalism*. New York, NY: Wiley.
- Gold, Marthe R. 1996. *Cost-Effectiveness in Health and Medicine*. New York: Oxford University Press.
- Gold, Marthe R., David Stevenson, and Dennis Fryback. 2002. "HALYs and QALYs and DALYs, Oh My: Similarities and Differences in Summary Measures of Population Health." *Annual Review of Public Health* 23 (1): 115–34. <https://doi.org/10.1146/annurev.publhealth.23.100901.140513>.
- Goldsmith, S B. 1972. "The Status of Health Status Indicators." *Health Services Reports* 87 (3): 212–20.
- . 1973. "A Reevaluation of Health Status Indicators." *Health Services Reports* 88 (10): 937–41.
- Goldstein, Dana. 2014. *The Teacher Wars: A History of America's Most Embattled Profession*.
- Golhaber, Dan D., and Dominic J. Brewer. 2000. "Does Teacher Certification Matter? High School Teacher Certification Status and Student Achievement Educational Evaluation and Policy Analysis" 22 (2): 129–45.

- Goodman, Kelly. 2021. "Tax the Rich: Teachers' Long Campaign to Fund Public Schools." Dissertation, New Haven, CT: Yale University.
- Gordon, Colin. 2003. *Dead on Arrival: The Politics of Health Care in Twentieth-Century America*. Princeton, N.J.: Princeton University Press.
- Gowrisankaran, Gautam, Keith A Joiner, and Jianjing Lin. 2019. "How Do Hospitals Respond to Payment Incentives?" Working Paper 26455. National Bureau of Economic Research. <https://doi.org/10.3386/w26455>.
- Granovetter, Mark. 1985. "Economic Action and Social Structure: The Problem of Embeddedness." *American Journal of Sociology* 91 (3): 481–510.
- Greenberg, George D. 2003. "Policy Analysis at the Department of Health and Human Services, Then and Now." *Journal of Policy Analysis and Management* 22 (2): 304–7.
- Griffen, Zachary Webster. 2022. "The 'Production' of Education: The Turn from Equity to Efficiency in U.S. Federal Education Policy." *Journal of Education Policy* 37 (1): 69–87. <https://doi.org/10.1080/02680939.2020.1751884>.
- . Forthcoming. "The Economization of Early Life: Human Capital Theory, Biology, and Social Policy." *Science, Technology & Human Values*.
- Griffen, Zachary Webster, and Aaron Panofsky. 2020. "VAM on Trial: Judging Science in Teacher Evaluation Lawsuits." *Journal of Cultural Economy* 13 (4): 444–60. <https://doi.org/10.1080/17530350.2020.1726792>.
- . 2021. "Ambivalent Economizations: The Case of Value Added Modeling in Teacher Evaluation." *Theory and Society* 50 (3): 515–39.
- Griffen, Zachary Webster, and Stefan Timmermans. 2020. "The Cost of Saving Babies: How Economists Justify Policies." *Economy and Society* 49 (2): 265–86. <https://doi.org/10.1080/03085147.2019.1690277>.
- Grignon, Michel, Jeremiah Hurley, David Feeny, Emmanuel Guindon, and Christina Hackett. 2018. "Moral Hazard in Health Insurance." *Œconomia. History, Methodology, Philosophy*, no. 8–3 (September): 367–405. <https://doi.org/10.4000/oeconomia.3470>.
- Grim, Ryan. 2018. "Nancy Pelosi's Fight: How She Revived Obamacare After Democrats Left It for Dead." *The Intercept* (blog). November 20, 2018. <https://theintercept.com/2018/11/20/nancy-pelosi-obamacare-democrats/>.
- Grissmer, David. 1999. "Conclusion: Class Size Effects: Assessing the Evidence, Its Policy Implications, and Future Research Agenda." *Educational Evaluation and Policy Analysis* 21 (2): 231–48. <https://doi.org/10.3102/01623737021002231>.

- Gross, Neil. 2013. *Why Are Professors Liberal and Why Do Conservatives Care?* Cambridge, Mass.: Harvard University Press.
- Grosse, Scott D. 2008. "Assessing Cost-Effectiveness in Healthcare: History of the \$50,000 per QALY Threshold." *Expert Review of Pharmacoeconomics & Outcomes Research* 8 (2): 165–78. <https://doi.org/10.1586/14737167.8.2.165>.
- Grossman, Michael. 1972a. *The Demand for Health: A Theoretical and Empirical Investigation*. New York; distributed by Columbia University Press: National Bureau of Economic Research ;
- . 1972b. "On the Concept of Health Capital and the Demand for Health." *Journal of Political Economy* 80 (2): 223–55. <https://doi.org/10.1086/259880>.
- Gruber, Jonathan. 1992. "Changes in the Structure of Employer-Provided Health Insurance." Ph.D., United States -- Massachusetts: Harvard University. <https://search.proquest.com/pqdtglobal/docview/304000122/8A9D414C609D462EPQ/2>.
- . 2019. Connections: Jonathan Gruber on Rochester as an economic growth engine Interview by Evan Dawson and Megan Mack. Radio. <https://www.wxnews.org/connections/2019-04-17/connections-jonathan-gruber-on-rochester-as-an-economic-growth-engine>.
- Gruber, Jonathan, and Alan B. Krueger. 1991. "The Incidence of Mandated Employer-Provided Insurance: Lessons from Workers' Compensation Insurance." In *Tax Policy and the Economy*, 5:111–44. Cambridge, Mass.: MIT Press. <https://www.nber.org/chapters/c11270>.
- Gupta, Ankur, Larry A. Allen, Deepak L. Bhatt, Margueritte Cox, Adam D. DeVore, Paul A. Heidenreich, Adrian F. Hernandez, et al. 2018. "Association of the Hospital Readmissions Reduction Program Implementation With Readmission and Mortality Outcomes in Heart Failure." *JAMA Cardiology* 3 (1): 44. <https://doi.org/10.1001/jamacardio.2017.4265>.
- Gyimah-Brempong, Kwabena, and Anthony O. Gyapong. 1992. "Elasticities of Factor Substitution in the Production of Education." *Economics of Education Review* 11 (3): 205–17. [https://doi.org/10.1016/0272-7757\(92\)90052-5](https://doi.org/10.1016/0272-7757(92)90052-5).
- Hacker, Jacob S. 1997. *The Road to Nowhere: The Genesis of President Clinton's Plan for Health Security*. Princeton Studies in American Politics. Princeton, NJ: Princeton University Press. <http://catdir.loc.gov/catdir/toc/prin031/96008083.html>.
- . 2004. "Privatizing Risk without Privatizing the Welfare State: The Hidden Politics of Social Policy Retrenchment in the United States." *The American Political Science Review* 98 (2): 243–60.

- . 2009. “Healthy Competition — The Why and How of ‘Public-Plan Choice.’” *New England Journal of Medicine* 360 (22): 2269–71. <https://doi.org/10.1056/NEJMp0903210>.
- Hacking, Ian. 1990. *The Taming of Chance*. Ideas in Context. Cambridge, United Kingdom: Cambridge University Press.
- . 1994. “Styles of Scientific Thinking or Reasoning: A New Analytical Tool for Historians and Philosophers of the Sciences.” In *Trends in the Historiography of Science*, edited by Kostas Gavroglu, Jean Christianidis, and Efthymios Nicolaidis, 31–48. Boston Studies in the Philosophy of Science 151. Springer Netherlands. http://link.springer.com/chapter/10.1007/978-94-017-3596-4_3.
- . 1996. “The Looping Effects of Human Kinds.” In *Causal Cognition: A Multidisciplinary Debate*, 351–83. Oxford, UK: Oxford University Press.
- Hall, Peter A, ed. 1989. *The Political Power of Economic Ideas: Keynesianism across Nations*. Princeton, N.J.: Princeton University Press.
- Hallett, Tim, Orla Stapleton, and Michael Sauder. 2019. “Public Ideas: Their Varieties and Careers.” *American Sociological Review* 84 (3): 545–76. <https://doi.org/10.1177/0003122419846628>.
- Hamermesh, Daniel S. 2013. “Six Decades of Top Economics Publishing: Who and How?” *Journal of Economic Literature* 51 (1): 162–72. <https://doi.org/10.1257/jel.51.1.162>.
- . 2018. “Citations in Economics: Measurement, Uses, and Impacts.” *Journal of Economic Literature* 56 (1): 115–56. <https://doi.org/10.1257/jel.20161326>.
- Hammer, Peter Joseph, Deborah Haas-Wilson, William M. Sage, and Mark A. Peterson. 2003. *Uncertain Times: Kenneth Arrow and the Changing Economics of Health Care*. Durham: Duke University Press.
- Hammond, R. J. 1960. *Benefit-Cost Analysis and Water-Pollution Control*. Stanford, Calif.: Food Research Institute, Stanford University.
- Hanushek, Eric A. 1968. “The Education of Negroes and Whites.” Cambridge, MA: Massachusetts Institute of Technology.
- . 1970a. *Teacher Characteristics and Gains in Student Achievement: Estimation Using Micro-Data*. [U.S. Air Force Academy, Colo.].
- . 1970b. *The Value of Teachers in Teaching [by] Eric Hanushek*. Santa Monica, Calif.: Rand.
- . 1972. *Education and Race; an Analysis of the Educational Production Process*. Lexington, Mass.: Lexington Books.

