Health Economics: Scientific Expertise and Policymaking

Economie de la santé : expertise scientifique et élaboration des politiques publiques

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This paper investigates the ways in which evidence about the U.S. healthcare system has been produced, evaluated, and translated into healthcare policy. The main argument of this essay is that there was a shift in the dominant mode of influence of economics. Where through the 1960s the central influence was of particular economists appointment to committees or advisory positions, this was replaced by the increasing importance of the cognitive infrastructure provided by the field of health economics by the 1990s which provided an “economic way of thinking” about healthcare policy. This case study provides a broader exploration into how scientific expert advice becomes operationalized in society, which in the case of health policy in the U.S., has remained salient up to the present with the recent passage of the Affordable Care Act in 2010.

Keywords: health economics, applied economics, public policy

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Cet article examine la façon dont les études sur le système de santé aux États-Unis ont été produites, évaluées et traduites en termes de politiques de santé. L’argument principal de cet article est qu’il y a eu un changement dans le mode d’influence principal de la science économique. Jusque dans les années 1960, cette influence était exercée essentiellement par la nomination de certains économistes à des positions de conseil. Ensuite, l’importance croissante de l’infrastructure cognitive mise à disposition par le domaine de l’économie de la santé a peu à peu, jusque dans les années 1990, apporté une « façon de penser économique » à la politique de santé. Cette étude de cas documente plus généralement la façon dont l’expertise scientifique est opérationnalisée dans la société. Dans le cas de la politique de santé aux États-Unis, cette expertise scientifique reste proéminente aujourd’hui, comme en témoigne l’adoption de l’« Affordable Care Act » en 2010.

Mots-clés : économie de la santé, économie appliquée, politique publique

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This paper investigates the ways in which evidence about the U.S. healthcare system has been produced, evaluated, and translated into healthcare policy. Such a study requires intertwining two histories: the postwar development of the academic subfield of health economics, and the history of U.S. health policy. Although academic economists may generate policy recommendations through their research, it is not trivial to translate such findings into actual policy implementation. This process requires the designation of experts, persuasion as to the reliability of theory or evidence, conveying knowledge to policy makers, and the actual crafting of any proposed legislation within a political environment. This paper focuses on the practices of U.S. health economists in the postwar period, which led to both successes and failures in informing policy. This case study provides a broader exploration into how scientific expert advice becomes operationalized in society, which in the case of health policy in the U.S., has remained salient up to the present with the recent passage of the Affordable Care Act in 2010.

In his review of Kenneth Wolpin’s *The Limits of Inference without Theory*, John Rust considers whether economic studies have influenced policy, and sees little evidence. Rather, he states that “it is sad to realize that, despite all the work by the Cowles Commission, nearly six decades after the Koopmans critique and four decades after the Lucas critique, economic policy making is still in the dark ages” (Rust, 2014, 840). For significant policy changes such as the Affordable Care Act, “instead of doing any formal modeling, policy advice comes from gurus who whisper in the president’s ear” (Rust, 2014, 840). One aim of this paper is to evaluate such claims, using the case study of U.S. healthcare policy.

The evidence offered by the case study suggests that while it may have been true at some point that policymaking was in a sense in the “dark ages,” formal economic modeling is increasingly part of policy decision-making. For healthcare, significant policy modeling occurs at the Congressional Budget Office (CBO), and at this interface knowledge from health economics is integrated into policy. Building from the research framework suggested by (Hirschman and Berman, 2014), this study reveals that the question of whether any particular economist or economic study has affected policy is too narrow. Such a line of inquiry will miss the significant influence of the methods and economic tools developed by economics on the policy process.

Hirschman and Berman (2014) categorize three main modes of policy influence: professional authority, institutional position, and cognitive infrastructure. *Professional authority* refers to the “overall status of the economics discipline,” and conditions the influence economists will have. Professional authority depends on the prestige of the profession (Fourcade, Ollion, and Algan, 2015), the amount of funding available for economic research, and the status of methods in the field.
as rigorous or scientific. *Institutional position* refers to the presence of economists in policymaking organizations, elite networks, influential advising positions, or even as policymakers themselves. The key characteristic of this mode of influence is particular economists in powerful positions either making policy or giving advice to those who determine policies. Examples of economists in influential positions include the Council of Economic Advisors, and economists serving as the head of central banks or transnational institutions such as the World Bank or International Monetary Fund. Finally, moving beyond the direct decisions of powerful individual economists to economics as a field, *cognitive infrastructure* refers to the use of either an economic style of reasoning or policy devices to make decisions. The economic style of reasoning includes shaping how problems are defined and approached, which can be used by policymaking elites. The establishment of economic policy devices refers to tools that produce knowledge and make the economic visible (such as GDP, inflation indices, or unemployment rate), as well as tools that assist in decision making, such as cost-benefit analysis or guidelines to assess the effects of mergers (Hirschman and Berman, 2014).

Using this framework, I am able to trace a shifting importance over time of modes of economic influence on U.S. healthcare policy. The main argument of this essay is that there was a shift in the dominant mode of influence of economics, from the institutional position mode being most important through the 1960s, but replaced by the increasing importance of the cognitive infrastructure provided by the field of health economics by the 1990s. And though all three modes played a role in the influence of health economics on policy, this case study emphasizes the importance of the cognitive infrastructure that health economics provided. This cognitive infrastructure included both a style of reasoning, which shaped not only policy but also political discourse around healthcare through ideas such as free-riding and adverse selection, and also economic policy devices, which include tools to make healthcare visible through measurement and tools to make policy decisions such as the CBO’s ‘scoring’ of proposed legislation using economic methods.

In using this lens to analyze the influence of health economists, this essay also refines the conventional history. The conventional history tells the story as a transition from prewar Institutionalists who had big ideas but little specific policy influence, to a postwar theoretical literature which offered only broad proposals, to ultimately an empirical literature beginning in the 1970s which finally offered guidance on the nuts and bolts of policy, culminating with the 2010 Affordable Care Act which was heavily influenced by health economics.

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1 Brint (1990, 380) provides evidence that “the issue of expert influence should be seen in variable rather than in constant terms”.

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The Hirschman and Berman (2014) framework allows this case study to go beyond asking a “yes or no” question as to whether economists influence policy, and to ask through which mechanisms this influence occurs.


Before World War II, the economics profession was far more heterogeneous in terms of both methods and theoretical approaches, and the economic research on healthcare reflected that. In terms of influence on health policy, economists’ primary interface was through being appointed to committees. After the war, two major changes paved the way for a different kind of influence in healthcare policy for economists. First, the character of the research conducted by economists became increasingly dominated by a “neoclassical” economic perspective, and this would establish and shape the character of health economics as well. Secondly, an ecosystem of health research emerged through various committees, organizations, and institutes, with patrons from the private sector, public sector, and academic institutions. The data collected through these efforts would give healthcare policy an empirical granularity previously unseen.

1.1 Pre-War

Healthcare has caused a long history of heated debate in U.S. politics. Even early on, in the 1910s and 1920s, progressive reformers proposed various policies, including state-based compulsory insurance or group medicine—“modest ideas, but enough to raise opposition, and the term ‘socialized medicine’ was born” (Hoffman, 2009). At the center of the early advocacy for health insurance was the American Association for Labor Legislation (AALL). Founded in 1906, this small group of reform-minded academics included economists John R. Commons and Richard Ely of the University of Wisconsin, and Henry R. Seager of Columbia (Starr, 1982, 243). These progressive reformers argued for health insurance on two grounds. First, health insurance would reduce poverty by insuring families from wage loss and the costs of medical care brought about by illness. And secondly, insurance would lower the total cost of illness by providing effective medical care. These two arguments were reiterated in economist Irving Fisher’s presidential address to the AALL in 1916 (Fisher, 1917). Though these efforts gained support, they had the disadvantage of coming at the tail end of the Progressive era, and would not be enacted through policy at the time.

