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Robert Lucas was mourning the political and ideological death of John Maynard Keynes all throughout the late 1970s, even as he did more than anyone to bury the casket.[[1]](#footnote-2) As he surveyed the landscape of macroeconomic theory in a series of articles, interviews, and speeches around the turn of the decade, he was disheartened by what appeared to be “total chaos.” The stagflation that had ripped through Western economies over the previous decade had also done much to discredit mainstream, Keynesian theory, reducing barriers to entry for would-be successors. This made life interesting for Lucas and his colleagues – as “orthodoxy has no way of discriminating, all get a fair hearing” – and the marketplace of ideas was thick with new products, including his own. But as the second generation of the Chicago school of economics gave way to the third over the course of the 1970s, the future appeared dim. As is often the case with economists, academic ferment came at the expense of national wellbeing. Lucas watched “the end of consensus economics” with dismay, as “crackpot proposals” entered from all directions. Supply-side theorists filtered in from the right. Arthur Okun’s baroque collage of anti-inflationary taxes and subsidies approached from the left. And price control boards were put forward by big labor, big business, and a majority of the decade’s voters.[[2]](#footnote-3) Even the Reagan administration wound up “turning towards fine-tuning,” Lucas lamented to an interviewer in the early 1980s, “which seems insane to me.”[[3]](#footnote-4) The interventionist impulse, let loose from the specifically macroeconomic confines that midcentury Keynesianism had placed it in, was spreading.

In front of an audience at the University of Chicago’s annual management conference, Lucas admonished his crowd, “Keynesianism *mattered.* It filled a very central ideological function. Now that it is gone, something is going to have to take its place – and we need to think about what that something is likely to be.”[[4]](#footnote-5) Previous generations of Chicago economists had failed on this score. The sophisticated market philosophies of Frank Knight and F.A. Hayek attempted to transcend Keynesianism, but were never operational enough for what Kuhn called normal science, unable to displace opponents within the academy; Milton Friedman’s attacks on Keynesianism were operational, at the cost of conceding too much ground – monetarists split the field over empirical judgements rather than unifying it around a theoretical alternative.[[5]](#footnote-6) Lucas’ work was an attempt at a workable, transcendental critique of midcentury Keynesianism. His objections formed a theory of state vision and economic agency that came to be known simply as “the Lucas critique.” The critique argued that the epistemological conditions of possibility for a scientific macroeconomics, which Keynesianism aspired to be, could be found only in microeconomic theory, which in turn required that economists confine themselves to the analysis of alternative policy rules. Lucas’ program was an attempt to purge the state’s managerial discretion, at least within economic theory, by promoting rules as the only conceivable mode of macroeconomic policy. Lucas’ program aimed to make macroeconomics useless for practical policy-makers looking for advice on how to respond to an eventful economy, directing their attention instead towards the maintenance of stable, transparent, long-run policy regimes. The theory implied a dramatically reconfigured role for the economic advisor, who would no longer be needed within government itself. Rather, the economist could be ensconced in the academy, safe to contemplate optimal, long-run rules at one remove from politics’ day-to-day machinations.

The Lucas critique succeeded in containing the noise and tumult following the collapse of midcentury Keynesianism. The profession’s younger members were eager to engage with the Lucas critique, as they were less invested in older toolkits and not tied to any specific vision of how to be an economist. The critique offered fresh theoretical space to explore, new opportunities to attain distinction, and – in the midst of stagflation – provided an appealing alternative to the faltering Keynesian framework. By the early 1980s, even those skeptical of Lucas’ innovations needed to express themselves in his terms in order to publish in top journals. By the new millennium, Keynesian retrospectives were striking a deferential tone. Harvard’s Greg Mankiw acknowledged Lucas as “the most influential macroeconomist of the last quarter of the 20th century,” while MIT’s Oliver Blanchard was sufficiently content with the profession’s “convergence in both vision and methodology” to declare that “the state of macro is good.”[[6]](#footnote-7)

Lucas’ containment strategy was not to enter the Homeric fray as one more combatant among many, but to alter the choice of terrain altogether. Lucas changed the methodology of academic macroeconomics, and it is in this way that he was important for intellectual history and political economy. To appreciate his significance requires moving beyond historiographies of market philosophy, rhetoric, theory, or doctrine, and instead grasping a series of shifts he precipitated at the level of *theoretical practice,* whose effects are visible in areas from central banking and growth theory to the state-academy relationship*.*[[7]](#footnote-8) It would not be an overstatement to say that modern macroeconomics has been constructed along the lines of Lucas’ methodological dicta, so it is curious that he should be such a neglected figure in intellectual history.[[8]](#footnote-9) The same might be said of fellow Chicago economists Gary Becker and Eugene Fama; indeed, the entire third generation at Chicago has been largely overlooked. The likely reasons for this neglect include the technical difficulty of their work, temporal proximity, and the slow decay of disciplinary history within economics. Perhaps most fascinating of all is that Lucas has made a number of attempts to serve as his own historian, preempting alternative ways of historicizing him. Although he could be gregarious around scholars who expressed appreciation for his work – and a talented polemicist when confronted by those who did not – in other settings he was notoriously shy. Complicating matters further was his penchant for deflecting questions with humor. He has never once appeared on television, and the few popular pieces he has written have only appeared in the last few years. He refused to engage in public political activities, preferring instead to act from the relatively reserved positions of the academic publication and the professional seminar. This overtly technical and non-public self-presentation was a major source of his influence, as it shielded him from accusations of bias; further, as editor for several major academic publications he could act as gatekeeper and conductor for the profession at large. To sketch an accurate picture of him therefore requires diving into the personal archives and technical journals. Some initial work in this area has been accomplished by scholars reconstructing the internal history of economics.[[9]](#footnote-10) However, what is now required is the reinsertion of Lucas’ work into the broader contexts of intellectual and political history. Doing so clarifies our understanding of neoliberalism, the political evolution of Chicago after Friedman, and central banking, in addition to revising our understanding of the ostensibly hostile relationship between neoliberalism and Keynesianism.