- . 1986. “The Economics of Schooling: Production and Efficiency in Public Schools.” *Journal of Economic Literature* 24 (3): 1141–77.
- . 2011. “Valuing Teachers: How Much Is a Good Teacher Worth?” *Education Next* 11 (3): 41–45.
- Hanushek, Eric A., John F. Kain, and Steven G. Rivkin. 1998. “Teachers, Schools, and Academic Achievement.” Working Paper 6691. National Bureau of Economic Research. <https://doi.org/10.3386/w6691>.
- Hanushek, Eric A., and Steven Rivkin. 2012. “The Distribution of Teacher Quality and Implications for Policy.” *Annual Review of Economics* 4: 131–57.
- Harris, Douglas N. 2011. *Value-Added Measures in Education : What Every Educator Needs to Know*. Cambridge, Mass.: Harvard Education Press.
- . 2017. “Why Managed Competition Is Better than a Free Market for Schooling.” Washington, D.C.: Brookings Institute.
- . 2020. *Charter School City: What the End of Traditional Public Schools in New Orleans Means for American Education*. Chicago: The University of Chicago Press.
- Harris, Elizabeth A., and Ford Fessenden. 2017. “The Broken Promises of Choice in New York City Schools.” *The New York Times*, May 5, 2017, sec. New York. <https://www.nytimes.com/2017/05/05/nyregion/school-choice-new-york-city-high-school-admissions.html>.
- Hartley, Harry J. 1969. “PPBS and Cost Effectiveness Analysis.” *Educational Administration Quarterly* 5 (1): 65–80. <https://doi.org/10.1177/0013131X6900500106>.
- Hartley, Jonathan S. 2022. “The New Supply-Side Economics,” March, 27.
- Harvey, David. 2005. *A Brief History of Neoliberalism*. Oxford, UK: Oxford University Press.
- . 2017. *Marx, Capital, and the Madness of Economic Reason*. Oxford, UK: Oxford University Press.
- Heckman, James J., Jora Stixrud, and Sergio Urzua. 2006. “The Effects of Cognitive and Noncognitive Abilities on Labor Market Outcomes and Social Behavior.” *Journal of Labor Economics* 24 (3): 411–82. <https://doi.org/10.1086/504455>.
- Hedges, Larry V., and Jacob Schauer. 2018. “Randomised Trials in Education in the USA.” *Educational Research* 60 (3): 265–75. <https://doi.org/10.1080/00131881.2018.1493350>.

- Herman, Bob. 2021. "Medicare Advantage Still Grew during the Pandemic, and It's Only Getting Larger." *Axios*. 2021. <https://www.axios.com/medicare-advantage-enrollment-spending-pandemic-risk-adjustment-d1a608ff-15eb-47bf-8952-0e1c5af097d5.html>.
- Himelfarb, Richard. 1995. *Catastrophic Politics: The Rise and Fall of the Medicare Catastrophic Coverage Act of 1988*. University Park, PA: Pennsylvania State University Press.
- Hirschman, Daniel. 2021. "Rediscovering the 1%: Knowledge Infrastructures and the Stylized Facts of Inequality." *American Journal of Sociology* 127 (3): 739–86. <https://doi.org/10.1086/718451>.
- . n.d. "Inventing the Economy: Or, How We Learned to Stop Worrying and Love the GDP." Dissertation. University of Michigan.
- Hirschman, Daniel, and Elizabeth Popp Berman. 2014. "Do Economists Make Policies? On the Political Effects of Economics." *Socio-Economic Review* 12 (4): 779–811. <https://doi.org/10.1093/ser/mwu017>.
- Hirschman, Daniel, Ellen Berrey, and Fiona Rose-Greenland. 2016. "Dequantifying Diversity: Affirmative Action and Admissions at the University of Michigan." *Theory and Society* 45 (3): 265–301. <https://doi.org/10.1007/s11186-016-9270-2>.
- Hodas, Steven. 1993. "Is Water an Input to a Fish? Problems with the Production-Function Model in Education." *Education Policy Analysis Archives* 1 (0): 12. <https://doi.org/10.14507/epaa.v1n12.1993>.
- Hoeyer, Klaus, Susanne Bauer, and Martyn Pickersgill. 2019. "Datafication and Accountability in Public Health: Introduction to a Special Issue." *Social Studies of Science* 49 (4): 459–75. <https://doi.org/10.1177/0306312719860202>.
- Hoffman, Beatrix. 2006. "Restraining the Health Care Consumer: The History of Deductibles and Co-Payments in U. S. Health Insurance." *Social Science History* 30 (4): 501–28.
- . 2012. *Health Care for Some: Rights and Rationing in the United States since 1930*.
- Holden, Laura, and Jeff Biddle. 2017. "The Introduction of Human Capital Theory into Education Policy in the United States." *History of Political Economy* 49 (4): 537–74. <https://doi.org/10.1215/00182702-4296305>.
- Horn, Jim, and Denise Wilburn. 2013. *The Mismeasure of Education*. Charlotte, NC: Information Age Publishing.

- Hoxby, Caroline M. 1996. "How Teachers' Unions Affect Education Production." *The Quarterly Journal of Economics* 111 (3): 671–718. <https://doi.org/10.2307/2946669>.
- . 2000. "The Effects of Class Size on Student Achievement: New Evidence from Population Variation." *The Quarterly Journal of Economics* 115 (4): 1239–85.
- . 2003. "Program Report: Economics of Education." Cambridge, MA: National Bureau of Economic Research.
- Hsiao, William C. 1992. "Comparing Health Care Systems: What Nations Can Learn from One Another." *Journal of Health Politics, Policy and Law* 17 (4): 613–36. <https://doi.org/10.1215/03616878-17-4-613>.
- . 2007. "The Political Economy of Chinese Health Reform." *Health Economics, Policy, and Law* 2 (Pt 3): 241–49. <https://doi.org/10.1017/S1744133107004197>.
- Hsiao, William C., Anna Gosline Knight, Steven Kappel, and Nicolae Done. 2011. "What Other States Can Learn From Vermont's Bold Experiment: Embracing A Single-Payer Health Care Financing System." *Health Affairs* 30 (7): 1232–41. <https://doi.org/10.1377/hlthaff.2011.0515>.
- Hughes, E. F., V. R. Fuchs, J. E. Jacoby, and E. M. Lewit. 1972. "Surgical Work Loads in a Community Practice." *Surgey* 71 (3): 315–27.
- Hutt, Ethan L. 2016. "Surveying the Nation: Longitudinal Surveys and the Construction of National Solutions to Educational Inequity." *Ethics and Education* 11 (2): 240–58. <https://doi.org/10.1080/17449642.2016.1185834>.
- . 2017. "'Seeing Like a State' in the Postwar Era: The Coleman Report, Longitudinal Datasets, and the Measurement of Human Capital." *History of Education Quarterly* 57 (4): 615–25. <https://doi.org/10.1017/heq.2017.36>.
- Il, Vann R. Newkirk. 2017. "Seema Verma's Plan to Make Poor People Pay More for Less." *The Atlantic*, February 17, 2017. <https://www.theatlantic.com/politics/archive/2017/02/seema-vermas-vision-for-medicaid/517077/>.
- Insinga, R., R Laessig, and G Hoffman. 2002. "Newborn Screening with Tandem Mass Spectrometry: Examining Its Cost-Effectiveness in the Wisconsin Newborn Screening Panel." *The Journal of Pediatrics* 141 (4): 524–31.
- Irwin, Neil. 2014. "The Jonathan Gruber Controversy and Washington's Dirty Little Secret." *The New York Times*, November 12, 2014, sec. The Upshot. <https://www.nytimes.com/2014/11/13/upshot/the-jonathan-gruber-controversy-and-washingtons-dirty-little-secret.html>.

- Jabbar, Huriya, and Francine Menashy. 2022. "Economic Imperialism in Education Research: A Conceptual Review." *Educational Researcher* 51 (4): 279–88. <https://doi.org/10.3102/0013189X211066114>.
- Jackson, C. Kirabo. 2012. "School Competition and Teacher Labor Markets: Evidence from Charter School Entry in North Carolina." *Journal of Public Economics* 96 (5): 431–48. <https://doi.org/10.1016/j.jpubeco.2011.12.006>.
- Jacobs, David C. 1987. "The UAW and the Committee for National Health Insurance: The Contours of Social Unionism." In *Advances in Industrial and Labor Relations*, 4:119–40. JAI Press.
- Jacobs, Lawrence R., and Theda Skocpol. 2012. *Health Care Reform and American Politics: What Everyone Needs to Know*. New York: Oxford University Press.
- Jasanoff, Sheila. 2004. *States of Knowledge: The Co-Production of Science and Social Order*. Routledge.
- Jatteau, Arthur. 2018. "The Success of Randomized Controlled Trials: A Sociographical Study of the Rise of J-PAL to Scientific Excellence and Influence." *Historical Social Research / Historische Sozialforschung* 43 (3 (165)): 94–119.
- Johnson, Lyndon B. 1966. "Special Message to the Congress on Domestic Health and Education." <http://www.presidency.ucsb.edu/ws/index.php?pid=28111>.
- Jones, Daniel Stedman. 2012. *Masters of the Universe: Hayek, Friedman, and the Birth of Neoliberal Politics*. Princeton: University Press.
- Jost, Timothy S. 2007. *Health Care at Risk: A Critique of the Consumer-Driven Movement*. Durham: Duke University Press.
- Kelly, Andrew S. 2023. "Private Power in Public Programs: Medicare, Medicaid, and the Structural Power of Private Insurance." *Studies in American Political Development*, January, 1–17. <https://doi.org/10.1017/S0898588X22000207>.
- Kenny, Katherine E. 2017. "From 'Health for All' to 'Health as Investment: The Role of Economic Rationalities in the Transition from International to Global Health 1978–2013." In *History of Economic Rationalities*, 121–31. Ethical Economy. Springer, Cham. https://doi.org/10.1007/978-3-319-52815-1_13.
- Kershaw, Joseph A., and Roland N. McKean. 1959. "Systems Analysis and Education." Product Page. 1959. http://www.rand.org/pubs/research_memoranda/RM2473.html.
- Keynes, John Maynard. 1936. *The General Theory of Employment, Interest, and Money*. London, UK: Palgrave Macmillan.