Early healthcare research included empirical studies that aimed to disseminate facts about the healthcare system. A primary entity was the Committee on the Cost of Medical Care (CCMC), established by
six philanthropic foundations, and consisting of 42 members including practitioners of medicine, public health experts, individuals from hospitals and insurance companies, and five economists. The economists included Harry H. Moore from the University of Chicago, who served as director of the research enterprise (Anderson, 1966, 18), and Walton Hamilton, an Institutionalist economist who was very involved with the work of the Committee (Rutherford, 2013). One of the most influential studies was produced by the Committee in 1932 and documented that only a small minority of families which experience severe illness accounted for a large share of medical expenditures (Anderson, 1966, 19). This finding served as an argument for the provision of health insurance, a significant innovation at the time.

Though the majority recommendations of the CMCC’s 1932 study stopped short of advocating for compulsory insurance, Hamilton argued the 1932 report “should have made a clear-cut recommendation for compulsory medical insurance and outlined a well-defined organizational alternative” (Rutherford, 2013, 71). Hamilton saw in medical care many market deficiencies, including the variability of medical costs incurred, the differences in information between physicians and patients, and that the profit motive could sometimes come into conflict with the goals of medical care. Thus, Hamilton advocated for compulsory insurance, along with other reforms including group practices and removing the profit incentives from medical care. Specifically, his proposal aimed to establish group practices as nonprofit corporations with boards consisting of lay people who did not have commercial interests in the practice (Rutherford, 2013, 71). However, the CMCC’s majority recommendations almost always had dissenting minority opinions, and many of the proposals such as group practice and group payment for medical care face vehement opposition from the American Medical Association (AMA). Consequently, as one observer notes, “politically, the CMCC utterly failed in its attempt to generate a new consensus for reform” (Starr, 1982, 266).

The first major discussions regarding national healthcare policy occurred as part of the New Deal. President Franklin Roosevelt appointed a Committee on Economic Security, which discussed not only addressing the pressing issues of employment and wages related to the Great Depression, but also healthcare programs. The chair of the

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2 The philanthropic foundations which founded the Committee were: Carnegie Corporation, Josiah Macy, Jr. Foundation, Milbank Memorial Fund, Russell Sage Foundation, Twentieth Century Fund, and the Julius Rosenwald Fund.

3 Contrary to the conventional histories, which claim that the Institutional method of “descriptive statistical studies had little influence on the design of specific policies” (Glied and Miller, 2015, 381), these examples show that indeed Institutionals made clear policy recommendations. Moreover, the Social Security Act was largely shaped by Institutionalist economists; they did not have any inherent inability to influence policy because of their methods.
subcommittee on medical care was economist Walton Hamilton, and
the technical study was directed by another liberal dissenter of the
CMCC majority report, Edgar Sydenstricker (Starr, 1982, 267). Specif-
ically, the proposals included state-based systems with compulsory
insurance, which states could choose to participate in. The role of the
federal government was to provide subsidies and set minimum
standards (Hoffman, 2009). However, given the economic conditions
in the 1930s, employment and wages were the primary concerns, and
Roosevelt dropped the healthcare reforms in order to avoid jeopard-
izing the passage of the entire 1935 Social Security Act. As would
prove to be a recurring theme, it was difficult to build coalitions
around healthcare reform among the various political and industry
actors.

Prior to World War II, the dominant mode of policy influence for
economists was through institutional positions. Policy influence oc-
curred through committees. The particular economists who were ap-
pointed to those important committees, such as the Committee on the
Cost of Medical Care or President Roosevelt’s Committee on Econom-
ic Security, were able to influence the direction of policy, and ap-
pointing different individuals to those committees could lead to a
very different set of policy advice. The professional authority of eco-
nomics was not yet as strong as it would become after World War II,
and relatedly the cognitive infrastructure had not yet developed an
interface with policy. As a result, economists involved in the New
Deal could have significant influence on policy decisions, but replac-
ing them with other experts could easily result in different policy pre-
scriptions, highlighting the importance of the proclivities of the par-
ticular individuals appointed to the institutional positions.

1.2 Post-War

The healthcare sector of the economy underwent major changes du-
ding and immediately after World War II (Starr, 1982). The War Labor
Board ruled in 1943 that worker benefits including health insurance
should be excluded from the price and wage controls that had been
implemented. This gave firms a way to attract workers, and conse-
quently employer-sponsored health insurance (ESI) propagated. This
feature of the U.S. health insurance system would become solidified
in 1954, when health insurance provided by employers was exempt
from income tax. However, this system left many Americans un- and
under-insured, and reformers aimed for a single, national, compre-
prehensive health insurance system built off of the Social Security system
(Hoffman, 2009). These elements were included in the 1943 Senate
legislation known as the Wagner-Murray-Dingell bill. However, Pres-
ident Truman’s Democratic party lost majorities in both houses in the
1946 midterms, and any momentum for reform was lost.
Truman campaigned on national health reform during the 1948 campaign, and it appeared there would be a renewed energy for healthcare reform after his victory as well as Democrats taking back majorities in Congress (Hoffman, 2009). However, even that was not enough. Southern Democrats opposed the reforms, fearing that reform would lead to federal action against segregation, since hospitals segregated patients by race. The American Medical Association (AMA) strongly opposed reform out of fear that physicians would lose control over the practice of medicine. This opposition, coupled with growing anti-communist sentiment in the U.S., killed any chances for legislation at the time.

This growing importance of health insurance as a fringe benefit offered by employers during and after World War II “attracted the attention of economists as researchers and advisers to industry, unions, and government” (Fox, 1979). Through the 1950s, there emerged a large infrastructure of data production and research on healthcare related to health policy, with the overarching goal of trying to understand the complex healthcare system that had developed in the U.S. To give a few illustrations, as a growing awareness came about of the high costs of chronic conditions, a privately-funded Commission of Chronic Illnesses was in operation from 1949-1956; pharmaceutical manufacturers funded the Health Information Foundation in 1950 to research and disseminate data; many academic research units were established, including early on at the Bureau of Public Economics at the University of Michigan; the creation of the National Center for Health Statistics; and government sponsored research such as the Subcommittee on Health Economics by the U. S. Committee for Vital and Health Statistics (Anderson, 1966).

One consequence of these efforts was that the newly burgeoning healthcare sector of the economy was made visible to researchers and policymakers. As such, these efforts of collecting and disseminating healthcare data served to build the foundation of a cognitive infrastructure, as only once the healthcare sector became visible could economists then propose how to identify problems with the sector and approach finding solutions.

But it was also at this time that the field of health economics as it is recognized today was born. Selma Mushkin’s (1958) article “Toward a definition of health economics,” (Mushkin, 1962), and Arrow (1963) showed that healthcare could be analyzed using the tools of mainstream economics, but that healthcare was different from other markets such that special care had to be taken to account for unique institutions. Mushkin proposed as a definition of health economics as “a field of inquiry whose subject matter is the optimum use of resources for the care of the sick and the promotion of health.” The subfield of health economics emerged from Mushkin’s and Arrow’s work, as it demonstrated to economists that their tools could be used in this
emerging sector, but at the same time these markets were different from the markets for shoes and widgets, with important market imperfections and institutions such as uncertainty about health status, asymmetric information, physician agency, and the special ways in which healthcare and health insurance was financed.

Two main lines of economics research emerged under the umbrella of this new field, and incorporated the expanding health data and growing importance of healthcare in the economy. The first was within labor economics, where there was a growing awareness of the need to incorporate health in the human capital literature. In this vein, Selma Mushkin’s (1962) “Health as an Investment” described the goal of the field as understanding the contribution of investments in individual health not only to eliminate disease around the world, but in the implications for economic growth through improvements to human productivity.