The Lucas critique is what separates midcentury Keynesianism from the New Keynesianism of the neoliberal era. Keynesians who reached intellectual maturity in the age of Lucas felt compelled to respond to his critique. Coupled with Lucas’ own tortured relationship with Keynes, this makes Lucas a uniquely powerful prism for disambiguating Keynesianism. Upon closer inspection, Keynesianism turns out to have been less the coherent methodology-ideology made out in popular parlance, and more of an overlapping and mutually reinforcing set of convictions, concerns, concepts, and cultures. Lucas absorbed some of these elements while abandoning others. The New Keynesians often followed Lucas’ lead on which aspects of midcentury Keynesianism to retain and accent, and which to discard.

Lucas’ rise to influence largely overlaps with the “neoliberal era” – a moniker (not without its problems) that historians have recently settled on to describe the period since the 1970s – so it has proven tempting to usher him under this rubric without argument or evidence. Intellectual historians have identified a core cast of characters surrounding the Mont Pèlerin Society (MPS) as the chief neoliberal protagonists, but the historical focus has been on their microeconomic politics.[[10]](#footnote-11) The present paper supplements the growing literature by exploring Lucas’ macroeconomic neoliberalism. One influential narrative traces the revival of market advocacy in late twentieth-century America to a vigorous public persuasion campaign, in which the University of Chicago, the Mont Pèlerin Society, and a think tank complex centered on MPS played defining roles.[[11]](#footnote-12) The parallel history that Lucas brings into perspective is, however, rather different. Neither MPS nor its network could free social science from the anarchy unleashed with Keynes’ death. More to the point, since they contributed to the development of an even larger market for policy advice through the promotion of think tanks, they were part of the problem. The marketplace of ideas was already far too large in Lucas’ eyes, and in any case was fatally flawed – its sole consumer was ultimately the state, and monopsony has never produced efficient outcomes. Lucas looked askance at such institutions by the early 1970s. He turned down every generously funded position offered to him by a think tank, and he never did join MPS.[[12]](#footnote-13)

Although Lucas had an elective affinity with the politics of MPS, his neoliberalism required a different strategy. Based on his early contact with Keynesianism as a graduate student, he was immensely impressed with the power of academic ideas to shape technocratic opinion and practice, and it was this line of influence that he pursued. Lucas exited graduate school fully content with the Keynesian consensus in the early 1960s, and his views evolved only slowly over the next two decades. Within that consensus there lay hidden contradictions – analytically, between micro and macro; practically, between knowledge and wisdom – which ultimately undid midcentury Keynesianism as an intellectual project. While they claimed to be producing scientific knowledge about “the economy,” in practice consensus economists relied as much or more on intuition and judgement when making policy, and the economy turned out to be a disunified concept, its micro and macro levels left unmediated except by tacit understanding, a form of knowledge which midcentury Keynesianism allegedly disavowed. These contradictions were the essential coordinates which allowed Lucas to do the worst thing any new initiate to can do to an ideology: he took it too seriously, inadvertently turning its exoteric claims against its esoteric meaning. By pressing technocrats on their scientific credentials, and the theoretical practices which verified and constituted them, Lucas would render the ideological balancing act of midcentury Keynesianism untenable. From the fires of the old order emerged a new vision, both of economics and what it meant to be an economist, informed by the philosophy of Robert Lucas.

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Lucas was preoccupied with clarity for his entire life, and his changing outlook has been driven primarily by whichever system of thought seemed to promise a scientific view of society. Yet the jumble of New Deal pragmatism, Marxism, Friedman-inflected price theory, Keynesian planning, and Chomskyan geopolitics that Lucas sampled over the course of his early career makes for a muddled ecumenism.[[13]](#footnote-14) The impression that emerges is certainly not of a principled engagement with the philosophical foundations of capitalism. Instead, the early Lucas appears buffeted on all sides by forces whose only unifying thread was the promise of clarity through economics, whether in history, foreign policy, or industrial management. He graduated from the University of Chicago in 1959 with a bachelor’s in history, convinced by Marx and Henri Pirenne that economic forces were the real agents of history. After a year of graduate work in history at Berkeley struggling with the language requirements, he returned to Chicago to study economics. Four years later, he had his doctorate and an assistant professorship at Carnegie Mellon University. It was there that he developed the Lucas critique, catching the eye of the Chicago economics department. A year later, in 1974, Lucas returned to Chicago as a full professor, and he remained there for the rest of his career. But that is getting ahead of our story.

In 1973, Lucas detailed his new vision in the form of a critique of then-standard econometric practice, which eventually came to be known simply as the Lucas critique. “The paper outlines what I think are the implications of rational expectations for econometric work,” he wrote in a letter to Robert Barro. “As you can see, I think they are much more revolutionary than is generally appreciated.”[[14]](#footnote-15) He was careful to make it clear that he was not dissatisfied with current models’ forecasting ability – which he considered decent and improving, and for which the critique “is only of occasional significance” – but rather with their use as guides for policy. As befits a revolutionary, he set out to maximize the number of seminar rooms to which he could proselytize. “‘Econometric Policy Evaluation: A Critique’ is about half polemical […] I have a kind of missionary interest in discussing it.”[[15]](#footnote-16)

In Lucas’ view, it was necessary to do two things that current econometric models did not. First, economic agents had to be modeled as maximizing their utility in a risky, dynamic environment which they understood in its totality – this was the rational expectations hypothesis. Second, he argued that government policy had to be modeled by specifying a mathematical rule stating which policy action would be chosen under every possible contingency. Lucas cited Knight, but did not explicitly draw on his risk/uncertainty distinction; however, to understand Lucas’ point it is helpful to frame it in those terms. The essential difference is that risk can be calculated – it comes with some probability distribution that describes the relative probabilities of different events – whereas Knightian uncertainty is radically inscrutable.