- Khazan, Olga. 2018. "Why a Study on Opioids Ignited a Twitter Firestorm." *The Atlantic*. March 14, 2018. <https://www.theatlantic.com/health/archive/2018/03/moral-hazard-opioid/555389/>.
- Kiker, B. F. 1966. "The Historical Roots of the Concept of Human Capital." *Journal of Political Economy* 74 (5): 481–99.
- . 1968. *Human Capital: In Retrospect*. Columbia: University of South Carolina, Bureau of Business and Economic Research.
- Kim, Kyung-Man. 1996. "Hierarchy of Scientific Consensus and the Flow of Dissensus Over Time." *Philosophy of the Social Sciences* 26 (1): 3–25. <https://doi.org/10.1177/004839319602600101>.
- Kisch, Arnold I., Joel W. Kovner, Leona J. Harris, and George Kline. 1969. "A New Proxy Measure for Health Status." *Health Services Research* 4 (3): 223–30.
- Kisch, Arnold I., and Paul R. Torrens. 1974. "Health Status Assessment in the Health Insurance Study." *Inquiry* 11 (1): 40–52.
- Klarman, Herbert E. 1965. *The Economics of Health*. New York: B Columbia University Press.
- . 1968. "The Contribution of Health Services to Economic Growth and Well-Being." In *Federal Programs for the Development of Human Resources: A Compendium of Papers Submitted to the Subcommittee on Economic Progress of the Joint Economic Committee*, edited by U.S. Congress Joint Economic Committee, 2:451–68. Washington, D.C.: United States Government Printing Office.
- , ed. 1970. *Empirical Studies in Health Economics; Proceedings*. Baltimore: Johns Hopkins Press.
- . 1979a. "Health Economics and Health Economics Research." *The Milbank Memorial Fund Quarterly. Health and Society* 57 (3): 371–79. <https://doi.org/10.2307/3349792>.
- . 1979b. "Health Economics and Health Economics Research." *The Milbank Memorial Fund Quarterly* 57 (3): 371–79.
- . 1982. "The Road to Cost-Effectiveness Analysis." *The Milbank Memorial Fund Quarterly. Health and Society* 60 (4): 585–603. <https://doi.org/10.2307/3349692>.
- Klees, Steven J. 1991. "The Economics of Education: Is That All There Is?" Edited by George Psacharopoulos and Mark Blaug. *Comparative Education Review* 35 (4): 721–34.

- Klein, Ezra. 2021a. "Opinion | Four Ways of Looking at the Radicalism of Joe Biden." *The New York Times*, April 8, 2021, sec. Opinion. <https://www.nytimes.com/2021/04/08/opinion/biden-jobs-infrastructure-economy.html>.
- . 2021b. "The Economic Mistake the Left Is Finally Confronting." *The New York Times*, September 19, 2021, sec. Opinion. <https://www.nytimes.com/2021/09/19/opinion/supply-side-progressivism.html>.
- Klein, Jennifer 1967-. 2003. *For All These Rights: Business, Labor, and the Shaping of America's Public-Private Welfare State*. Politics and Society in Twentieth-Century America. Princeton, N.J.: Princeton University Press.
- Klein, Naomi. 2007. *The Shock Doctrine: The Rise of Disaster Capitalism*. 1st ed. New York: Metropolitan Books/Henry Holt.
- Kliff, Sarah. 2020. "Republicans Killed the Obamacare Mandate. New Data Shows It Didn't Really Matter." *The New York Times*, September 18, 2020, sec. The Upshot. <https://www.nytimes.com/2020/09/18/upshot/obamacare-mandate-republicans.html>.
- Kliff, Sarah, and Dylan Scott. 2018. "We Read 9 Democratic Plans for Expanding Health Care. Here's How They Work." *Vox* (blog). December 13, 2018. <https://www.vox.com/2018/12/13/18103087/medicare-for-all-explained-single-payer-health-care-sanders-jayapal>.
- Knorr-Cetina, K., and Alex Preda. 2012. *The Oxford Handbook of the Sociology of Finance*. 1st ed. [Oxford Handbooks Series]. Oxford, UK: University Press. <https://doi.org/10.1093/oxfordhb/9780199590162.001.0001>.
- Krause, Monika. 2017. "How Fields Vary." *The British Journal of Sociology*, April, n/a-n/a. <https://doi.org/10.1111/1468-4446.12258>.
- Krueger, Alan B. 2003. "Economic Considerations and Class Size." *The Economic Journal* 113 (485): F34–63.
- Krueger, Alan B., Eric A. Hanushek, and Jennifer King Rice. 2002. *The Class Size Debate: What the Evidence Means for Education Policy*. Washington, D.C.: Economic Policy Institute.
- Kvaal, James. 2022. "Announcing the First-Ever Chief Economist at ED." *Home Room: The Official Blog of the U.S. Department of Education* (blog). June 8, 2022. <https://blog.ed.gov/2022/06/announcing-the-first-ever-chief-economist-at-ed/>.
- Labaree, David F. 2011. "The Lure of Statistics for Educational Researchers." *Educational Theory* 61 (6): 621–32.

- Ladd, Helen F, Charles T Clotfelter, and John B Holbein. 2015. "The Growing Segmentation of the Charter School Sector in North Carolina." Working Paper 21078. National Bureau of Economic Research. <https://doi.org/10.3386/w21078>.
- Ladd, Helen F., and John D. Singleton. 2018. "The Fiscal Externalities of Charter Schools: Evidence from North Carolina." *Education Finance and Policy*, August, 1–18. https://doi.org/10.1162/edfp_a_00272.
- Lagemann, Ellen Condliffe. 2000. *An Elusive Science: The Troubling History of Education Research*. Chicago: University of Chicago Press.
- Lahut, Jake. 2020. "Jared Kushner's Coronavirus 'impact Team' Mocked as the 'Slim Suit Crowd' and a 'Frat Party' Descended from a UFO." Business Insider. 2020. <https://www.businessinsider.com/coronavirus-kushner-impact-team-mocked-slim-suit-crowd-frat-party-2020-4>.
- Lamont, Michèle. 1987. "How to Become a Dominant French Philosopher: The Case of Jacques Derrida." *American Journal of Sociology* 93 (3): 584–622.
- . 2012. "Toward a Comparative Sociology of Valuation and Evaluation." *Annual Review of Sociology* 38 (1): 201–21. <https://doi.org/10.1146/annurev-soc-070308-120022>.
- Lampman, Robert J. 1966. "Toward an Economics of Health, Education, and Welfare." *The Journal of Human Resources* 1 (1): 45–53. <https://doi.org/10.2307/145014>.
- Laruffa, Francesco. 2022. "Neoliberalism, Economization and the Paradox of the New Welfare State." *European Journal of Sociology / Archives Européennes de Sociologie* 63 (1): 131–63. <https://doi.org/10.1017/S0003975622000169>.
- Latour, Bruno. 1987. *Science In Action: How to Follow Scientists and Engineers Through Society*. Cambridge, MA: Harvard University Press.
- Latour, Bruno, and Steve Woolgar. 1979. *Laboratory Life: The Construction of Scientific Facts*. Beverly Hills, CA: Sage Publications.
- Laugesen, Miriam J. 2016. *Fixing Medical Prices: How Physicians Are Paid*. Cambridge, MA: Harvard University Press.
- Lazear, Edward P. 2000. "Economic Imperialism." *The Quarterly Journal of Economics* 115 (1): 99–146. <https://doi.org/10.1162/003355300554683>.
- Leonard, Robert. 1989. "To Advance Human Welfare! Economics and the Ford Foundation, 1950-1968." Working Paper. Duke University.
- Leonard, Thomas C. 2000. "The Very Idea of Applying Economics: The Modern Minimum-Wage Controversy and Its Antecedents." *History of Political Economy* 32 (Suppl_1): 117–44. https://doi.org/10.1215/00182702-32-Suppl_1-117.

- . 2016. *Illiberal Reformers: Race, Eugenics, & American Economics in the Progressive Era*. Princeton: Princeton University Press.
- Levin, Henry M. 1968. "The Failure of the Public Schools and the Free Market Remedy." *The Urban Review* 2 (7): 32–37. <https://doi.org/10.1007/BF02223251>.
- . 1970. "A Cost-Effectiveness Analysis of Teacher Selection." *The Journal of Human Resources* 5 (1): 24–33. <https://doi.org/10.2307/144622>.
- . 1983. *Cost-Effectiveness: A Primer*. New Perspectives in Evaluation ; v. 4. Beverly Hills: Sage Publications.
- . 1988. "Cost-Effectiveness and Educational Policy." *Educational Evaluation and Policy Analysis* 10 (1): 51–69. <https://doi.org/10.2307/1163864>.
- . 2001. "Waiting for Godot: Cost-Effectiveness Analysis in Education." *New Directions for Evaluation* 2001 (90): 55. <https://doi.org/10.1002/ev.12>.
- . 2012. "Some Economic Guidelines for Design of a Charter School District." *Economics of Education Review*, Special Issue: Charter Schools, 31 (2): 331–43. <https://doi.org/10.1016/j.econedurev.2011.08.010>.
- Levitz, Eric. 2021. "Biden's COVID-Relief Bill Is a Big F**king Deal." *Intelligencer* (blog). March 9, 2021. <https://nymag.com/intelligencer/2021/03/what-is-in-covid-relief-bill-stimulus-checks-biden-progressives.html>.
- Levy, Scott, Nicholas Bagley, and Rahul Rajkumar. 2018. "Reform at Risk — Mandating Participation in Alternative Payment Plans." *New England Journal of Medicine* 378 (18): 1663–65. <https://doi.org/10.1056/NEJMp1800483>.
- List, John A. 2022. *The Voltage Effect: How to Make Good Ideas Great and Great Ideas Scale* / John A. List. New York: Currency.
- Livne, Roi. 2019. *Values at the End of Life: The Logic of Palliative Care*. Cambridge, MA: Harvard University Press.
- . 2021. "Toward a Sociology of Finitude: Life, Death, and the Question of Limits." *Theory and Society*, May. <https://doi.org/10.1007/s11186-021-09448-y>.
- Long, David C., and Sandra H. McMullan. 1982. "Educational Productivity Issues in School Finance Litigation." In *Productivity Assessment in Education*, edited by Anita A. Summers, 17–28. San Francisco, CA: Jossey-Bass Inc.
- Lowrey, Annie. 2022. "A Democratic Economist's Case Against Biden's Student-Loan Plan." *The Atlantic*. August 26, 2022. <https://www.theatlantic.com/ideas/archive/2022/08/an-economists-case-against-biden-student-loan-forgiveness-plan/671259/>.