The second strand of economics literature dealt with the industry of medical care. This literature began with (Friedman and Kuznets, 1939), which was submitted as Milton Friedman’s dissertation, and was an empirical study finding that physicians received a larger return for their services compared to other professionals, to an extent that the authors claimed this could only be due to the intentional restriction of entry. Building on this analysis, (Kessel, 1958) used empirical evidence to argue that physicians behaved as price discriminating monopolists, and posited that this explained why the AMA vehemently opposed free medical care through the Veterans Administration, opposed insurance plans that provided services instead of payments for services, and perhaps why physicians have higher rates of membership in professional organizations compared to other professions. Similarly, another empirical study (Garbarino, 1959) argued that medical inflation outpacing general inflation was due to the supply of medical services failing to grow as quickly as the demand.

The professional authority of economics was increasing over this time period, yet these lines of academic research did not yet clearly have a direct policy influence. The cognitive infrastructure was still being developed, and there was not yet a dominant “economic way of thinking” about the healthcare sector.

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4 Fox (1979, 314) writes that the paper was not published until 1945, and that the delay until publication is not well understood; it was perhaps due to concern at the NBER that the paper could be viewed as an attack on the American medical profession, but also could be due to a burdensome review process at the NBER which was then interrupted by the war.

The passage of Medicare and Medicaid is notable for the role played by economics. Though some economists did serve as advisors, economic research methods played little role—a stark contrast to what would come in later decades. Even on budgetary issues, economic principles did not constrain or shape policymakers, leaving politicians with a great amount of leeway in interpreting budgetary forecasts. At the same time, the field of health economics was becoming a recognized sub-field within the newly dominant neoclassical paradigm. Although this transformation did not come without growing pains, it did coincide with an increase in the professional authority of health economists.

2.1 Medicare and Medicaid

The most significant healthcare reform of the 20th century occurred in 1965, when President Lyndon Johnson signed legislation establishing the Medicare and Medicaid programs under Title XVIII of the Social Security Act. With the expanding economy and increasing healthcare costs, insurers began to engage in medical underwriting, where they would base premiums on an individual’s expected healthcare costs. While this sufficed for much of the population, it left elderly and sick individuals, as well as those with low incomes, unable to obtain or afford coverage. Moreover, the new system of employer-sponsored insurance did not cover those without traditional employment, including a growing population of new retirees. Several proposals circulated in the early 1960s to address these issues, including “Eldercare” which was backed by the AMA, and “Bettercare” proposed by the insurer Aetna to provide federal subsidies for private coverage (Hoffman, 2009). Elements from these various proposals were incorporated into Medicare, which established public insurance for those 65 and older regardless of income or health status, and Medicaid, which helped states cover medical costs for the poor, as well as other certain classes of poor and disabled individuals.

As has been noted by historians, the passage of the Great Society legislation was due in no small part to President Johnson’s political acumen and drive (Blumenthal and Morone, 2008). He was able to garner support for his legislative agenda from a large and diverse Democratic majority in the Congress, perhaps most importantly by working through Congressman Wilbur Mills, a conservative Democratic from Arkansas who chaired the powerful House Ways and Means Committee. Though Congressman Mills was initially opposed to any major healthcare reform, the political tide had shifted after the 1964 election in which Johnson was elected to a full term in a land-
slide victory, leaving Democrats with large majorities in the House (295 Democrats to 140 Republicans) and Senate (68 to 32). Even with that political mandate, however, it was only with Johnson’s relentless negotiating and drive that the passage of Medicare and Medicaid succeeded.5

There was also, however, the issue of managing the economics of Medicare and Medicaid. The chief architect of the technical side of the legislation was Wilbur J. Cohen, a highly skilled expert on Social Security that the Johnson administration provided to Congressman Mills. Political attacks on any program relating to its costs, and the consequences for the federal budget, tend to resonate with voters. To address these concerns, “Johnson detailed loyal aides, including Cohen and Treasury Department personnel, to work quietly with legislators on designing taxes and benefit packages” (Blumenthal and Morone, 2008, 2387). This was possible in 1965 before the creation of the CBO, which would provide independent economic analyses of all legislation, and the Office of Management and Budget (OMB), which would perform a similar function within the White House. Johnson gave Cohen the go-ahead to draft legislation without much concern for the costs, and when Congressman Mills expressed concern over the costs of adding Medicare Part B to cover physician payments, Johnson simply told him not to worry. By taking a less formalized approach, “Johnson underestimated the numbers and evaded economic projections to smooth the passage of Medicare and the rest of his Great Society program.” (Blumenthal and Morone, 2008, 2387).

This episode illustrates that during the passage of Medicaid and Medicare, economics as a field put little constraint on the policymaking process. If economists would have had any role, at a minimum they would have forecasted the costs of the legislation, but even this was not relevant to the policy process. This is evidence that the economic cognitive infrastructure was not yet a dominant mode. Rather, the central importance of particular influential experts, such as Wilbur Cohen, highlights the dominance of the institutional position as a mode of influence at this juncture. Even the professional authority of the economics profession had not yet stabilized. Though the Council of Economic Advisors established in 1946 was in place, this agency was concerned mainly with macroeconomic and employment conditions, and economists were not yet sought after as indispensable advisors on healthcare policy as would be the case during later reform efforts.

5 Healthcare reform was particularly contentious in an already politically tense climate; for example, Medicare spurred the racial integration of hospitals in 1966, as payments were contingent on desegregation.
2.2 Health Economics

The professional authority of economics was on the ascent at this time, and concurrently the field of health economics was entering a new era. Mirroring shifts in the broader profession towards a set of “neoclassical” methodologies in the postwar period, the economic analysis of healthcare moved from an “American Institutionalist” approach to the application of neoclassical approaches to the healthcare sector. The economics literature on healthcare that emerged during the 1960s basically extended the work pioneered by (Arrow, 1963), who posited that the medical care industry could be characterized by introducing uncertainty to the standard competitive welfare framework, in addition to Selma Mushkin’s work described above. Arrow writes “I will hold that virtually all the special features of this industry, in fact, stem from the prevalence of uncertainty.” Indeed this one adaptation to the competitive model allowed him to explore most of the key issues that would concern the field of health economics for the next decades: risk aversion, moral hazard, adverse selection, licensure, entry restrictions, price fixing, the asymmetry of information between patients and physicians, and the role of professional ethics and personal relationships in addressing asymmetric information (Fuchs, 1987).

As a theoretical exercise, this paper and subsequent theoretical extensions were not informative to the nuts and bolts of policymaking. However, these studies did offer insights into how and why the market provision of healthcare services might be inadequate. There was clearly an interest from policy actors in this type of analysis, evidenced even by the fact that the (Arrow, 1963) paper was commissioned by Victor Fuchs at the Ford Foundation. But Arrow’s paper allowed for the field of health economics to become stabilized within the field of mathematical economics during the 1960s.

In fact, there was an enormous amount of interest in health economics in the 1960s, bolstered by the data infrastructure that had been constructed in previous decades. “Between 1962 and 1968 a larger number of professional economists, supported by increasing public and foundation funds, worked on problems of the health sector than ever before” (Fox, 1979, 323). This includes studies in economics funded by the National Institutes of Health (NIH) in the early 1960s, as well as other public and private funded research programs. “After about 1968, health economics was securely established within both the discipline of economics and the broader field health research” (Fox, 1979, 324). The establishment of the field of health economics as a proper sub-field, and the data infrastructure built for healthcare research, set the stage for the development of a cognitive infrastructure to develop.

Through the 1970s and early 1980s, the U.S. economy experienced high inflation which was particularly acute in healthcare. Soaring healthcare costs meant that the federal government had to fund an increasingly unsustainable Medicare program, which put insurmountable political pressure on reform efforts to control the growth of costs. This included both a very public effort at establishing national health insurance in 1974, which ultimately failed, and an effort little noticed by the public which led to the most dramatic change in healthcare financing in decades: the establishment of the Medicare Prospective Payment System (PPS) as part of the 1983 Social Security reforms (Mayes, 2007). And the academic field of health economics achieved a high amount of professional authority; the 1970s saw one of the largest economic experimental studies ever conducted in the RAND Health Insurance Experiment (HIE), and several journals dedicated to health economics had been established by the early 1980s.