Lucas argued that to conceive of economic agency scientifically, a model must view agents as optimizing while taking into account all of the knowledge about risk and the future that they could. Given a clear maximand in the form of a utility function and an environment with well-specified risks, economic agents had equally clear and well-specified optimal plans, rendering them predictable to econometricians. These optimal plans were contingency plans, specifying what course of action the agent would take as it moved through time and the various risky events came to pass. For example, a consumer might not know what his wage will be tomorrow, except probabilistically; when tomorrow arrives and he sees his wage, he plugs it into his optimal consumption function and purchases goods in accordance with the output value.

Failing these two dicta, econometric models would fail to capture the *intentionality* behind agents’ actions, and hence fail to predict their behavior in novel situations, such as under alternative policy regimes. An equation describing investment patterns implicitly contained parameters describing the choices being made by investors, as well as parameters describing what investors believed to be true about their environment. If part of their environment was shrouded in Knightian uncertainty, then traditional models of neoclassical optimization failed, since there was no mathematical traction that would allow agents to calculate utility-optimizing plans. To the extent that government policy changed over time – perhaps in response to randomly occurring events like the business cycle – then its changes needed to present economic agents with Knightian risks, and hence provide mathematically specified, rule-based contingency plans. Otherwise government policy would produce Knightian uncertainty and deny economic actors agency, rendering them unpredictable to econometricians, and hence undo the scientific character of academic economics to which Lucas was so committed. Yet that was precisely what the activist, discretionary policy recommendations of midcentury Keynesianism, in which he was trained, did. Working his way into, and then out of, this critical impasse was the labor of more than a decade.

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Lucas’ first encounter with consensus economics and its contradictions came in the summer before his first return to Chicago for graduate school, when he found an appealing, technocratic aesthetic in the work of MIT economist Paul Samuelson. With the end of WWII, American economics had undergone a sea-change; a wave of neoclassicism had swept away a landscape of competing methodologies – institutionalism, historicism, Marxism – and at its crest was Samuelson.[[16]](#footnote-17) Youthful and brash, with a tone that overawed young Lucas, Samuelson dismissed the economics of previous generations as merely “literary” – intuitive, unscientific, moralizing. He pursued instead two parallel strands of mathematical economics: neoclassicism and Keynesianism. Samuelson first encountered neoclassicism at the University of Chicago as an undergraduate, and in the ecology of interwar economics Chicago neoclassicism was associated with a relatively free market position. Not so with Keynesianism, whose interventionist thesis mathematical economists felt the need to “translate” and clarify; this was especially true in America, where Samuelson was one of two key vectors for Keynes’ importation and mathematical restatement.[[17]](#footnote-18) Keynesian theory had none of the individuals found in neoclassical microeconomics. It modeled relations between economic aggregates only, showing how economy-wide variables like the price level and GDP changed endogenously with changes to exogenous policy parameters.

Samuelson combined these two traditions in his 1947 textbook, *Foundations of Economic Analysis,* and its undergraduate companion, *Economics,* which dominated the academy for decades and laid the foundations for the “consensus economics” Lucas later pronounced dead at the end of the 1970s. For Samuelson, microeconomics and macroeconomics were mathematically and conceptually distinct, linked only by the intuition that the validity of neoclassical microeconomics depended on the successful interventions of Keynesian macroeconomics. Samuelson argued that it was only within a stable environment characterized by full-employment that the assumptions and liberal policy conclusions of orthodox neoclassicism were true. The middle-of-the-road politics of the neoclassical synthesis were widely viewed as centrist, and the scientific cast of Samuelson’s theory appeared to many, including Lucas, as an end to ideological economics. Samuelson accepted interventionism – but he confined it to the macroeconomy.

In Lucas’ reading of *Foundations*, Samuelson naturalized rule by experts with a tone that insinuated cliquishness. Though there were throwaway lines about policy being too important to leave to economists, Lucas took Samuelson’s message to be that mathematics was a shibboleth that could make him an “insider in a complex culture” of expertise which, by virtue of its unique skillset, had the sole right to exercise discretion in economic disputes.[[18]](#footnote-19) As Samuelson put it, although he would “rather have rather have Bob Solow with an econometric model than without one,” if forced to choose he would “rather have Bob Solow than an econometric model.”[[19]](#footnote-20) The mathematical work was important, but less for its own sake than for the subjective effects it had upon the knowledge producers themselves. It was a guild ethos that was flattering to students who were talented enough to earn initiation, and Lucas looked on in wonder as economists in government leveraged the prestige of the new mathematical economics.

Keynesian technologies were deeply embedded in a postwar governance structure that relied more than ever on economic experts by the 1960s, and a small collection of extra-state contract research institutions played an increasingly vital role in managing the nation via the collective wisdom of its complex culture. America had relied on outside experts to staff its institutions since at least the Progressive era, but in the postwar decades these relationships solidified into elite institutions that performed routine work on a more sustained basis. Organizations like the National Bureau of Economic Research (NBER), the RAND Corporation, and the Brookings Institution supplemented the official bureaucracy, providing a range of services from program administration to conference organizing and data collection. The network they formed created a common space for working out the details of an establishment consensus – a complex culture – where conversations happened largely out of view of the public eye. Experts paid little attention to developing popular constituencies for their programs. Instead, they thought of their primary audience as legislators, bureaucrats, and one another.[[20]](#footnote-21)