- Lynn, Laurence E., and John M. Seidl. 1975. “[INTRODUCTION]: Policy Analysis at HEW: The Story of the Mega-Proposal.” *Policy Analysis* 1 (2): 232–73.
- MacKenzie, Donald A. 2006. *An Engine, Not a Camera: How Financial Models Shape Markets*. Cambridge, Mass.: MIT Press.
- MacKenzie, Donald A., Fabian Muniesa, and Lucia Siu. 2007. *Do Economists Make Markets?: On the Performativity of Economics*. Princeton: Princeton University Press.
- MacLean, Nancy. 2017. *Democracy in Chains: The Deep History of the Radical Right’s Stealth Plan for America*.
- Maier, Charles S. 1977. “The Politics of Productivity: Foundations of American International Economic Policy after World War II.” *International Organization* 31 (4): 607–33.
- Mandelblatt, Jeanne S, Dennis G Fryback, Milton C Weinstein, Louise B Russell, Marthe R Gold, and Medicine. 1997. “Assessing the Effectiveness of Health Interventions for Cost-Effectiveness Analysis.” *Journal of General Internal Medicine* 12 (9): 551–58. <https://doi.org/10.1046/j.1525-1497.1997.07107.x>.
- Manning, Alan. 2021. “The Elusive Employment Effect of the Minimum Wage.” *Journal of Economic Perspectives* 35 (1): 3–26. <https://doi.org/10.1257/jep.35.1.3>.
- Marinescu, Ioana, Daphne Skandalis, and Daniel Zhao. 2021. “The Impact of the Federal Pandemic Unemployment Compensation on Job Search and Vacancy Creation.” Working Paper. Working Paper Series. National Bureau of Economic Research. <https://doi.org/10.3386/w28567>.
- Markoff, John, and Verónica Montecinos. 1993. “The Ubiquitous Rise of Economists.” *Journal of Public Policy* 13 (1): 37–68.
- Marmor, Theodore. 2000. *The Politics of Medicare*. New York: A. de Gruyter.
- Marmor, Theodore, and Jonathan Oberlander. 2011. “The Patchwork: Health Reform, American Style.” *Social Science & Medicine* 72 (2): 125–28. <https://doi.org/10.1016/j.socscimed.2010.10.016>.
- Martin, Douglas. 2014. “Rashi Fein, Economist Who Urged Medicare, Dies at 88.” *The New York Times*, September 13, 2014, sec. U.S. <https://www.nytimes.com/2014/09/14/us/rashi-fein-economist-who-urged-medicare-dies-at-88.html>.
- Martin, Isaac William. 2008. *The Permanent Tax Revolt: How Property Tax Transformed American Politics*. Stanford, CA: Stanford University Press.

- Marx, Karl. 1845. "Theses on Feuerbach." *Www.Marxists.Org*. 1845.
<https://www.marxists.org/archive/marx/works/1845/theses/theses.htm>.
- . 1867. *Capital: A Critique of Political Economy*. Translated by Ben Fowkes.
 London: Penguin Books.
- Mason, J.W. 2021. "The American Rescue Plan as Economic Theory." *Slackwire* (blog).
 2021. <http://jwmason.org/slackwire/the-american-rescue-plan-as-economic-theory/>.
- Mayrl, Damon, and Sarah Quinn. 2016. "Defining the State from within: Boundaries, Schemas, and Associational Policymaking." *Sociological Theory* 34 (1): 1–26.
<https://doi.org/10.1177/0735275116632557>.
- Mazzucato, Mariana, and Victor Roy. 2019. "Rethinking Value in Health Innovation: From Mystifications towards Prescriptions." *Journal of Economic Policy Reform* 22 (2): 101–19. <https://doi.org/10.1080/17487870.2018.1509712>.
- McCabe, Joshua. 2022. "A Primer on Options for a Child Tax Credit Compromise." Niskanen Center. December 9, 2022. <https://www.niskanencenter.org/primer-options-child-tax-credit-compromise/>.
- McCaffrey, Daniel F., Daniel Koretz, J. R. Lockwood, and Laura S. Hamilton. 2004. "Evaluating Value-Added Models for Teacher Accountability." Product Page. 2004. <http://www.rand.org/pubs/monographs/MG158.html>.
- McCloskey, Deirdre N. 1985. *The Rhetoric of Economics*. Madison, Wis.: University of Wisconsin Press.
- McDonough, John E. 2022. "Republicans Have Stopped Trying to Kill Obamacare. Here's What They're Planning Instead." *POLITICO*, April 26, 2022. <https://www.politico.com/news/magazine/2022/04/26/gop-obamacare-aca-health-care-00027585>.
- McGuire, Thomas G., Joseph P. Newhouse, and Anna D. Sinaiko. 2011. "An Economic History of Medicare Part C." *The Milbank Quarterly* 89 (2): 289–332. <https://doi.org/10.1111/j.1468-0009.2011.00629.x>.
- McHale, Patrick. 2022. "Larry Summers Says Student Loan Debt Relief Is Inflationary." *Bloomberg News*, August 22, 2022. <https://www.bloomberg.com/news/articles/2022-08-22/larry-summers-says-student-loan-debt-relief-is-inflationary>.
- McLean, Robert A, and William L Sanders. 1983. *Objective Component of Teacher Evaluation: A Feasibility Study*. Knoxville, Tenn.: University of Tennessee.
- Medvetz, Thomas. 2012a. *Think Tanks in America*. Chicago, IL: University of Chicago Press.

- . 2012b. “Murky Power: ‘Think Tanks’ as Boundary Organizations.” In *Rethinking Power in Organizations, Institutions, and Markets*, 34:113–33. Research in the Sociology of Organizations. Emerald Group Publishing Limited. [https://doi.org/10.1108/S0733-558X\(2012\)0000034007](https://doi.org/10.1108/S0733-558X(2012)0000034007).
- Mehta, Jal. 2013. *The Allure of Order: High Hopes, Dashed Expectations, and the Troubled Quest to Remake American Schooling*. New York: Oxford University Press.
- Melhado, Evan M. 1998. “Economists, Public Provision, and the Market: Changing Values in Policy Debate.” *Journal of Health Politics, Policy and Law* 23 (2): 215–63. <https://doi.org/10.1215/03616878-23-2-215>.
- . 2006. “Health Planning in the United States and the Decline of Public-Interest Policymaking.” *The Milbank Quarterly* 84 (2): 359–440. <https://doi.org/10.1111/j.1468-0009.2006.00451.x>.
- Merry, Sally Engle. 2016. *The Seductions of Quantification : Measuring Human Rights, Gender Violence, and Sex Trafficking*. Chicago : The University of Chicago Press,.
- Michaels, Erin. 2021. “The ‘Structurally Adjusted’ School: A Case from New York.” *Critical Sociology* 47 (7–8): 1171–89. <https://doi.org/10.1177/0896920521995535>.
- Michelson, Stephan. 1970. “The Association of Teacher Resourceness with Children’s Characteristics.” In *Do Teachers Make a Difference?*, 120–68. Washington D.C.: U.S. Department of Health, Education and Welfare, Office of Education, Bureau of Educational Personnel Development.
- Miles, Rufus E. 1974. *The Department of Health, Education, and Welfare*. The Praeger Library of U.S. Government Departments and Agencies. New York: Praeger.
- Miller, Daniel. 2002. “Turning Callon the Right Way Up.” *Economy and Society* 31 (2): 218–33. <https://doi.org/10.1080/03085140220123135>.
- Miller, Frances H., and Thomas L. Greaney. 2003. “The National Resident Matching Program and Antitrust Law.” *JAMA* 289 (7): 913–18. <https://doi.org/10.1001/jama.289.7.913>.
- Miller, Harold D. 2009. “From Volume To Value: Better Ways To Pay For Health Care.” *Health Affairs* 28 (5): 1418–28. <https://doi.org/10.1377/hlthaff.28.5.1418>.
- Mincer, Jacob. 1984. “Human Capital and Economic Growth.” *Economics of Education Review* 3 (3): 195–205. [https://doi.org/10.1016/0272-7757\(84\)90032-3](https://doi.org/10.1016/0272-7757(84)90032-3).
- Mirowski, Philip. 1989. *More Heat than Light: Economics as Social Physics, Physics as Nature’s Economics*. Cambridge; New York: Cambridge University Press.