3.1 President Nixon’s Attempt at Reform

In addition to the skyrocketing healthcare costs in the early 1970s, many Americans remained uninsured. Thus President Nixon’s Comprehensive Health Insurance Plan (CHIP) became an administration priority for his second term. Combined with a relatively productive Congress, 1974 was set to be the year in which national health insurance had the best chance of becoming a reality in the United States (Wainess, 1999). CHIP would include an employer mandate, with employers contributing 65% of employee premiums. A second component of the program, the Assisted Health Insurance Program (AHIP), would replace Medicaid and insure anyone not eligible for the employer mandate. “By the late spring of 1974, there was an unprecedented air of bipartisanship surrounding NIH [national health insurance]” (Wainess, 1999, 321).

Economists in the administration were involved with the healthcare reform process. Perhaps most influential, the Council of Economic Advisors (CEA) opposed the CHIP legislation, though they did firmly back the proposal to remove the exemption of employer health insurance contributions from the personal income tax, calling this proposal “the single most effective way of making health insurance work” by reducing the incentive to over-insure (Nixon Presidential Papers, quoted in Wainess, 1999, 315). Despite the promising political environment in 1974 for healthcare reform, “a host of institutional reforms would lead to congressional fragmentation”, which only further bogged down a legislative process already encumbered by too many competing proposals, and then progress being overshadowed by the Watergate hearings (Wainess, 1999, 309).
The Council of Economic Advisors served perhaps the most influential avenue through which economists could influence policy, again leaving the dominant mode of influence to be through institutional positions. Had other economists been on the Council, or had the council been composed of experts from a different discipline, the advice reaching the policymakers may have been quite different. The role that economists could play as advisors was certainly bolstered by their professional authority, but the institutional position remained the dominant mode of influence.

Inflation continued throughout the decade, with annual healthcare costs rising by about 10% per year. The first year of the Reagan administration, medical inflation was above 17%, and the Medicare fund on an unsustainable path. Falling tax revenues from tax cuts left the federal government in a precarious fiscal situation. The Social Security Administration was running out of cash with which to pay beneficiaries, and government officials began borrowing money across funds including from the Medicare trust fund; this moved the projected insolvency date for the Medicare fund from 1995 to 1988 (Mayes 2007, 46). This created insurmountable political pressure to pass legislation attempting to control rising healthcare costs.

3.2 The Prospective Payment System

Experts identified one issue stemming from the incentives created by the original Medicare financing. In order to make the passage of Medicare more palatable in 1965, the legislation made space for very little involvement on the part of federal government beyond financing the care. This meant that in practice, Medicare paid whatever hospitals charged, plus 2%. “When hospitals increased their costs, they received more revenue and could expand their operations. If they lowered their costs, they received less revenue and ran the risk of falling behind their competitors. Thus there was no incentive whatsoever to lower costs” (Mayes, 2007, 24). Without any incentive to contain costs, and facing increasing demand for healthcare services, hospital reimbursements soared. With massive implications for the stability of the Medicare program, payment reform became a central aspect of the political debate.

Ultimately, these pressures culminated in the inclusion of the Prospective Payment System in the 1983 Social Security Amendments, the biggest change to Medicare since its passage in 1965. The PPS set reimbursement rates to hospitals for different medical diagnoses, based on categorizations called diagnosis-related groups (DRGs). Rather than reimbursing whatever amount hospitals charged, the PPS determined in advance what hospitals would receive for treating a particular DRG. Thus instead of incentivizing hospitals to provide as much care as possible, the idea behind the PPS was that hospitals could be rewarded for controlling costs. Hospitals that were able to
spend less resources than the PPS rate were able to make profits, and hospitals would thus be rewarded for treating patients more efficiently. Early appraisals of the PPS showed evidence that the new system led to measurable reductions in the length of hospital stays and costs per admission (Sloan, Morrisey, and Valvona, 1988).

The reason that the PPS could be developed and incorporated in the 1983 legislation expediently was the development of a cognitive infrastructure around healthcare financing. The primary aspect of this cognitive infrastructure was that DRGs served as a policy device to make healthcare costs visible to researchers, hospital administrators, and policymakers. Before DRGs, even hospitals did not have a good sense of what they were billing for, making it impossible to investigate factors that drove differences and changes in healthcare spending, or to compare the efficiency across peer hospitals. DRGs essentially made prices for products—treatments for various diagnoses—visible in the market for healthcare services. For the first time, actors could imagine measuring the variation in prices across hospitals for the same service, designing policies to incentivize hospital efficiency, and exploring factors that drove healthcare inflation. As such, DRGs served as a tool that allowed many actors to perceive the healthcare sector in a new and more precise way.

The second aspect of the building of a cognitive infrastructure was that there had been a great deal of experimentation and research done over the prior decade. Much of this can be traced to the 1972 Social Security Amendments was Section 222, which fostered state-level experimentation with medical payment reform. This provision authorized the Department of Health, Education, and Welfare (HEW) to fund demonstration projects aimed to control costs. Maryland was one of the first states to apply for a waiver, and implemented a system of hospital all-payer rate setting that continues to today. New Jersey’s experiment with rate-setting based on diagnosis codes that began in 1978 would go on to serve as the template for the PPS reform to Medicare at the federal level. According to Hackey (1999, 637), “In the long run, Section 222 had a tremendous impact on health care regulation and reimbursement policies, for it encouraged the proliferation of state rate-setting experiments during the 1970s and early 1980s”. When it came time for the national PPS Medicare reform, past experiences at the state level gave policymakers empirical examples they could point to as evidence that the policies could be successful.

The New Jersey DRG experiment has its roots in developments by researchers at the University of Michigan and Yale in the early 1970s.

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6 Under this system, all payers, including commercial, Medicare, and Medicaid, reimburse hospitals at the same rates for medical services. In addition to serving as a cost-containment mechanism, the system aims to avoid providers treating some patients as “second class” based on their insurance type.
William Dowling at the University of Michigan published an article in *Inquiry* in 1974 titled “Prospective Reimbursement of Hospitals,” which developed a conceptual framework for how various prospective reimbursement schemes (for example, basing payments on hospital budgets, capitation, length-of-stay, or specific services) would affect hospital incentives and outcomes (Dowling, 1974). It was recognized at the time that the current methods of reimbursement were inflationary. Dowling proposed various prospective payment systems as possible alternatives, and assessed what little evidence there was. It was difficult to compare the alternatives, however, as there were only a limited number of case studies available. Moreover, many of the schemes would require the development of standard categorizations of services and medical diagnosis, and estimates of the hospital resources required to provide medical services. At the time, hospital billing methods were not standardized in any way, a significant challenge in terms of data availability. As Mayes (2007) points out, “Even if researchers had readily available and comparable hospital data, how would they run their analysis? At the time there were no statistical software systems for analyzing complex medical records... And performing massive statistical analyses was a labor-intensive, arduous activity involving enormous and enormously expensive mainframe computers that only a select number of major institutions could afford” (32).

During this time, researchers at Yale University were tackling exactly these obstacles. The effort was initiated by John Thompson, a professor of public health and hospital administration. The State of Connecticut had been collecting financial data from hospitals in the state, and moreover Yale had partnerships with both the Connecticut Hospital Association and Connecticut Blue Cross, which gave researchers there access to medical data. Looking at the data, Thompson found tremendous cost variation across Connecticut’s 35 hospitals, with the highest cost hospitals charging double compared to the lowest cost (Mayes, 2007). Thompson teamed up with Bob Fetter at the School of Administrative Sciences and Richard Averill. The research team had access to powerful computational resources for the time, and developed a computer program to analyze medical data. Their goal was to categorize medical services into “products,” and

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7 Dowling completed a Ph.D. in Medical Care Organization in 1971, as well as an M.A. in Economics in 1970, both at the University of Michigan. At the time of writing the article, Dowling was Associate Professor and Associate Director of the Program in Hospital Administration in the University of Michigan’s School of Public Health.