Part of NBER’s work had been to develop reliable macroeconomic measurements. By the 1960s, these statistics were regularly collected by governments and used in research. The ability to represent the economy in aggregate computer models was ideologically significant, as it fostered the perception that scientists had rendered the macroeconomy and its mechanisms visible in real time.[[21]](#footnote-22) Visibility easily slipped into controllability, even mastery – especially for young men. Stanly Fischer, a professor at MIT and later chief economist at the International Monetary Fund, recalled thinking as a student in the 1960s that the rise of mathematical economics meant that policy could be depoliticized: “all that was necessary was to feed the data into the model and work out at what level to set the policy parameters.”[[22]](#footnote-23) In practice, of course, policy-makers used a combination of tacit knowledge and formal modeling when evaluating their options, adjusting the models in response to events, and frequently ignoring them altogether. The expert judgement that scholarly initiation cultivated was often considered sufficient for guiding policy, but when it was not, professional forecasting models could act as prostheses. In neither case did experts refer to the masses or markets as the source of their knowledge, but only to their own “complex culture.”

The picture revealed by scientific economic theory was assumed to operate independently of the masses’ consent – and certainly independently of their knowledge – as were the various policy levers used to influence the economy. Indeed, some discretionary policies were even thought to work *better* when hidden from the public. The conventional wisdom in central banking circles, for instance, was that the stance of monetary policy should be ambiguous, and markets ought to be left guessing about the future path of interest rates. This would foster a variety of forecasts, and as each market participant tried to outguess the next there would always be a willing agent on the other side of any trade. Such a “thick” market would increase financial liquidity and buoy the system against unexpected shocks. It was precisely this practice that Lucas would later single out as the main cause of economic uncertainty and the business cycle, and it was against such practices that he demanded transparency and rule-based policy-making.[[23]](#footnote-24)

The second major vector for importing mathematical Keynesianism to America was the Cowles Commission. Founded in 1932 with a grant from Alfred Cowles, by 1939 it had moved into the Social Sciences building at the University of Chicago, where it shared space and resources, including faculty, with the economics department. By the mid-1940s, Cowles was home to a clutch of socialists and left-liberals devoted to sharpening economic techniques for social engineering.[[24]](#footnote-25) Several members of the Commission were early mentors for Lucas, and their influence – in particular their emphasis on scientific planning, totality, and econometrics – more than anything differentiated him from the second generation at Chicago, and their frustrated attempts to assimilate Keynesianism foretold Lucas’ own.

The major plank Lucas and Cowles shared was Walrasianism, a distinct brand of neoclassicism that approached the economy as a simultaneous totality, emphasizing cross-market linkages, rather than singling out one market at a time for analysis. Cowles was enthusiastic about an interpretation of Walrasianism due to Oskar Lange, their colleague at the University of Chicago, which claimed that Walrasian models could provide a roadmap for central planning. Policy could become purely mechanical, a matter of grinding out the equations an following their rule, once the true “structure” of the economy had been revealed in its totality. Cowles combined what had hitherto been the austere abstractions of Walrasian theory with econometrics, which integrated economic and statistical theory for empirical research, and Keynesianism, whose strengths compensated for Walrasian limitations. The single national unit that was the object of Keynesian theory was measurable in a way that the scattered and innumerable series of interconnected, Walrasian markets were not – aggregation would provide the necessary steppingstone from theory to empirics. Cowles intended to use Keynesian macroeconometrics to bolster its project for Walrasian state planning. The relationship between Walrasianism, Keynes, and econometrics was not symmetric, however. Cowles’ commitment to Walrasian theory was over-determining, as Lucas’ later would be, and any conflicts with Keynes or econometric results were decided in the former’s favor. By the early 1950s, a sufficiency of such verdicts had been reached, and the attempted fusion was deemed an impasse, leading Cowles to what Philip Mirowski calls an “ambivalent critique of Keynes,” a position Lucas would later reproduce and popularize.[[25]](#footnote-26)

The impasse is best exemplified by the Klein model of the US economy. To facilitate its first major attempt at macroeconometric model building, in the early 1940s Cowles hired Samuelson’s first graduate student, Lawrence Klein. The model he developed at Cowles exhibited attributes that would define Keynesian econometrics for decades: it was a product of tinkering, it was a prosthesis for experts, and it was composed of snap-together sub-sectors of the economy. As against these, Cowles wanted a theoretically rigorous economic model, to use for mechanical planning, constructed as a simultaneous totality. After a few years of a disappointing research relationship, Klein and Cowles went their separate ways, and Cowles abandoned Keynes as a guide.

Cowles foresaw a world with a clear ends-means sequence in the production of economic policy: politicians dictated the utility function, economists demonstrated which policy rule would optimize it. This led to an equally clear sequence in the production of scientific knowledge: theory produced hypotheses, econometrics tested them. But Klein was bored by accept/reject judgements; instead, he wanted a model that was robust by many standards, which meant constant tinkering.[[26]](#footnote-27) Klein’s models were never finished – there was always more fiddling to do. The Klein model’s provisional nature did not mesh with Cowles’ quest for a scientific, structural account of the economy to use for planning, which required a much stronger ontology for its referent. If the model Klein had cobbled together was not a representation of the economy’s structure, but merely a bricolage of disparate equations and observations, on what theoretical basis could it be trusted? Klein was modest about the power of modeling, writing that he put “more faith in the data base, economic analysis (institutional as well as theoretical), political insight, and attention to the steady flow of information.”[[27]](#footnote-28) For Klein, the model might be useful, but only insofar as it was a tool for experts who had multiple modes of analysis at their disposal, informing their judgement while not determining it – it was part of a “complex culture” of Keynesian wisdom.