- . 2013. *Never Let a Serious Crisis Go to Waste: How Neoliberalism Survived the Financial Meltdown*. London: Verso.
- Mirowski, Philip, and Edward Nik-Khah. 2007. "Markets Made Flesh: Peformativity, and a Problem in Science Studies, Augmented with a Consideration of the FCC Auctions." In *Do Economists Make Markets? On the Performativity of Economics*, edited by Donald A. MacKenzie, Fabian Muniesa, and Lucia Siu, 190–224. Princeton: Princeton University Press.
- Mirowski, Philip, and Dieter Plehwe. 2009. *The Road from Mont Pèlerin: The Making of the Neoliberal Thought Collective*. Cambridge, Mass: Harvard University Press.
- Mitchell, Timothy. 2002. *Rule of Experts: Egypt, Techno-Politics, Modernity*. University of California Press.
- . 2005. "Economists and the Economy in the Twentieth Century." In *The Politics of Method in the Human Sciences: Positivism and Its Epistemological Others*, edited by George Steinmetz, 126–41. Duke University Press.
- Monk, David H. 1989. "The Education Production Function: Its Evolving Role in Policy Analysis." *Educational Evaluation and Policy Analysis* 11 (1): 31–45. <https://doi.org/10.3102/01623737011001031>.
- Montecinos, Verónica, and John Markoff. 2009. *Economists in the Americas*. Cheltenham, UK; Northampton, MA: Edward Elgar.
- Mood, Alexander M., and Richard Powers. 1967. "Cost-Benefit Analysis of Education." Washington, D.C.: Division of Operations Analysis, National Center for Education Statistics.
- Moos, Kevin Andrew. 2015. "Better Health Is Purchasable: The History of Health Economics and Public Health, 1958-1975." Dissertation, San Francisco, CA: University of California, San Francisco.
- Morgan, Andrew, Minh Nguyen, Eric A. Hanushek, Ben Ost, and Steven G. Rivkin. 2023. "Attracting and Retaining Highly Effective Educators in Hard-to-Staff Schools." NBER Working Paper. Cambridge, MA. https://www.nber.org/system/files/working_papers/w31051/w31051.pdf.
- Morgan, Kimberly J., and Ann Shola Orloff. 2017. *The Many Hands of the State: Theorizing Political Authority and Social Control*. New York, NY: Cambridge University Press.
- Mosteller, Frederick. 1997. "The Tennessee Study of Class Size in the Early School Grades." *Bulletin of the American Academy of Arts and Sciences* 50 (7): 14–25. <https://doi.org/10.2307/3824562>.

- Mosteller, Frederick, and Robert Boruch. 2002. *Evidence Matters: Randomized Trials in Education Research*. Washington D.C.: Brookings Institution Press.
<https://www.jstor.org/stable/10.7864/j.ctvc16n69>.
- Mudge, Stephanie L. 2018. *Leftism Reinvented: Western Parties from Socialism to Neoliberalism*. Cambridge, MA: Harvard University Press.
- Murphy, Michelle. 2017. *The Economization of Life*. Durham, NC: Duke University Press.
- Mushkin, Selma J. 1958. "Toward a Definition of Health Economics." *Public Health Reports* 73 (9): 785–94.
- . 1962a. *Economics of Higher Education*. Washington, D.C.: U.S. Dept. of Health, Education, and Welfare, Office of Education.
- . 1962b. "Health as an Investment." *Journal of Political Economy* 70 (5): 129–57.
- . 1964. "Why Health Economics?" In *The Economics of Health and Medical Care: Proceedings of the Conference on the Economics of Health and Medical Care, May 10-12, 1962*. Ann Arbor, MI: The University of Michigan Press.
- Nakajima, Nozomi. 2021. "Evidence-Based Decisions and Education Policymakers." Working Paper. Harvard University.
- Nelson, Katherine, ed. 2006. *Narratives from the Crib: With a New Foreword by Emily Oster, the Child in the Crib*. Cambridge, MA: Harvard University Press.
- Nelson, Richard R. 1977. *The Moon and the Ghetto*. New York: Norton.
- Neumann, Peter J., Joshua T. Cohen, and Milton C. Weinstein. 2014. "Updating Cost-Effectiveness — The Curious Resilience of the \$50,000-per-QALY Threshold." *New England Journal of Medicine* 371 (9): 796–97.
<https://doi.org/10.1056/NEJMp1405158>.
- Neumann, Peter J., Teja Thorat, Jennifer Shi, Cayla J. Saret, and Joshua T. Cohen. 2015. "The Changing Face of the Cost-Utility Literature, 1990-2012." *Value in Health: The Journal of the International Society for Pharmacoeconomics and Outcomes Research* 18 (2): 271–77. <https://doi.org/10.1016/j.jval.2014.12.002>.
- Newhouse, Joseph P. 1993. *Free for All?: Lessons from the Rand Health Insurance Experiment*. Cambridge, Mass.: Harvard University Press.
- . 2004. "Consumer-Directed Health Plans And The RAND Health Insurance Experiment." *Health Affairs* 23 (6): 107–13.
<https://doi.org/10.1377/hlthaff.23.6.107>.

- Nik-Khah, Edward, and Philip Mirowski. 2019. "On Going the Market One Better: Economic Market Design and the Contradictions of Building Markets for Public Purposes." *Economy and Society* 48 (2): 268–94. <https://doi.org/10.1080/03085147.2019.1576431>.
- Nikpay, Sayeh, India Pungarcher, and Austin Frakt. 2020. "An Economic Perspective on the Affordable Care Act: Expectations and Reality." *Journal of Health Politics, Policy and Law* 45 (5): 889–904. <https://doi.org/10.1215/03616878-8543340>.
- Noah, Timothy. 2022. "May God Save Us From Economists." *The New Republic*, October 25, 2022. <https://newrepublic.com/article/168049/tyranny-economists-government>.
- Numbers, Ronald L. 1982. "The Specter of Socialized Medicine: American Physicians and Compulsory Health Insurance." In *Compulsory Health Insurance: The Continuing American Debate*, 3–24. Westport, Conn.: Greenwood Press.
- Oberlander, Jonathan. 2003. *The Political Life of Medicare*. Chicago: University of Chicago Press.
- Olson, Lynn. 2004. "'Value Added' Models Gain in Popularity - Education Week." *Education Week*, November 17, 2004. <https://www.edweek.org/ew/articles/2004/11/17/12value.h24.html?r=1628154311>.
- Opportunity Insights. 2019. "Opportunity Insights | Policy Solutions to the American Dream." Opportunity Insights. November 19, 2019. <https://opportunityinsights.org/>.
- Orren, Karen, and Stephen Skowronek. 2017. *The Policy State*. Cambridge: Harvard University Press.
- Oster, Emily. 2005a. "Hepatitis B and the Case of the Missing Women." *Journal of Political Economy* 113 (6): 1163–1216. <https://doi.org/10.1086/498588>.
- . 2005b. "Treating HIV Doesn't Pay." *Forbes*, July 2005. <https://www.forbes.com/forbes/2005/0725/044.html>.
- . 2014. *Expecting Better: Why the Conventional Pregnancy Wisdom Is Wrong--and What You Really Need to Know*. New York: Penguin Books.
- . 2019. *Cribsheet: A Data-Driven Guide to Better, More Relaxed Parenting, from Birth to Preschool*. Business Book Summary. New York: Penguin Press.
- . 2020a. "We're Thinking About School Closings and Reopenings Wrong." *Slate Magazine*. November 17, 2020. <https://slate.com/technology/2020/11/oster-school-closing-reopening-priorities-risk-benefit.html>.

- . 2020b. “Schools Are Not Spreading Covid-19. This New Data Makes the Case.” *Washington Post*, November 20, 2020, sec. Opinion.
- . 2021. *The Family Firm: A Data-Driven Guide to Better Decision Making in the Early School Years*. New York: Penguin Press.
- Owermohle, Sarah. 2023. “An Arnold Ventures Hire Raises Questions about Its Addiction Stance.” *STAT* (blog). April 12, 2023. <https://www.statnews.com/2023/04/12/arnold-ventures-jennifer-doleac-naloxone/>.
- Paige, Mark A. 2016. *Building a Better Teacher: Understanding Value-Added Models in the Law of Teacher Evaluation*. Lanham: Rowman & Littlefield.
- Panhans, Matthew T. 2018. “Health Economics: Scientific Expertise and Policymaking.” *Oeconomia. History, Methodology, Philosophy*, no. 8–3 (September): 279–311. <https://doi.org/10.4000/oeconomia.3091>.
- Panhans, Matthew T., and John D. Singleton. 2017. “The Empirical Economist’s Toolkit: From Models to Methods.” *History of Political Economy* 49 (Supplement): 127–57. <https://doi.org/10.1215/00182702-4166299>.
- Panofsky, Aaron. 2011. “Field Analysis and Interdisciplinary Science: Scientific Capital Exchange in Behavior Genetics.” *Minerva* 49 (3): 295–316.
- . 2014. *Misbehaving science: controversy and the development of behavior genetics*. Chicago, IL: University of Chicago Press.
- Parker, Jonathan A., Jake Schild, Laura Erhard, and David Johnson. 2022. “Household Spending Responses to the Economic Impact Payments of 2020: Evidence from the Consumer Expenditure Survey.” Working Paper. Working Paper Series. National Bureau of Economic Research. <https://doi.org/10.3386/w29648>.
- Parolin, Zachary, Elizabeth Ananat, Sophie M. Collyer, Megan Curran, and Christopher Wimer. 2021. “The Initial Effects of the Expanded Child Tax Credit on Material Hardship.” Working Paper. Working Paper Series. National Bureau of Economic Research. <https://doi.org/10.3386/w29285>.
- Parsons, Talcott, and Neil J Smelser. 1956. *Economy and Society: A Study in the Integration of Economic and Social Theory*. Glencoe, Ill.: Free Press.
- Pauly, Mark V. 1968. “The Economics of Moral Hazard: Comment.” *The American Economic Review* 58 (3): 531–37.
- . 1971. *Medical Care at Public Expense: A Study in Applied Welfare Economics*. New York: Praeger.