8 Fetter received both an M.B.A. and a D.B.A. from Indiana University, in 1949 and 1952, respectively. He arrived at the Yale School of Organization and Management in 1958, where he was involved with many programs including health care management.
measure the hospital resources consumed in providing those services. They did this by developing diagnostic categories they called Diagnosis-Related Groups, with the assistance of medical professionals, and then measured the costs to hospitals of treating patients for each DRG. This was the first time that hospitals could then be compared in their cost-effectiveness and quality, and it provided a standardization would could be used in developing payment systems described in William Dowling’s publication. DRGs would go on to revolutionize medical research, quality reporting, and payment systems.

The first place to implement a DRG-based payment system was New Jersey. Dr. Joanne Finley was the New Jersey Commissioner of Health from 1974-1982, during which time the state decided to pursue a new healthcare financing system. Dr. Finley had been a health officer in New Haven and a member of the Yale faculty, and consequently was familiar with the work being done on DRGs and their potential to change healthcare financing. After a strong effort to persuade the many political constituents and hospital groups in New Jersey, as well as federal threats to withhold funds if the financing experiment did not include DRGs, Dr. Finley was able to use DRG-based payments as part of the legislation passed in the state in 1978 (Morone and Dunham, 1984).

Bruce Vladeck was Assistant Commissioner for Health Planning under Dr. Finley, and was tasked with evaluating the effects of the reform. He recounts that the Department of Health did not even own a computer, and instead the computational work was done either at Yale, or purchased via time-sharing from the New Jersey Department of Transportation and Rutgers University (Mayes, 2007, 45). But it was these evaluations and the experiment with DRGs in New Jersey that demonstrated to policymakers at the federal level that a DRG system could be a viable system that could keep hospitals solvent, patients treated, and potentially even costs contained. According to Averill, “Hospitals got paid, grandma was not thrown out onto the street prematurely by hospitals, and so it was generally viewed as a positive change despite all the predictions to the contrary” (Mayes, 2007, 45). This was enough to entice federal policymakers to consider DRGs for Medicare reform, which did serve the basis of the Medicare Prospective Payment System in 1983.

3.3 Health Economics in the 1970s

The academic field of health economics was developing rapidly during the 1970s, essentially applied microeconomics applied to the particular set of issues and institutions of healthcare. Economists constructed policy devices such as quality-adjusted life years (QALYs)

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9 Bruce Vladeck received his BA from Harvard College, and an MA and Ph.D. in Political Science from the University of Michigan.
(Forget, 2004), and undertook more empirical studies of the healthcare system and individual behaviors. The most significant of the empirical efforts was the massive RAND Health Insurance Experiment (HIE), which was conducted from 1974-1982. This effort was initiated in 1971 by a team of health economists led by Joseph Newhouse. The experiment randomized individuals into health insurance plans with different levels of cost-sharing, in order to investigate which plan generosities promoted the best individual health. The study’s findings continue to be cite and used today. Concurrent with the establishment of fields of applied economics, the subfield of health economics began to establish its professional community. The Journal of Health Economics would print its first issue in 1982, and the more interdisciplinary Health Affairs publishing the first issue in 1981.

However, the advancement of health economics along neoclassical lines was not uncontested. A stark illustration of this occurred at a conference conducted by the Bureau of Economics of the Federal Trade Commission (FTC) on June 1 and 2, 1977 in Washington, D.C. This conference serves as a snapshot of the state of health economics in the 1970s, including the divergent views among leading health economists of the appropriate role of neoclassical economic theory in studying the healthcare system. For example, Sloan and Feldman (1978) use mathematical models and econometric evidence to investigate whether physicians have market power, and the consequences for prices and quality of physician services. Their model shows that market power can lead to higher prices and lower quality, and empirical work supports this model, thus the authors write that they “believe that competition in the physicians’ services market should be fostered” (58, emphasis original).

In a comment on the Sloan and Feldman essay, Donald Yett expresses an assessment of pride mixed with humility regarding the current state of the field:

Most of us who specialize in this type of work take pride in the strides that have been made—and rightly so! We are proud that the health economics literature is no longer dominated by polemic essays. Today, the emphasis is on rigor. And the term “empirical” no longer exclusively denotes case studies, illustrative tables, and anecdotal evidence. Instead, it most often stands for theoretical propositions being subjected to econometric tests. In short, there is a “scientific” aura surrounding much of our work today which was rare not so many years ago. But is it really deserved? (Yett, 1978, 133)

And in a second comment on the same essay, Uwe Reinhardt criticizes more directly the neoclassical methodology: “The thrust of my comment will be that the standard neoclassical framework, although rigorous, is much too narrow to come to grips with this phenomenon,
thus rendering the economists’ traditional research strategy on the issue rather impotent” (Reinhardt, 1978, 158).

Overall, the 1978 FTC conference illustrated both the advances and limitations of health economics at the moment of the 1970s. As mentioned in conference remarks by Theodore Cooper, M.D., Dean of the Medical College at Cornell University, “Grudgingly, I have to admit that one can no longer discuss health policy without an appreciation of the importance of economic factors” (Federal Trade Commission, 1978, 14). But at the same time, the final point made in the conference summary was that “there was a strong consensus that more research is needed on competition in the health care industry. Most papers reflect the lack of empirical work on this industry and are only strong beginning steps in a better understanding of competition in the health care sector” (Federal Trade Commission, 1978, 9).

Health economics had also been making its way into the economics curriculum at universities around the United States. In 1979, Roger Feldman proposed a new course “Introduction to Health Economics” to be taught at the University of Minnesota. Feldman wrote a rationale for the course for a departmental meeting, which states “In the last 15 years, health economics has developed into a recognized field, mainly through the application of labor economics and industrial organization to problems in health. Mainstream economics journals have published health articles, and economists have been accepted by the traditional “health services” journals such as Inquiry, Medical Care, and the American Journal of Public Health”. Consequently, Feldman writes “both derived demand and ‘raw materials’ exist for a health economics course. I propose that the University of Minnesota Economics Department establish such a course.”

The course rationale and proposed syllabus also gives a possible explanation as to why the acceptance of neoclassical methods in health economics was contested for so long: health economics was necessarily inter-disciplinary with medical and public health fields. Feldman aimed to attract graduate students from outside the economics department to enroll in the course, even hoping to cross-list the course in the school of public health. Moreover, health economics re-

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10 “The neoclassical prediction does have the virtue of emerging from a rigorous analytic structure. Its detractors, however, argue that this analytic structure rests on an overly narrow conception of human behavior. Chief among the suspect assumptions are (1) that in the conduct of their medical practice, physicians are motivated solely to maximize their net income per hour worked, and (2) that consumers of physician services act as well-informed rational decisionmakers. The critics of the neoclassical thesis further assert that predictions form the neoclassical theory often do not square with observable facts—for example, with the observed positive correlations between physician-population ratios and fees. These critics are not easily dismissed.” (Reinhardt, 1978, 158)

11 I thank Beatrice Cherrier for pointing me to these materials in the Leonid Hurwicz Papers.
searchers were publishing in health services research and public health journals. The interdisciplinary nature of the audience for health economics research meant that health economists were publishing for an audience that had not necessarily been trained in the standard neoclassical economics perspective. Practitioners and policy-oriented readers may have been more willing to agree with detractors of mathematical economics, and less likely to value the type of rigor that economic modeling offered at the time. This is only a hypothesis, however, and a deeper exploration of this is beyond the scope of the present paper, but would be an interesting avenue for future research.