Finally, Klein’s modeling, while totalizing, was piecemeal. He built up equations for sub-sections of the economy, partially validating them within their own sphere before collecting them into one, large-scale model. This plank of the Keynesian econometric program was auspicious, as after Klein it made econometric model building a communal exercise. Dale Jorgenson could work out the investment sector independently of Friedman’s work on the consumption function, while a third researcher could investigate the labor market independent of both. All of these small-scale, partial models could then be snapped together into one, large-scale model. Yet Cowles wanted all equations simultaneously determined, in one, large, always-already self-consistent model, whose structure was isomorphic to that of the real economy. Cowles believed that only this would properly capture the cross-market effects that Walrasians emphasized, and only then could planning proceed scientifically.

By 1947, the tensions had become too severe. When Klein departed, Cowles’ research director Jacob Marschak hired Carl Christ to work on the model in his stead. Progress was sluggish, however, and a few years later the macroeconometric project was abandoned altogether. The intentions were grand, but the results were so abstruse as to preclude all hope of empirical analysis, and so arid as to be of little interest beyond Cowles. In the face of disappointing empirical and theoretical fusions, Cowles retreated into pure Walrasian theory. It would be another generation before the attempt at synthesizing Keynesian macro, Walrasian theory, and econometrics would be picked up again, this time by Lucas, but the intervening history gave this second experiment a different cast.

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A secondary cause of Cowles’ retreat to high theory was its growing enmity with the second generation of the Chicago school, whose space it shared. Open warfare between the two erupted with the arrival of Friedman on campus in 1946. Friedman was a happy warrior, and he regularly made the trek up to Cowles’ seminar room to antagonize them. He was uncompromising in his assessment of their project: “the construction of a model for the economy as a whole is bound to be almost a complete groping in the dark.”[[28]](#footnote-29) Despite their best efforts, Keynesians had not rendered the economy visible. For Friedman, the abstraction and totality of Walrasian theory were distractions at best and dangerous at worst. The primary justification for each had been given by his colleague Oskar Lange, and Friedman attacked Lange’s Walrasian socialism as vigorously as he attacked Marxism and Keynesianism.[[29]](#footnote-30) This high Cold War fever would not survive into the third generation of Chicago economics, however, and Lucas’ embrace of totalizing theory would mark a sharp rift between these brands of neoliberalism.

Friedman believed that market advocates should represent their views as simple in concept, empirical in methodology, and populist in tone.[[30]](#footnote-31) Friedman’s theoretical abilities were formidable, but he eschewed the first-principle derivations associated with Walrasianism. Instead he deduced his formulas with loose intuitive reasoning in prose.[[31]](#footnote-32) For Friedman, neoclassical mathematics was useful only insofar as it provided the intuition necessary to pursue clearly stated empirical hypothesis; it was not an end-in-itself. The validity of a theory for Friedman was instrumental in nature. A theory’s ultimate test was whether it produced useful hypotheses, regardless of the apparent “realism” of its assumptions or its logical completeness.[[32]](#footnote-33) Friedman was a master of shifting the discussion from whether a theory was “true” to whether or not it “worked.” Although useful in wrongfooting his opponents, this epistemological maneuver ultimately surrendered too much terrain, as it left consensus economics’ methodology unharmed. It would take a full theoretical critique, and more than mere empirical objection, to penetrate those defenses.

The rhetorical effort Friedman put into his economics paid off in his pedagogy. Lucas’ first courses upon his return to Chicago were remedial, but after a semester he enrolled in Friedman’s course on price theory. It was a transformative experience that challenged Lucas’ political commitments. But the ideological changes it precipitated would take almost a decade to fully mature, by which time other influences had also shaped his thought. Lucas recalls that after every class, he “tried to translate what Friedman had done into the mathematics I had learned from Samuelson.”[[33]](#footnote-34) Lucas wrestled with Friedman’s contempt for government bureaucrats, eventually internalizing a libertarian’s distrust of microeconomic interventions; and he learned to accept an instrumentalist attitude toward the realism of assumptions. But ultimately Friedman’s fights were not Lucas’. This was in part because Lucas was excluded from the Friedman affinity group in graduate school, a club he somewhat bitterly remembered in a speech decades later as “an invitation-only thing.”[[34]](#footnote-35) Even when Lucas began receiving sustained attention from the profession as a mathematical sophisticate in the early 1970s, the few letters the two exchanged were formal and emotionally frigid.[[35]](#footnote-36) Friedman controversially alleged that an oral tradition had organically connected the first and second generations of Chicago monetary theorists.[[36]](#footnote-37) If so, it simply did not recur in the transition to Lucas’ era.

Lucas’ first steps towards the Lucas critique were taken through “the back door, through labor economics,” in the shadow of his thesis adviser, Gregg Lewis.[[37]](#footnote-38) Lewis is remembered by peers as the “father of labor economics,” but when memories move beyond this epithet they become vague. This is likely a result of his tendency to give his best ideas away, or to never write them down in the first place, a result of significant confidence problems.[[38]](#footnote-39) His life’s work was the empirical application of price theory to labor markets, which he conducted as a professor at Chicago and a research associate at Cowles. Labor was the last holdout for the institutionalist view of economics, which treated it as a sociological phenomenon that needed thick description as well as statistical analysis. Lewis brushed this tradition aside and approached labor markets as if they were inhabited by the rational actors of neoclassical theory. By the mid-1960s this methodology had become more widely practiced, but in the 1940s the procedure appeared radical and potentially quixotic to peers and students, who were more accustomed to thinking about labor qualitatively. Lewis was meticulous and encyclopedic, and he preferred to let numerical tables do the talking for him. This soporific exposition assured him virtual anonymity beyond specialist circles, as did his habit of seeking out obscure, foreign language journals to publish his work. But in closed settings his language was uncompromising, with a clear political edge. Lewis despaired of what he thought should be obvious to any neoclassical economist: the labor market was subject to major distortions by unions. The “labor monopoly” caused inflation and unemployment, and incubated discrimination and racketeering. Lewis advocated for the repeal of every New Deal labor law to facilitate a neoliberal reorientation of the labor market.[[39]](#footnote-40) All of Lewis’ students became well acquainted with these views, including Robert Lucas and Gary Becker. The result of Lewis’ aggressive advocacy on behalf of neoclassical theory, in a field where it had encountered more resistance than most, was his students’ faith in its universal relevance. Thus, Lewis became a major, if underacknowledged, wellspring for economic imperialism in the latter half of the twentieth century.