- . 1974. “Overinsurance and Public Provision of Insurance: The Roles of Moral Hazard and Adverse Selection.” *The Quarterly Journal of Economics* 88 (1): 44–62. <https://doi.org/10.2307/1881793>.
- Peck, Jamie. 2010. *Constructions of Neoliberal Reason*. Oxford, UK: Oxford University Press.
- Pilkaukas, Natasha, Katherine Micheltore, Nicole Kovski, and H. Luke Shaefer. 2022. “The Effects of Income on the Economic Wellbeing of Families with Low Incomes: Evidence from the 2021 Expanded Child Tax Credit.” Working Paper. Working Paper Series. National Bureau of Economic Research. <https://doi.org/10.3386/w30533>.
- Plecki, Margaret L. 2000. “Economic Perspectives on Investments in Teacher Quality.” *Education Policy Analysis Archives* 8 (33).
- Porter, Michael E. 2010. “What Is Value in Health Care?” *New England Journal of Medicine* 363 (26): 2477–81. <https://doi.org/10.1056/NEJMp1011024>.
- Porter, Michael E., and Thomas H. Lee. 2013. “The Strategy That Will Fix Health Care.” *Harvard Business Review*, October 2013. <https://hbr.org/2013/10/the-strategy-that-will-fix-health-care>.
- Porter, Michael E., and Elizabeth Olmsted Teisberg. 2006. *Redefining Health Care: Creating Value-Based Competition on Results*. Cambridge, MA: Harvard Business Press.
- Porter, Theodore M. 1992. “Objectivity as Standardization: The Rhetoric of Impersonality in Measurement, Statistics, and Cost-Benefit Analysis.” *Annals of Scholarship* 9 (1/2): 19–59.
- . 1995. *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life*. Princeton, N.J.: Princeton University Press.
- . 2007. “The Rise of Cost-Benefit Analysis as Solution to a Political Problem of Distrust.” *Research in Law and Economics: A Journal of Policy* 23: 337–44.
- Postone, Moishe. 1993. *Time, Labor, and Social Domination: A Reinterpretation of Marx’s Critical Theory*. Cambridge [England]; New York, NY, USA: Cambridge University Press.
- Prest, A. R., and R. Turvey. 1966. “Cost-Benefit Analysis: A Survey.” In *Surveys of Economic Theory*, 155–207. Palgrave Macmillan, London. https://doi.org/10.1007/978-1-349-00210-8_5.
- Priest, Dana. 1993. “Health Care Theorists of Jackson Hole: Policy Heroes or Special Interests?: ‘Managed Competition’ Group Says Industry’s Role Is Only Natural.” *The Washington Post (1974-Current File)*; Washington, D.C., March 12, 1993.

- Quadagno, Jill S. 2005. *One Nation, Uninsured: Why the U.S. Has No National Health Insurance*. New York: Oxford University Press.
- . 2014. “Right-Wing Conspiracy? Socialist Plot? The Origins of the Patient Protection and Affordable Care Act.” *Journal of Health Politics, Policy and Law* 39 (1): 35–56. <https://doi.org/10.1215/03616878-2395172>.
- Rampell, Catherine. 2009. “Economists’ Letter to Obama on Health Care Reform.” *Economix Blog* (blog). November 17, 2009. <https://economix.blogs.nytimes.com/2009/11/17/economists-letter-to-obama-on-health-care-reform/>.
- . 2012. “Jonathan Gruber, Health Care’s Mr. Mandate.” *The New York Times*, March 28, 2012, sec. Business Day. <https://www.nytimes.com/2012/03/29/business/jonathan-gruber-health-cares-mr-mandate.html>.
- Rauscher, Emily, and Yifan Shen. 2022. “Variation in the Relationship between School Spending and Achievement: Progressive Spending Is Efficient.” *American Journal of Sociology* 128 (1): 189–223. <https://doi.org/10.1086/719956>.
- Rayzberg, Margarita S. 2019. “Fairness in the Field: The Ethics of Resource Allocation in Randomized Controlled Field Experiments.” *Science, Technology, & Human Values* 44 (3): 371–98. <https://doi.org/10.1177/0162243918798471>.
- Reay, Michael J. 2012. “The Flexible Unity of Economics.” *American Journal of Sociology* 118 (1): 45–87. <https://doi.org/10.1086/666472>.
- Rebelo, Luís Pina. 2007. “The Origins and the Evolution of Health Economics: A Discipline by Itself? Led by Economists, Practitioners or Politics?” 16. Working Papers de Economia (Economics Working Papers). Católica Porto Business School, Universidade Católica Portuguesa. <https://ideas.repec.org/p/cap/wpaper/162007.html>.
- Reckhow, Sarah. 2013. *Follow the Money : How Foundation Dollars Change Public School Politics*. New York: Oxford University Press.
- Reichgott Junge, Ember. 2012. *Zero Chance of Passage : The Pioneering Charter School Story*. Edina, MN : Beaver’s Pond Press,.
- Rice, Dorothy P. 1964. “Health Insurance Coverage of the Aged and Their Hospital Utilization in 1962: Findings of the 1963 Survey of the Aged.” *Social Security Bulletin* 27 (7): 9–25.
- . 1991. “Ethics and Equity in U.S. Health Care: The Data.” *International Journal of Health Services* 21 (4): 637–51. <https://doi.org/10.2190/N70D-H1U1-TFYY-7PVB>.

- Rice, Dorothy P., and Barbara S. Cooper. 1967. "The Economic Value of Human Life." *American Journal of Public Health and the Nations Health* 57 (11): 1954–66.
- . 1968. "National Health Expenditures, 1950-66." *Social Security Bulletin* 31 (4).
- . 1969. "National Health Expenditures, 1950-67." *Social Security Bulletin* 32 (1).
- . 1970. "National Health Expenditures, 1929-68." *Social Security Bulletin* 33 (1).
- . 1971. "National Health Expenditures, 1929–70." *Social Security Bulletin* 34 (1).
- . 1972. "National Health Expenditures, 1929-71." *Social Security Bulletin* 35 (1).
- Rilinger, Georg. 2020. "Toward a Sociology of Economic Engineering: The Creation and Collapse of California's Electricity Markets Between 1993 and 2001." Dissertation. Chicago, IL.
- . 2022. "Discursive Multivocality: How the Proliferation of Economic Language Can Undermine the Political Influence of Economists." *Socio-Economic Review*, February. <https://doi.org/10.1093/ser/mwac004>.
- Ringer, Fritz K. 1992. *Fields of Knowledge: French Academic Culture in Comparative Perspective, 1890-1920*. Cambridge [England]; New York: Cambridge University Press.
- Rivlin, Alice M. 1961. *The Role of the Federal Government in Financing Higher Education*. Washington: Brookings Institution.
- . 1962. "Research in the Economics of Higher Education: Progress and Problems." In *Economics of Higher Education*, edited by Selma J Mushkin, 357–83. Washington: U.S. Dept. of Health, Education, and Welfare, Office of Education.
- . 1971. *Systematic Thinking for Social Action*. Washington: Brookings Institution.
- . 1974. "Agreed: Here Comes National Health Insurance." *The New York Times*, July 21, 1974. <https://www.nytimes.com/1974/07/21/archives/agreed-here-comes-national-health-insurance-question-what-kind.html>.
- Robin, Corey. 2019. "The Obamanauts." *Dissent Magazine*, Fall 2019. <https://www.dissentmagazine.org/article/the-obamanauts>.
- Robinson, Joan. 1933. *The Economics of Imperfect Competition*,. London: Macmillan and Co., Ltd.
- Rocco, Philip, and Andrew S. Kelly. 2020. "An Engine of Change? The Affordable Care Act and the Shifting Politics of Demonstration Projects." *RSF: The Russell Sage*

- Foundation Journal of the Social Sciences* 6 (2): 67–84.
<https://doi.org/10.7758/RSF.2020.6.2.03>.
- Rockoff, Jonah. 2009. "Field Experiments in Class Size from the Early Twentieth Century." *Journal of Economic Perspectives* 23 (4): 211–30.
<https://doi.org/10.1257/jep.23.4.211>.
- Roemer, M I. 1985. "I.S. Falk, the Committee on the Costs of Medical Care, and the Drive for National Health Insurance." *American Journal of Public Health* 75 (8): 841–48. <https://doi.org/10.2105/AJPH.75.8.841>.
- Rojas, Fabio. 2007. *From Black Power to Black Studies: How a Radical Social Movement Became an Academic Discipline*. Baltimore: Johns Hopkins University Press.
- Rosenkrantz, Barbara G., and David Rosner. 1982. "Living History." *American Journal of Public Health* 72 (10): 1170–71. <https://doi.org/10.2105/AJPH.72.10.1170>.
- Roth, Alvin E. 2003. "The Origins, History, and Design of the Resident Match." *JAMA* 289 (7): 909–12. <https://doi.org/10.1001/jama.289.7.909>.
- . 2008. "Deferred Acceptance Algorithms: History, Theory, Practice, and Open Questions." *International Journal of Game Theory* 36 (3–4): 537–69.
<https://doi.org/10.1007/s00182-008-0117-6>.
- . 2015. *Who Gets What—and Why: The New Economics of Matchmaking and Market Design*. Boston, MA: Houghton Mifflin Harcourt.
- Rothschild, Anna, and Sinduja Srinivasan. 2020. "The Federal Government Wasn't Tracking COVID-19 Cases In Schools, So Emily Oster Decided To Do It Herself." *FiveThirtyEight* (blog). December 11, 2020.
<https://fivethirtyeight.com/videos/there-was-no-national-database-tracking-covid-19-cases-in-schools-so-emily-oster-made-one/>.
- Rothschild, Michael, and Joseph Stiglitz. 1976. "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information." *The Quarterly Journal of Economics* 90 (4): 629–49. <https://doi.org/10.2307/1885326>.
- Russell, Louise B, and Marthe R Gold. 1996. "The Role of Cost-Effectiveness Analysis in Health and Medicine." *JAMA: Journal of the American Medical Association* 276 (14).
- Santos Silva, Eric Kaun dos, June Alisson Westarb Cruz, Maria Alexandra Viegas Cortez da Cunha, Thyago Proença de Moraes, Sandro Marques, and Eduardo Damião da Silva. 2021. "Cost-Effectiveness in Health: Consolidated Research and Contemporary Challenges." *Humanities and Social Sciences Communications* 8 (1): 1–10. <https://doi.org/10.1057/s41599-021-00940-5>.