4. Managed Competition of the 1990s and Onwards

Healthcare costs continued to skyrocket through the 1980s, and with healthcare spending accounting for an increasingly large share of the federal budget, there was a strong political appetite for reforms. In stark contrast to earlier healthcare reforms, especially the passage of Medicaid and Medicare in 1965, these more recent efforts were heavily shaped and constrained by a cognitive infrastructure of economic styles of reasoning. This included ideas of “managed competition” in healthcare policy, economic rhetoric around free-riding and adverse selection, and most significantly, the integration of economic analysis into the policy process through the Congressional Budget Office. Though there did remain some particular economists with influential institutional positions, this cognitive infrastructure provided by the discipline of economics has become the dominant mode of policy influence, enduring beyond the influence of any particular economist.

4.1 Market Reasoning in Healthcare

There were various healthcare reform proposals circulating in the early 1990s, and it was the idea of “managed competition” that gained traction in the Clinton administration. The overarching idea of managed competition was to allow market forces and consumer choice to operate within a regulated environment, and was articulated in an influential *Health Affairs* article by Alain (Enthoven, 1993). The Clinton 1992-1993 proposed Health Security Act was the first effort to reflect these principles; the proposal called for consumer choice among

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12 While Medicare accounted for 3% of the federal budget in 1970 and 5% in 1980, by 1995 Medicare was 11% of the federal budget. Medicare and Medicaid combined accounted for 17% of the federal budget by 1995. (Newhouse, 1996).

13 Enthoven received his Ph.D. in Economics from MIT in 1956, immediate after which he went to work at the RAND Corporation in Santa Monica, and then the Department of Defense. He then worked in economic modeling in the private sector until joining the Stanford faculty in 1973.
competing health plans, and the establishment of health insurance purchasing cooperatives which would negotiate rates with the insurance plans that consumers would choose from. At the same time, the standard benefit package required in the plans was to be determined by a national board, and in order to achieve universal coverage, individuals were required to purchase insurance and premium subsidies were available for low-income families (Starr, 1993).

Managed competition is a thoroughly economic perspective on healthcare, aiming to harness the benefits of market forces. The fact that these ideas gained traction in policy discussions illustrates the prevalence of a developed cognitive infrastructure for economic perspectives on healthcare. Alain Enthoven had originally developed a proposal for managed competition in 1977, when while serving as a consultant to the administration of President Carter, he designed the Consumer Choice Health Plan. But it was only in the 1990s that managed competition, designed to accommodate economic phenomena including incentives, efficiency, and market forces, gained widespread acknowledgement of the benefits for policy.

These ideas of regulated competition among private plans would continue to have a major influence in healthcare reform efforts. They were incorporated in the Health Insurance Marketplaces established in Obama’s 2010 Affordable Care Act (ACA), the reform enacted in the Commonwealth of Massachusetts in 2006 (“Romneycare”), as well as the Medicare Advantage options for Medicare beneficiaries formalized in the Balanced Budget Act of 1997 and the Medicare Prescription Drug, Improvement, and Modernization Act of 2003. The individual mandate to obtain insurance was also an important part of the Clinton, Romney, and Obama healthcare reforms.14 President Clinton’s proposed Health Security Act of 1993, though ultimately unsuccessful in passing Congress, was the first instance of managed competition in healthcare reform discussions.15 But as part of the cognitive infrastructure, these ideas would have a widespread and lasting effect, beyond the advocacy of any one individual economist or policy advisor.

14 For a history on how the Republican Party came to oppose the individual mandate after supporting it for over two decades, see Ezra Klein’s article “Unpopular Mandate,” The New Yorker, June 25, 2012.
15 Opposition to the Clinton healthcare legislation was strong, mostly from insurers and small business interest groups, and the complexity of the bill failed to garner sufficient support among the divided Democratic majority. See Starr (1995) and Skocpol (1997) on the politics of why President Clinton’s healthcare reform efforts failed in the early 1990s. A more incremental change, though, was passed through the Children’s Health Insurance Program (CHIP), which expanded coverage to low-income children.
4.2 Managed Competition Implemented

Indeed the successful reform efforts in Massachusetts in 2006 and the Affordable Care Act of 2010 demonstrate that the cognitive infrastructure has become the dominant mode of economics’ influence on healthcare policy. There were still particular individuals with highly influential institutional positions, and the professional authority of economists has reinforced their influence. But the relative importance of the three modes has shifted compared to previous decades, where the cognitive infrastructure has instilled ways of thinking about healthcare and developed tools for identifying and analyzing problems that have influence beyond any particular economists or advisors.

One of the important ways that economics influence the Massachusetts and ACA healthcare reforms was through disseminating an economic style of reasoning that became accepted in policy circles. As described above, designing an online marketplace to foster insurer competition is certainly an idea conceived by an economic style of reasoning. Support for the individual insurance mandate in Massachusetts was also supported by the economic concepts of adverse selection and “free-riding.” Since the passage of the 1986 Emergency Medical Treatment and Active Labor Act (EMTALA), hospitals that receive Medicare or Medicaid payments must provide emergency services to any individual, regardless of their ability to pay or legal status. This includes treating the uninsured, and this “uncompensated care” is essentially paid for by taxpayers and by those who are privately insured through higher premiums. Thus the individual mandate is one way to address this “free-rider” problem, as seen through an economic lens. The rhetoric of the free-rider problem was effective during the Massachusetts reform effort, and was a rhetoric that both liberal and conservative policymakers could sympathize with. As such, “free-riding” served as another economic style of reasoning, that proved useful to advancing the individual mandate through the political process.

One lesson of these healthcare reform efforts is the importance of using the states as the “laboratories” for public policy, in order to build evidence about different policies. With the Clinton plan from the 1990s, there was no precedent for the major reforms to the healthcare system. In contrast, the ACA was basically built off of the Massachusetts 2006 reforms, taking the three key aspects of creating online marketplaces, mandating insurance coverage, and implementing subsidies to help low-income individuals afford insurance (McDonough, 2011, 41). Specifically, the ACA’s Health Insurance Marketplaces were modeled on the Massachusetts Health Connector launched in 2006. As a result, when critics of the ACA claimed no one had any idea what would be the effects of these reforms, proponents
could point to the experience in Massachusetts, an advantage that did not exist for Clinton’s Health Security Act. Economists could use evaluations of state-level reform efforts to confidently advise on the national legislation. This echoes the experience with Prospective Payment reform for Medicare in 1983, where advocates pointed to a previous experiences in New Jersey to calm fears of major changes to the national healthcare system.

The professional authority of economics to comment on health policy has perhaps never been greater. By the 2000s, several health economics journals had achieved a high profile, including the *Journal of Health Economics*, and applied economics and health economics were part of the standard training in graduate programs of public policy, business administration, and health policy. The Robert Wood Johnson Foundation supported a large amount of funding for health economics, including a high-profile “Scholars in Health Policy Research Program” established in 1992, which included a large representation of economists.

In terms of the policy influence of this mode, the inclusion of the Cadillac tax in the ACA legislation can be seen as a triumph of the influence of the professional authority of economics. In November of 2009, a group of 23 economists, including two Nobel laureates and members of both Democratic and Republican administrations, wrote an open letter to President Obama laying out key aspects of healthcare reform. This letter specified an excise tax on generous insurance plans as one key measure of effective health care reform (Rampell, 2009). According to Glied and Miller (2015), “The excise tax incorporated in the ACA directly addressed the tax treatment of health insurance. The new tax had no political constituency whatsoever—not unions, not business, not conservative taxpayers, not liberal taxpayers. It was a victory only for health economists.” However, this was only a partial victory for the influence of economics, as the implementation of the Cadillac tax has been continuously delayed and could even be repealed before ever being enforced. In October 2015, 101 prominent health economists wrote a letter continuing to support the implementation of the tax (Johnson, 2015), but the debate continues.

The influence through institutional positions did not disappear, of course. And many of the actors who were involved with the Massachusetts reform also advised the Obama administration afterwards. Interestingly, the Massachusetts effort garnered bipartisan support. Robert Moffit, a policy expert at the Heritage Foundation, was involved in drafting parts of the legislation. The Heritage Foundation

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16 Interestingly, this same provision was advocated for by the Council of Economic Advisors as part of President Nixon’s Comprehensive Health Insurance Plan in the early 1970s.
especially promoted the idea of constructing an online exchange through which individuals could purchase insurance, choosing among plans offered by private insurers.\textsuperscript{17} Liberals saw the reform as a viable means to achieve universal coverage.