Lucas never became concerned with unions, and his quantity-theoretic writings on inflation diametrically opposed Lewis’.[[40]](#footnote-41) Nevertheless, Lucas’ first macroeconomic paper – coauthored with fellow Lewis student Leonard Rapping at the end of the 1960s – was a Lewis-style study of labor. Ever since Klein, neoclassical theory had been applied to each macroeconomic sector in turn – Dale Jorgenson worked on investment, Friedman worked on consumption, Franco Modigliani and Merton Miller worked on finance – with the goal of deriving macroeconometric equations from microeconomic theory. Along with the Phillips Curve, the labor market was the last macroeconomic sector to resist this treatment. Macroeconomic labor markets had been given special dispensation since Keynes, as they were thought to be especially slow to adjust to changing conditions, hence incapable of neoclassical theorization. Lewis had made the microeconomic case for labor’s neoclassical intelligibility; in the late 1960s, Lucas and Rapping did the same for macroeconomics. But if macroeconomic labor markets were neoclassical, then they were the realm of choice and equilibrium. Whence unemployment? Controversially, Lucas and Rapping alleged that unemployment was voluntary – the unemployed were simply forgoing the current wage-rate due to their skewed perception of what constituted a “normal” wage; their expectations needed adjustment. Just a year later, Lucas rejected this theory in favor of the rational expectations hypothesis, which ruled out agents making systematic errors predicting markets – but then the unemployment question recurred. The answer that Lucas settled on was that it was agents’ inability to forecast government policy, not the market, which confused their expectations about remuneration. Erratic monetary policy produced erratic inflation, which muddled the market’s ability to send proper price signals, leading to agents with unclear views of the future.

But this is getting ahead of our story. In the 1960s, Lucas was simply not a part of Friedman’s clique. At a more fundamental level, however, Lucas’ separation from Friedman was due to Lucas’ faith in scientific advising and his sense of ease with government-by-macroeconometrician. Despite its reputation for having a strained relationship with Keynes, even Chicago had been unable to resist turning its monetary economics curriculum in a more Keynesian direction in the postwar period. Lucas’ macroeconomics courses were taught by Carl Christ and his student Martin J. Bailey. Lucas’ professors assigned all the Keynesian classics from Kleinto Patinkin. And his closest correspondents after graduating were the mainstream Keynesians Dale Jorgenson and Edmund Phelps.[[41]](#footnote-42) Lucas spent most of the 1960s working on microeconomic topics, but when he did turn to macroeconomics at the end of the decade he did so as a contributor to the Keynesian macroeconometric project. His work with Rapping supplemented the mainstream macroeconometric models without really challenging them. Their model of the labor market snapped comfortably into the paradigmatic large-scale planning architectures, and was meant to do so.[[42]](#footnote-43) In the long postwar boom, the system simply seemed to be working: inflation was low, growth was high, and the models’ predictions were reliable. Lucas was sympathetic to Friedman’s “libertarian-conservative worldview,” but by all appearances the techniques economists had mastered and the discursive communities they had built around governments were delivering on all they promised.[[43]](#footnote-44)

In the 1970s, Lucas’ distance from the Keynesian intellectual formation grew, leading to a more complex relationship with Friedman. Friedman saw the Lucas critique as a weapon that could destabilize the Keynesian econometric advising program, while Lucas saw Friedman – especially after his 1976 Nobel – as a symbol of intellectual authority that, if appropriated, would enhance his own standing. They were careful to be conciliatory in their public writing, but Friedman’s language tended to betray unfamiliarity with Lucas’ methodological arguments. Friedman never discussed the Lucas critique in detail, and when he mentioned it he reduced it to a hypothesis much like one of his own – theoretically intuitive, empirically validated, and simple – rather than an entirely new approach to political economy. In private letters, Friedman criticized Lucas for failing to live up to his standards for market advocates, writing that Lucas’ work was not sufficiently “accessible,” filled with “excessive terseness,” and “implicit references.”[[44]](#footnote-45)

Lucas took the inverse view of Friedman. Lucas saw “the progressive element in economics as entirely technical;” an economist’s legacy was entirely methodological – doctrine, ideology, and policy were ephemeral.[[45]](#footnote-46) Therefore he regretted what he saw as Friedman’s oscillation between two personalities – one scientific, the other popular – in a cycle that ought to have been smoothed. Lucas praised the half of Friedman’s work that was “written for economists,” but regretted Friedman’s popular writing that he felt became “careless about a lot of points.”[[46]](#footnote-47) Friedman’s rhetoric, so persuasive in many ways, appeared unevenly nuanced to Lucas. He rejected Friedman’s powerful simplifications, and insisted that neoclassical economics was “a reformist line of thought,” that its politics that had to be taken “issue by issue.”[[47]](#footnote-48) After his final return to the University of Chicago, Lucas explained to an interviewer, “I thought I was [a conservative] at Carnegie, but around here I don’t know.”[[48]](#footnote-49)

When Lucas graduated from Chicago, he was a Keynesian in macroeconomics, and not a Friedmanite. One of the downstream implications of Cowles’ “ambivalent critique” of Keynes, however, was that “Keynesian” was never a precise identifier in America. American Keynesianism was certainly not the economics of Keynes – Keynes attacked both Klein and Cowles-style econometrics, and his translation into formal models involved transubstantiation, as all translation must. Yet in America, Samuelson, Cowles, and Klein were the major interpreters of his doctrine. What was American Keynesianism then? Lucas wandered through at least four distinct answers.