- Sarat, Austin, and Susan Silbey. 1988. "The Pull of the Policy Audience." *Law & Policy* 10 (2–3): 97–166. <https://doi.org/10.1111/j.1467-9930.1988.tb00007.x>.
- Sass, Tim R. 2006. "Charter Schools and Student Achievement in Florida." *Education Finance and Policy* 1 (1): 91–122. <https://doi.org/10.1162/edfp.2006.1.1.91>.
- Schabas, Margaret. 1992. "Breaking Away: History of Economics as History of Science." *History of Political Economy* 24 (1): 187–203. <https://doi.org/10.1215/00182702-24-1-187>.
- . 2002. "Coming Together: History of Economics as History of Science." *History of Political Economy* 34 (Suppl 1): 208–25. https://doi.org/10.1215/00182702-34-Suppl_1-208.
- . 2005. *The Natural Origins of Economics*. Chicago: University of Chicago Press.
- Schelling, Thomas C. 1968. "The Life You Save May Be Your Own." In *Problems in Public Expenditure Analysis*, edited by Samuel B. Chase Jr., 127–62. Washington, D.C.: Brookings Institution.
- Schmidt, Laura. 1999. "The Corporate Transformation of American Health Care: A Study in Institution Building." Dissertation, Berkeley, CA: University of California, Berkeley.
- Schultz, Theodore W. 1961. "Investment in Human Capital." *American Economic Review* 51 (1): 1–17. <https://doi.org/10.2307/1818907>.
- Schultz, Theodore W. 1963. *The Economic Value of Education*. New York: Columbia University Press.
- Schweber, Libby. 2006. *Disciplining Statistics: Demography and Vital Statistics in France and England, 1830–1885*. Politics, History, and Culture. Duke University Press. <https://doi.org/10.1215/9780822388524>.
- Scola, Nancy. 2018. "Facebook's next Project: American Inequality." POLITICO. February 19, 2018. <https://www.politico.com/story/2018/02/19/facebook-inequality-stanford-417093>.
- Sewell, William H., Jr. 2008. "The Temporalities of Capitalism." *Socio-Economic Review* 6 (3): 517–37. <https://doi.org/10.1093/ser/mwn007>.
- Shenk, Timothy. 2022. "Taking Off the Neoliberal Lens: The Politics of the Economy, the MIT School of Economics, and the Strange Career of Lawrence Klein." *Modern Intellectual History*, October, 1–25. <https://doi.org/10.1017/S1479244322000440>.

- Siegel, Joanna E, and Milton C Weinstein. 1996. "Recommendations for Reporting Cost-Effectiveness Analyses." *JAMA: Journal of the American Medical Association* 276 (16).
- Singleton, John D. 2019. "Incentives and the Supply of Effective Charter Schools." *American Economic Review* 109 (7): 2568–2612. <https://doi.org/10.1257/aer.20171484>.
- Skocpol, Theda. 1992. *Protecting Soldiers and Mothers: The Political Origins of Social Policy in the United States*. Cambridge, Mass.: Belknap Press of Harvard University Press.
- . 1995. "The Rise and Resounding Demise of the Clinton Plan." *Health Affairs* 14 (1): 66–85. <https://doi.org/10.1377/hlthaff.14.1.66>.
- . 1996. *Boomerang: Clinton's Health Security Effort and the Turn against Government in U.S. Politics*. New York: W.W. Norton & Co.
- Smith, Harrison. 2017. "Dorothy Rice, 94, Economist Who Paved the Way for Medicare." *Washington Post*, March 11, 2017. <https://www.bostonglobe.com/metro/obituaries/2017/03/11/dorothy-rice-economist-whose-research-paved-way-for-medicare-dies/aXpMicnYuEM0oM2hvATEjl/story.html>.
- Soares, Rodrigo R. 2015. "Gary Becker's Contributions to Health Economics." *Journal of Demographic Economics* 81 (1): 51–57. <https://doi.org/10.1017/dem.2014.10>.
- Somers, Anne R. 1965. "Review of The Economics of Health and Medical Care: Proceedings of the Conference on the Economics of Health and Medical Care, May 10-12, 1962." *The American Economic Review* 55 (3): 640–42.
- Sommers, Benjamin D., Atul A. Gawande, and Katherine Baicker. 2017. "Health Insurance Coverage and Health — What the Recent Evidence Tells Us." *New England Journal of Medicine* 377 (6): 586–93. <https://doi.org/10.1056/NEJMs1706645>.
- Souza Leão, Luciana de. 2022. "Optics of the State: The Politics of Making Poverty Visible in Brazil and Mexico." *American Journal of Sociology* 128 (1): 1–46. <https://doi.org/10.1086/719936>.
- Souza Leão, Luciana de, and Gil Eyal. 2019. "The Rise of Randomized Controlled Trials (RCTs) in International Development in Historical Perspective." *Theory and Society*, May, 383–418. <https://doi.org/10.1007/s11186-019-09352-6>.
- Spence, Michael. 1973. "Job Market Signaling." *The Quarterly Journal of Economics* 87 (3): 355–74. <https://doi.org/10.2307/1882010>.

- Spivack, Steven B., Miriam J. Laugesen, and Jonathan Oberlander. 2018. "No Permanent Fix: MACRA, MIPS, and the Politics of Physician Payment Reform." *Journal of Health Politics, Policy and Law* 43 (6): 1025–40. <https://doi.org/10.1215/03616878-7104431>.
- Stampnitzky, Lisa. 2013. *Disciplining Terror: How Experts Invented "Terrorism."* Cambridge: Cambridge University Press.
- Starr, Paul. 1982a. *The Social Transformation of American Medicine.* New York: Basic Books.
- . 1982b. "Transformation of Defeat: The Changing Objectives of National Health Insurance, 1915-1980." *American Journal of Public Health* 72 (1): 78–88.
- . 1994. *The Logic of Health-Care Reform: Why and How the President's Plan Will Work.* New York, N.Y.: Whittle Books in association with Penguin Books.
- . 1995. "What Happened to Health Care Reform?" *The American Prospect*, 1995.
- Steensland, Brian. 2008. *The Failed Welfare Revolution: America's Struggle over Guaranteed Income Policy.* Princeton: Princeton University Press.
- Stein, David. 2019. "Containing Keynesianism in an Age of Civil Rights: Jim Crow Monetary Policy and the Struggle for Guaranteed Jobs, 1956-1979." In *Beyond the New Deal Order: U.S. Politics from the Great Depression to the Great Recession*, edited by Gary Gerstle, Nelson Lichtenstein, and Alice O'Connor, 124–42. Philadelphia, PA: University of Pennsylvania Press.
- Stein, Judith. 2010. *Pivotal Decade: How the United States Traded Factories for Finance in the Seventies.* New Haven: Yale University Press.
- Steinbaum, Marshall I., and Bernard A. Weisberger. 2017. "The Intellectual Legacy of Progressive Economics: A Review Essay of Thomas C. Leonard's *Illiberal Reformers*." *Journal of Economic Literature* 55 (3): 1064–83. <https://doi.org/10.1257/jel.20171436>.
- Steinmetz, George. 2016. "Social Fields, Subfields and Social Spaces at the Scale of Empires: Explaining the Colonial State and Colonial Sociology." *The Sociological Review* 64 (2_suppl): 98–123. <https://doi.org/10.1111/2059-7932.12004>.
- Stephan, Paula E. 2012. *How Economics Shapes Science.* Cambridge, MA: Harvard University Press. <http://site.ebrary.com/id/10524467>.
- Stevenson, Megan T, and Jennifer L Doleac. 2019. "Algorithmic Risk Assessment in the Hands of Humans."
- Stigler, George J. 1941. *Production and Distribution Theories, the Formative Period.* New York: Macmillan.

- . 1967. “The Doctor Shortage. An Economic Diagnosis. Rashi Fein. Brookings Institution, Washington, D.C., 1967. 211 Pp., Illus. \$6. Studies in Social Economics.” *Science* 158 (3809): 1662–1662.
<https://doi.org/10.1126/science.158.3809.1662>.
- Stiglitz, Joseph E. 1975. “The Theory of ‘Screening,’ Education, and the Distribution of Income.” *The American Economic Review* 65 (3): 283–300.
- Swartz, David. 2013. *Symbolic Power, Politics, and Intellectuals: The Political Sociology of Pierre Bourdieu*. Chicago, IL: The University of Chicago Press.
- Teixeira, Pedro Nuno. 2000. “A Portrait of the Economics of Education, 1960-1997.” *History of Political Economy* 32 (Suppl_1): 257–88.
https://doi.org/10.1215/00182702-32-Suppl_1-257.
- . 2014. “Gary Becker’s Early Work on Human Capital – Collaborations and Distinctiveness.” *IZA Journal of Labor Economics* 3 (1): 12.
<https://doi.org/10.1186/s40172-014-0012-2>.
- . 2020. “Loose Ends? Discussing Human Capital and the Economic Value of Education in the First Half of the Twentieth Century.” *The European Journal of the History of Economic Thought* 27 (6): 1011–32.
<https://doi.org/10.1080/09672567.2020.1821741>.
- Teles, Steven M., Samuel Hammond, and Daniel Takash. 2021. “Cost Disease Socialism: How Subsidizing Costs While Restricting Supply Drives America’s Fiscal Imbalance.” Washington, D.C.: Niskanen Center.
- The National Commission on Excellence in Education. 1983. “A Nation at Risk: The Imperative for Educational Reform.” Report to the Nation and the Secretary of Education. Washington, D.C.: United States Department of Education.
- The Social Capital Project. 2021. “What’s Next for Schools: Balancing the Costs of School Closures Against COVID-19 Risks.” 1–21. Washington, D.C.: Senate Republican Joint Economic Committee.
- The White House. 2021. “Executive Order On Advancing Racial Equity and Support for Underserved Communities Through the Federal Government.”
<https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/>.
- Thompson, Derek. 2022. “A Simple Plan to Solve All of America’s Problems.” *The Atlantic*. January 12, 2022.
<https://www.theatlantic.com/ideas/archive/2022/01/scarcity-crisis-college-housing-health-care/621221/>.