The most visible and prominent advisor for healthcare policy has been M.I.T. economist Jonathan Gruber. The Massachusetts healthcare reform effort was largely data-driven, perhaps due to Governor Mitt Romney’s career experiences.\textsuperscript{18} This allowed for the policy to be based on empirical data. For example, surveys offered a decomposition of the uninsured population, which included Medicaid-eligible individuals who simply had not enrolled, low-income individuals who most likely not afford insurance, and healthy individuals who were uninsured, perhaps because they thought they were unlikely to need healthcare services in the near future. The size of this last group is of particular importance because of the threat of adverse selection—only sick people signing up for insurance. The Romney administration hired Jonathan Gruber to model the effects of the healthcare law, and indeed Gruber’s analysis predicted that adverse selection would be a major factor, and that only the sick people would sign up, leaving an expensive insured pool that would result in high premiums. Gruber’s estimates showed that including an insurance mandate would insure more people with only a small increase in price because of adverse selection. According to journalist Ryan Lizza, this greatly influenced Romney, and was part of what turned him into a passionate advocate for the mandate in the plan.

The Obama administration was also attentive to empirical evidence, and enough so that data could change the President’s mind. During the 2008 primaries, Barack Obama did not support a mandate as part of his healthcare plan, and indeed criticized Hillary Clinton’s plan for forcing people to buy insurance. But as the time came for the actual legislative process to begin, the empirical evidence pointed towards the benefits of a mandate. The Obama administration also contracted Jonathan Gruber to model the effects of the law, and the estimates indicated that a mandate could double coverage at only a quarter of the price. Obama’s top healthcare advisor Nancy-Ann DeParle reiterated this, with figures indicating that excluding the mandate would reduce the bill’s spending by $270 billion over ten years, but leave 28 million Americans uninsured.

However, this was not simply a case of “experts whispering in the President’s ear” regarding policy. As DeParle pointed out to the President, the Congressional Budget Office was also likely to take this position.

\textsuperscript{17} In addition to providing an alternative to a public insurance plan, conservative policymakers were attracted to the potential for exchanges to shift responsibility from employers to individuals.

\textsuperscript{18} According to Ryan Lizza, Romney’s staff was impressed with the attention he gave to data. See Ryan Lizza, “Romney’s Dilemma,” \textit{The New Yorker}, June 6, 2011.
sition in their modeling, which would affect the law’s “score” and consequently the debate around the legislation (Lizza, 2011). It was not really any particular expert who changed the President’s mind to include the mandate in the final version of the legislation; rather, the development of the methods of empirical economic modeling, which incorporate certain forces deemed relevant to an economic analysis of the nationwide healthcare system, and instantiated in the CBO, ultimately shaped how economic evidence was evaluated and integrated into the policy-making process. This is the cognitive infrastructure of economics as work shaping public policy.

4.3 Economic Modeling as Cognitive Infrastructure

The key role that the CBO played constraining and sculpting the healthcare legislation is perhaps the single most important vehicle through which economics influenced healthcare policy. However, it is not inevitable that such an institution, staffed by economists and regarded as nonpartisan by both political parties, would exist or have such influence.

Created by the 1974 Congressional Budget Act, the CBO began operations with the director as Alice Rivlin, a Ph.D. economist with policy analysis expertise from time at the Brookings Institute. In his comprehensive history of the CBO, Phillip (Joyce, 2011) argues that the selection of Rivlin was critical in developing a culture at CBO that would build a high amount of credibility with both Congress and the media. Rivlin interpreted the CBO mandate to inform congressional budget considerations very broadly, and had a vision for CBO as a producer of Brookings-style policy analysis. She aimed to build the analytical capacity at CBO by hiring “people who had the academic training and skills to both analyze proposed legislation (Rivlin wanted to hire PhD economists) and write clear, accessible documents for a congressional audience” (Joyce, 2011, 123).

In part, the CBO was able to achieve this level of influence by relying on economic analyses at a time when the professional authority of economics had become strong. But Joyce’s account also makes clear that CBO directors played key roles in building the credibility of the agency, especially through a willingness to transparently criticize proposals by both Republican and Democratic administrations. Thus the agency’s history is one of largely maintaining a nonpartisan reputation in an increasingly partisan environment. According to Joyce (2011), when in February 1994 CBO released its analysis of President Bill Clinton’s health care reform plan, “the media believed that CBO (and perhaps CBO alone) would tell it like it saw it” (161).

The CBO analysis of legislation centers on projections for the effects on the federal budget, and in the case of the ACA, the March 2010 estimates were that the legislation would reduce federal deficits by $124 billion over the years 2010-2019 as a result of direct spending.
and revenues (Elmendorf, 2011; Congressional Budget Office, 2010a). In some cases, the CBO also forecasts other effects of legislation, and for healthcare that includes effects on insurance premiums, coverage rates, and the labor market. The production of these estimates by the CBO and Joint Committee on Taxation (JCT) was done by individuals trained in economics, using current methodologies, and who are aware of the current economics and health economics literature. Specifically in this case of the Affordable Care Act, the CBO and JCT model used an analytic framework that drew from current literature in health economics, tax compliance, and behavioral economics (Auerbach et al., 2010). To further illustrate the point, consider that in describing the CBO’s estimates for the ACA’s effect on employer-sponsored insurance coverage, CBO director Doug Elmendorf’s testimony in front of the Subcommittee on Health of the House Committee on Energy and Commerce includes citations and comparisons to estimates from other healthcare modeling groups, including those at the Urban Institute, the Lewin Group, and RAND Health (Buettgens, Garrett, and Holahan, 2010; The Lewin Group, 2010; Eibner, Hussey, and Girosi, 2010).

During both the Clinton health reform effort of the early 1990s and the debate around the ACA, the CBO was deeply involved in the process. CBO staff regularly interacted with Congressional staff—producing advanced reports to offer guidance to legislators, producing cost estimates, and meeting informally with congressional staff on the costs of any proposed changes to the legislation during the bill-drafting process. For example, when the policy advisors wanted to save money by encouraging the adoption of new technology such as electronic medical records, the CBO’s economists were skeptical that such changes would significantly decrease medical spending, forcing the legislators to look for other sources of savings. In early drafts of the ACA, the White House’s optimistic rhetoric was contradicted by the CBO projections, which estimated a budget deficit of over $200 billion. The CBO had such an influence, that the policy experts would defer to asking CBO director Doug Elmendorf about the best way to reduce spending; his response was the elimination of the tax advantage given to employer-provided health insurance. When Harry Reid made clear that this was politically infeasible, the policy experts added the “Cadillac tax” on generous employer health plan to the legislation, which was projected to have a similar effect. With regards to the Affordable Care Act, “it is clear that the structure of the health care reform that passed was fundamentally influenced by CBO’s ad-

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19 The CBO projected that the coverage rate would be 95% by 2021, while it would have been 82% absent the legislation. The CBO analysis also incorporated the legislation’s effects on worker and employer behavior (Elmendorf, 2011).

20 For a detailed account of the negotiations leading to the passage of the ACA in 2010, see Jonathan Cohn, “How They Did It”, New Republic, May 21, 2010.
vice. That is, without CBO, the health care reform that passed would have—for better or worse—looked fundamentally different” (Joyce, 2011, 179).