In the mid-1970s, Lucas ironically suggested “Keynesian” was often used to mean any theory “consistent with the observed behavior of economic time series.”[[49]](#footnote-50) It was an exaggeration for emphasis, so he cited no examples. But it has some validity given the cointegration of Keynesianism and econometrics midcentury. In America, nearly every macroeconometric model – and certainly every large-scale model – from the 1940s on was constructed using Keynesian theory. The major exception occurred at Cowles, though even there researchers tried to make some use of Keynes, and when he was abandoned at the turn of the 1950s, so too was macroeconometrics. Thus for Lucas, the project to predict and guide government intervention in the economy with scientific, large-scale econometric models was a Keynesian program which he accepted.

A second solution to the demarcation problem equates Keynesianism with countercyclical stabilization policy. When Lucas left Chicago in 1963, he was fully onboard with this plank of the Keynesian program. Around the time he developed the Lucas critique, he came to the position that Keynesians had overestimated the role of fiscal policy *vis-à-vis* monetary policy, and underestimated the power of expectations. He argued that fluctuations in output and employment were caused mainly by unpredictable changes in monetary policy, and that making monetary policy more predictable was the best method for dampening the cycle. But countercyclical fiscal stabilization was also compatible with Lucas’ views, so long as it was not *activist* policy; rule-based fiscal policy could still find justification in Lucas’ political economy.

However, Keynesianism might also refer to a specific vocabulary. The theoretical field of Keynesianism was inhabited by economic aggregates: “full-employment” defined the standard objective; “involuntary unemployment” measured the distance from that target; “potential output” signified the level of GDP that could be achieved if the economy operated at full-employment; and the “fiscal multiplier” predicted the effect on GDP of an extra dollar of government spending. When Lucas left Chicago in the early 1960s, his macroeconomic vocabulary was aggregative. By the early 1970s Lucas viewed these concepts as incoherent. He advocated jettisoning the models built on them, and to the extent that they informed the econometrics and the activist nature of countercyclical policies, those too needed to change. Yet Lucas initially thought that altering the conceptual mediation between econometric advising and demand management was a progressive move within Keynesianism, not a rejection of that paradigm.

A fourth answer only suggested itself after Lucas spent a decade at Carnegie Mellon University. Lucas’ closest friend at Carnegie, Leonard Rapping, was steeped in the think tank advising milieu, actively consulting for over a dozen different agencies. He tried to engage Lucas in this world and relentlessly promoted Lucas to his employers. They were impressed by what they heard, and Lucas received several requests to act as an advisor in the late 1960s.[[50]](#footnote-51) He did occasionally give in to Rapping’s pressure and admit to the odd consulting job, but never for long and always for a hefty fee.[[51]](#footnote-52) Despite his faith in its potential, his forays out into that wider world were cautious. He guarded himself against its encroachment on his academic success – but perhaps more importantly on his self-image as an economist. From his early days as an undergraduate, Lucas thought of himself as a social logician, dealing with the sketchy world of data only insofar as it was an input for theory and ignoring empirical irregularities that could not be explained in a deductive mode.[[52]](#footnote-53) He found to his great disappointment that up close, the unruly world of policy work was not as appealing as it appeared from afar – he regularly referred to his consulting results in private letters as “imprecise,” “very rough,” and even “largely pure guesswork.”[[53]](#footnote-54) Even though a Klein-Samuelsonian tacit-knowledge-technocracy would allow for such results, for Lucas it was too inelegant to bear. He grew more cautious with his views and more protective of his time, and as the years wore on, the consulting jobs became less and less satisfying. The skepticism of activist intellectuals that Friedman had tried to inculcate in his students began to take a more visceral hold of his politics.

When Lucas proposed his critique in the early 1970s, he encountered massive resistance from the Keynesian policy network. This was somewhat surprising, given the Lucas critique’s technical nature and its framing as an attempt to improve econometric methods of policy analysis. While at Carnegie, where the Keynesian/anti-Keynesian divide was sharper than usual, Lucas realized there was much more at stake in the Keynesian worldview than the first three characterizations would suggest. Keynesianism was an entire “complex culture” of advising and policy-making, which by its nature was wedded to the view that it alone ought to wield discretion in economic policy. Keynesianism was an activist *policy-formation process,* with an ideological-institutional substrate, spanning from the “consensus economics” of the neoclassical synthesis to the Council of Economic Advisers to the think tanks. It was in this sense that Lucas’ critique of econometric policy advising was anti-Keynesian. This complex would resist his critique, he realized, regardless of its validity. The marketplace of ideas could not be trusted.

As Lucas was slowly becoming disillusioned with the actually-existing world of policy advising in the early 1970s, a new organizational form pioneered by conservatives and MPS arrived on the scene: the modern think tank. The modern marketplace of ideas was emerging, and just in time: the first OPEC oil shock hit nine months after Heritage opened its doors, paving the way for outsiders to take full advantage of the ensuing crisis. Media savvy and aggressively political, upstarts like the Heritage Foundation made inroads in the policy advising community by outflanking an ossified old guard. Whereas institutions like Brookings pursued a strategy of legitimacy-through-epistemic-closure, claiming a monopoly on technical skills derived from and sanctified by the academy, the newcomers made openness a key element of their appeal. They were responsive to the needs of policy-makers and they innovated new forms of information distribution like the policy memo. Short, readable, and to the point, their products provided politicians with effective talking points based on short-term research conducted in-house, and they quickly overtook the abstruse tomes churned out by older advisory groups. While the new organizations were hardly mercenaries, policy-makers could now choose from a larger selection of viewpoints to suit their own needs as “activist intellectuals” flooded the arena. As a consequence, advisory groups needed to cater to consumer demand more than ever before – and the one consumer was the state.[[54]](#footnote-55) To Lucas this merely appeared as one more round of expansion for the complex culture that was American Keynesianism.