- Timmermans, Stefan, and Marc Berg. 2003. *The Gold Standard: The Challenge of Evidence-Based Medicine and Standardization in Health Care*. Philadelphia, Pa.: Temple University Press.
- Timmermans, Stefan, and Iddo Tavory. 2012. "Theory Construction in Qualitative Research: From Grounded Theory to Abductive Analysis." *Sociological Theory* 30 (3): 167–86. <https://doi.org/10.1177/0735275112457914>.
- Tomasky, Michael. 2022. *The Middle out: The Rise of Progressive Economics and a Return to Shared Prosperity*. New York, NY: Doubleday.
- Udvarhelyi, I. Steven, Graham A. Colditz, Arti Rai, and Arnold M. Epstein. 1992. "Cost-Effectiveness and Cost-Benefit Analyses in the Medical Literature Are the Methods Being Used Correctly?" *Annals of Internal Medicine* 116 (3): 238–44.
- United States and Bureau of Educational Personnel Development. 1969. *Creative Developments in the Training of Educational Personnel*. [Washington, D.C.]: U.S. Department of Health, Education, and Welfare, Office of Education.
- . 1970. *Do Teachers Make a Difference?: A Report on Recent Research on Pupil Achievement*. Washington, D.C.: U.S. Department of Health, Education and Welfare, Office of Education, Bureau of Educational Personnel Development.
- . 1971. *How Teachers Make a Difference*. Washington, D.C.: U.S. Department of Health, Education and Welfare, Office of Education, Bureau of Educational Personnel Development.
- United States Department of Health, Education, and Welfare. 1970. *Toward a Social Report*. Ann Arbor: University of Michigan Press.
- University of Michigan and Bureau of Public Health Economics, eds. 1964. *The Economics of Health and Medical Care; Proceedings ... May 10-12, 1962*. Ann Arbor: Univ. of Michigan.
- U.S. Department of Education. 2009. "Race to the Top Program: Executive Summary."
- U.S. Institute of Medicine. 1979. *Health Services Research: Report of a Study*. Washington, D.C.: National Academy of Sciences.
- U.S.C. 2004. *Confirmation of Antitrust Status of Graduate Resident Matching Programs*. U.S.C. Vol. 15.
- Van Gunten, Tod S. 2015. "Cohesion, Consensus, and Conflict: Technocratic Elites and Financial Crisis in Mexico and Argentina." *International Journal of Comparative Sociology* 56 (5): 366–90. <https://doi.org/10.1177/0020715215626238>.

- Van Gunten, Tod S., John Levi Martin, and Misha Teplitskiy. 2016. "Consensus, Polarization, and Alignment in the Economics Profession." *Sociological Science* 3 (December): 1028–52. <https://doi.org/10.15195/v3.a45>.
- Van Horn, Robert, Philip Mirowski, and Thomas A Stapleford. 2011. *Building Chicago Economics: New Perspectives on the History of America's Most Powerful Economics Program*. Cambridge; New York: Cambridge University Press.
- Vinovskis, Maris. 2008. *From a Nation at Risk to No Child Left Behind: National Education Goals and the Creation of Federal Education Policy*. Teachers College Press.
- Wagstaff, Adam, and Anthony J. Culyer. 2012. "Four Decades of Health Economics through a Bibliometric Lens." *Journal of Health Economics* 31 (2): 406–39. <https://doi.org/10.1016/j.jhealeco.2012.03.002>.
- Waitzkin, Howard. 1994. "The Strange Career of Managed Competition: From Military Failure to Medical Success?" *American Journal of Public Health* 84 (3): 482–89.
- Walker, Jon. 2020. "The Pandemic Could Overwhelm the Insurance Industry. We Must Expand Tricare for Everybody Who Needs It." *The Intercept*. March 26, 2020. <https://theintercept.com/2020/03/26/coronavirus-tricare-insurance/>.
- Warner, Kenneth E., and Rebecca C. Hutton. 1980. "Cost-Benefit and Cost-Effectiveness Analysis in Health Care: Growth and Composition of the Literature." *Medical Care* 18 (11): 1069–84.
- Warren. 2010. "Raj Chetty: Economist." *Esquire*, November 22, 2010. <https://www.esquire.com/entertainment/interviews/a8982/raj-chetty-1210/>.
- Weaver, W. Timothy. 1983. *America's Teacher Quality Problem: Alternatives for Reform*. New York, NY: Praeger.
- Weber, Max. 1978. *Economy and Society: An Outline of Interpretive Sociology*. Edited by Guenther Roth and Claus Wittich. Berkeley: University of California Press.
- Weinstein, Milton C, Joanna E Siegel, Marthe R Gold, Mark S Kamlet, and Louise B Russell. 1997. "Recommendations of the Panel on Cost-Effectiveness in Health and Medicine." *Survey of Anesthesiology* 41 (6).
- Weinstein, Milton C., and William B. Stason. 1977. "Foundations of Cost-Effectiveness Analysis for Health and Medical Practices." *New England Journal of Medicine* 296 (13): 716–21.
- Weintraub, E. Roy. 2002. *How Economics Became a Mathematical Science*. Science and Cultural Theory. Durham, NC: Duke University Press.

- Weintraub, William S., and David J. Cohen. 2009. "The Limits of Cost-Effectiveness Analysis." *Circulation: Cardiovascular Quality and Outcomes* 2 (1): 55–58. <https://doi.org/10.1161/CIRCOUTCOMES.108.812321>.
- Weisbrod, Burton A. 1961. *Economics of Public Health: Measuring the Economic Impact of Diseases*. Philadelphia: University of Pennsylvania Press.
- . 1962. "Education and Investment in Human Capital." *Journal of Political Economy* 70 (5): 106–23. <https://doi.org/10.2307/1829107>.
- . 1975. "Research in Health Economics: A Survey." *International Journal of Health Services* 5 (4): 643–61. <https://doi.org/10.2190/KVHP-37N5-F6CD-RL6A>.
- Weiss, Carol H. 1977. "Research for Policy's Sake: The Enlightenment Function of Social Research." *Policy Analysis* 3 (4): 531–45.
- Werner, Rachel, Ezekiel J. Emmanuel, Hoangmai H. Pham, and Amol S. Navathe. 2021. "The Future of Value-Based Payment: A Road Map to 2030." Philadelphia, PA: University of Pennsylvania.
- Whitehurst, Grover J. (Russ). 2018. "The Institute of Education Sciences: A Model for Federal Research Offices." *The ANNALS of the American Academy of Political and Social Science* 678 (1): 124–33. <https://doi.org/10.1177/0002716218768243>.
- Whitley, Richard. 1984. *The Intellectual and Social Organization of the Sciences*. Oxford: Clarendon Press.
- Whooley, Owen. 2013. *Knowledge in the Time of Cholera: The Struggle over American Medicine in the Nineteenth Century*. Chicago, IL: University of Chicago Press.
- Wicksteed, Philip H. 1894. *An Essay on the Co-Ordination of the Laws of Distribution*. London, UK: Macmillan.
- Wildavsky, Aaron. 1966. "The Political Economy of Efficiency: Cost-Benefit Analysis, Systems Analysis, and Program Budgeting." *Public Administration Review* 26 (4): 292–310. <https://doi.org/10.2307/973301>.
- Woolhandler, Steffie, and David U. Himmelstein. 2017. "The Affordable Care Act: How Nixon's Health Reform Proposal Became Democrats' Albatross." *International Journal of Health Services* 47 (4): 612–20. <https://doi.org/10.1177/0020731417729661>.
- Yannelis, Constantine, and Greg Tracey. 2022. "Student Loans and Borrower Outcomes." *Annual Review of Financial Economics* 14 (1): 167–86. <https://doi.org/10.1146/annurev-financial-111720-092601>.

- Yglesias, Matthew. 2022. "Janet Yellen Explains Bidenomics." *Slow Boring* (blog). September 9, 2022. <https://www.slowboring.com/p/janet-yellen-explains-bidenomics>.
- Young, Cristobal. 2009. "The Emergence of Sociology from Political Economy in the United States: 1890 to 1940." *Journal of the History of the Behavioral Sciences* 45 (2): 91–116. <https://doi.org/10.1002/jhbs.20362>.
- Zeckhauser, Richard. 1970. "Medical Insurance: A Case Study of the Tradeoff between Risk Spreading and Appropriate Incentives." *Journal of Economic Theory* 2 (1): 10–26. [https://doi.org/10.1016/0022-0531\(70\)90010-4](https://doi.org/10.1016/0022-0531(70)90010-4).
- Zeckhauser, Richard, and Donald Shepard. 1976. "Where Now for Saving Lives?" *Law and Contemporary Problems* 40 (4): 5–45. <https://doi.org/10.2307/1191310>.
- Zelizer, Viviana A. 1979. *Morals and Markets: The Development of Life Insurance in the United States*. New York, NY: Columbia University Press.
- . 2005. *The Purchase of Intimacy*. Princeton, N.J.: Princeton University Press.