The CBO’s efforts during the Obama healthcare reform were enormous (McDonough, 2011, 89). In a report published by the CBO which compiled many of the reports produced before and shortly after the enactment of the Affordable Care Act, the preface states “Representing one of the most challenging and significant analytical efforts that CBO has ever undertaken, this process involved dozens of CBO analysts, required modeling of thousands of complex and often interacting provisions, and included countless communications with staff members of many Congressional committees and offices” (Congressional Budget Office, 2010b). The CBO’s healthcare model is extensive, and incorporates insights from the cutting edge of economic research. It uses data on income, employment, family structure, and health status from a large sample of U.S. residents, incorporates economic incentives faced by insurers, state regulations, and behavioral assumptions regarding employer decisions to offer insurance, and individual decisions to purchase insurance and receive medical care (Congressional Budget Office, 2007). When possible the model’s parameters are based on the literature, but there are certainly assumptions and extrapolations made. The model is used to analyze the effects of policy changes on insurance coverage and health expenditures, including by age and income, and to forecast the budgetary effects of proposed legislation. The modeling groups at the Urban Institute, Lewin Group, and RAND Health use similar data sources and modeling approaches to the CBO model, and have the same goals in mind.

This role of the CBO in policymaking does raise questions regarding the role of expertise in a democracy. Regarding the role of CBO in the Affordable Care Act, Joyce (2011) writes that “It is completely unchallenged that CBO was viewed as the health care reform oracle (mostly on costs, but also on coverage) and that its analyses were viewed as more or less holy writ by the media and public” (200). This echoes the 1994 healthcare debate, when news coverage reported of the release of the CBO analysis of the Clinton health plan, “its [CBO’s] analysis is being viewed by many experts as the equivalent of a Supreme Court ruling on health care” (Risen, 1994). Writing about the Clinton healthcare reform failure, Theda Skocpol finds the CBO’s role alarming, making the provocative point that “the CBO, it is worth underlining, has by now become virtually a sovereign branch of the U.S. federal government, comparable in clout in relation to the executive and the Congress to the courts back in the Progressive era and the New Deal” (Skocpol, 1997, 67). Though this debate is beyond the scope of this paper, it does highlight the main argument of the present study: that there has been a shift in the way economic experts
have influenced healthcare policy, from individual trusted advisors in influential institutional positions, to where the economic style of reasoning and analysis more broadly has now permeated the policy process. And the CBO has been deployed as the primary interface for this influence of economics on the policy process.

To provide a sense of what these economic models entail and actually do, consider one influential example, the RAND Comprehensive Assessment of Reform Efforts (COMPARE) microsimulation model. The model used data from many sources, including the Survey of Income and Program Participation (SIPP); the Kaiser Foundation/Health Research and Education Trust; the Statistics of U.S. Business; the Medical Expenditure Panel Survey (MEPS), and the Society of Actuaries Large Claims Database. The COMPARE microsimulation models individual and family insurance enrollment decisions using the utility maximization framework, to capture the tradeoffs among different insurance options (e.g., plan benefits and actuarial value against monthly premiums). This model takes into account a large array of additional factors, including individual Medicaid eligibility, individual exchange premium subsidy eligibility, and the generosity of employer benefits, which all will influence individual decision-making (Eibner and Price, 2012). The RAND model in particular was used to compare worlds (i) without the ACA, (ii) with the ACA but no individual mandate, and (iii) with the ACA and with the individual mandate. One can then compare predicted enrollment rates, premium levels, and total government spending across these policy scenarios.

The RAND COMPARE model, like any empirically-based economic model, requires many assumptions, but many relationships are modeled based on existing empirical evidence. For example, the COMPARE model allows individuals to use more healthcare when they have more generous insurance (moral hazard), by including adjustments based on demand curves derived from the RAND Health Insurance Experiment (HIE). The rapid acceleration of empirical methods during the 1980s and 1990s offered parameter estimates that could be readily incorporated into policy simulations (Glied and Miller, 2015, 384), facilitated in part by the rise of quasi-experimental methods which provided reliable estimates without the need of large-scale and expensive randomization experiments such as the RAND HIE (Panhans and Singleton, 2017).

In addition to the CBO and RAND modeling group, estimates of the ACA effects came from a team led by Jonathan Gruber, The Lewin Group, and the Urban Institute. Despite differences across the exact

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21 As another example, the researchers at RAND use estimates from previous literature to incorporate the savings from reduced spending on uncompensated care stemming from increased insurance coverage.
predictions, stemming from modeling decisions and behavioral assumptions, what is stark is the emergent consensus in the approach to answering policy-relevant economic questions. In a sense, these competing models used the same language, and while one could debate the particular assumptions, modeling decisions, and data sources, a common feature was to integrated existing empirical evidence into a behavioral microeconomic model in order to predict policy changes relevant to healthcare reform.

The modeling techniques also shaped the types of questions that economists ask. Small changes to the healthcare system could be forecasted more reliably using these methods; a large-scale change, such as moving to a single-payer system, would be difficult to model and forecast. While the policy discussion was aligned with the types of questions that economists could forecast with these models, economists trained in these methods would have more influence. To the extent that has been true in recent health policy debates may explain part of the increased influence of economics. Conversely, it is possible that having a large cognitive infrastructure of economics could shape the breadth of the policy discussion to some extent.

One side effect of this increasing importance of modeling groups, was that this increased the demand for academic economists who could undertake these analyses. Graduate students in health economics with these empirical skills could obtain employment, thus increasing the demand for faculty to train students and pursue related research agendas. Funding opportunities, and the demand for empirical modeling skills in academia as well as the private and public sectors, in turn contributed to stabilizing the health economics cognitive infrastructure in academic departments.

The group of competing healthcare models also illustrates a shift in the center of how economics influenced healthcare policy. Jonathan Gruber was involved with the Massachusetts healthcare legislation, was an inaugural member of the Massachusetts Health Connector board in 2006, consulted with the Clinton, Edwards, and Obama 2008 campaigns, and contracted with the Department of Health and Human Services in 2010. Thus Gruber certainly achieved an “institutional position” of influence, bolstered by the authority of the economics profession which compelled these various policymakers to seek economic expertise. And yet, in the policy process, his research team was embedded as just a part of a healthcare modeling ecosystem, only one of many competing modeling groups. Had his results been starkly different than the forecasts of the other groups, his work would have been discounted. Thus, although the role of institutional positions for economists has not disappeared, it is also not what it once was, having ceded influence to the “cognitive infrastructure” of the broader discipline of health economics. In this sense, the influence
of economic thinking and tools has been constructed to outlast any one particular economist or policymaker’s influence on policy.

5. Conclusion

The contribution of this study is to document a shift across the three modes of influence over time. Whereas the institutional positions held by particular economists were especially important through the 1960s, they became relatively less influential by the 1990s and 2000s. By the latter period, there was instead a shift toward the relative importance of the cognitive infrastructure provided by the field of health economics, in both styles of reasoning and tools for analyzing the healthcare sector. This does not mean that institutional positions completely ceased to serve as a mode of influence, but the shift towards the cognitive infrastructure highlights that the policy importance of economics had spread beyond the influence of any one particular economist or bureaucratic position. To use the language of Brint (1990), the overriding “intellectual technologies”—the methods of microeconomic analysis—were framed by academic economists. The most visible instantiation of this influence came through the Congressional Budget Office. As Glied and Miller (2015) note, “ideas made their way into design discussions and many were cemented there by the CBO’s scoring mechanisms” (390).

The mode of professional authority has become increasingly important in solidifying the other modes of institutional positions and cognitive infrastructure, such that policymakers often find themselves compelled to seek the advice of healthcare economists. It is this mode, bolstered by the professional institutions of the field of health economics including journals, academic departments, and government and private positions, that stabilizes and secures the influence of the other two modes in the policy process.

This narrative raises a question as to why the field of economics has come to have such an influence over healthcare policy compared to other social sciences. While an exploration of that question is beyond the scope of this paper, an answer must relate to the broader increasing authority of the entire economics profession compared to other social sciences, as discussed in Fourcade, Ollion, and Algan (2015). But the case of health economics offers an illustration of one component of how economics may have achieved that authority: by offering a technical yet accessible way of thinking about policy, and how to translate evidence and theory into recommendations, that policymakers found useful.
References