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Observing Lucas as an intellectual in the making brings out the differences between succeeding generations of the Chicago school. The first generation, Knight, Viner, and Simons, cohere as a unit only insofar as their nuanced response to the Great Depression appeared to their students like a radically liberal position. Their sense of isolation as free market advocates during the Depression led them to couple a robust defense of the price mechanism with tactical concessions to intervention. By contrast, the second generation led by Friedman was united by a transnational network around a more aggressive advocacy. They drew rhetorical and theoretical power from the abdication of nuance, preferring state-market binaries informed by explicit contrasts with global communism.[[55]](#footnote-56) Lucas was also shaped by his early politico-economic context, but it was not the threat of economic collapse or the Soviets that dominated his horizons. It was the impression of an end to ideological economics in the neoclassical synthesis, along with the long postwar boom that validated this impression, and a newly prominent role for economists in government which captured his imagination. Lucas was neither a lonely champion nor an embattled, great persuader – he was a member of the consensus, and like most adherents to a consensus he let the prevailing discourse do the thinking for him, living its contradictions rather than resolving them. The neoclassical synthesis rested on heterogeneous explanatory principles – the hydraulic interplay of composite statistics for macro, careful and calculating individuals for micro – and so required some degree of cognitive dissonance from scholars to function. It also by and large came with ambiguous political commitments, advising government intervention in the macroeconomy and a relatively *laissez-faire* orientation towards individual markets. Institutions within the state, like the Council of Economic Advisers or the Fed, and parallel to it, like the think tank complex or sprawling financial journalism, gave economists a more clearly defined professional trajectory than ever before. Lucas functioned within this framework all throughout the 1960s, and took for granted that the purpose of macroeconomics was to provide policy-makers with activist tools for preventing a recurrence of the Great Depression. It was only at the end of the decade that Lucas began to take aim at economists’ psychological unease with multiple modes of explanation, and to return to Cowles’ vision of a fully microfounded macroeconomics based on perfectly competitive, neoclassical supply and demand for planning. This return ultimately brought him to the heart of neoliberalism’s macroeconomic problematic, monetary policy.

As with many aspects of neoliberal doctrine, the emphasis on monetary rules began with Hayek. Hayek’s theory of rules was psychological. He downgraded the role of conscious theorizing by individuals, instead emphasizing the role of tacit knowledge in economic life. He extolled the importance of unreflective habit in complex societies, which he saw as the driving force for human behavior. He argued that social actors were best conceived as a bundle of open-ended rules that evolved over time, selected for by the market mechanism. Monetary rules were the natural complement to this psychology, as they provided individuals a stable framework within which market-evolutionary forces could operate most effectively.

Monetary rules first jumped from Hayek to Chicago through Henry Simons, who viewed Hayek as a model and mentor.[[56]](#footnote-57) Beset on all sides by government intervention in the 1930s, Simons was willing to admit that his liberal creed required recension, and that all too often liberals had focused what their doctrine proscribed. His pamphlet “A Positive Program for Laissez Faire” was just that – it argued the importance of a strong state for maintaining competition as “an agency of control,” listing numerous interventions for liberals to embrace on the market’s behalf.[[57]](#footnote-58) Among them was the control of money, which the state relinquished whenever banks issued credit. For Simons, currency and credit were near equivalents, yet due to the “unfortunate habit of distinguishing too sharply between currency and banking problems,” banks had been allowed too much autonomy. Simons believed that fluctuations in the money supply amplified business cycles, yet he was no advocate of a “managed” currency. Instead, he proposed to abolish fractional reserve banking and impose a simple, inactive rule fixing the money supply. This had the advantage of promoting the rule of law and avoiding “reliance on discretionary (dictatorial, arbitrary) action.” It removed a source of uncertainty, preventing finance from degenerating into speculation on monetary policy.[[58]](#footnote-59) The rule’s simplicity would also serve as the “basis for a new ‘religion of money,’ around which might be regimented strong sentiments against tinkering with the currency.” Finally, it required “little or no judgement in its administration,” as it defined policy “in terms of means not merely in terms of ends.” Simons’ preference for rules over authority was premised on what he saw as their political virtues, resisting tampering by bankers and technocrats, at least as much as it was on purely economic considerations about the value of an invariant money supply.

Simons’ diagnosis of rules’ salutary political economy largely survived into the postwar Chicago school in Friedman’s monetarism. Friedman wanted to shield monetary policy from politicians, who would inevitably pressure any economic manager with discretion, potentially swaying them to stimulate the economy for political purposes, regardless of the economic consequences. Further, he emphasized economists’ ignorance, arguing that even a politically independent central bank did not know enough, empirically or theoretically, to craft discretionary policy well. Friedman claimed that reactive policies contained too many lags – in recognition, decision making, implementation, and ultimate effect – to react to cycles promptly.[[59]](#footnote-60) Activist policies would therefore be mistimed, potentially amplifying the cycle. Friedman was not as restrictive as Simons, however, since non-reactive is not equivalent to inactive. As the economy expanded every year, it required additional credit, so Friedman acknowledged the need to grease the wheels of commerce with continual, automatic increases in the money supply. This would avoid rapid falls, which Friedman blamed for the Great Depression, and rapid increases, which he blamed for inflation. More than this, however, would amount to fine-tuning.

For Lucas the technocrat, it was the attempt to improve macroeconometric models that led to a preference for rules; his technical arguments then expanded into a vision for political economy. The econometric dream he had had in his youth – the dream that econometricians, suitably inducted into the “complex culture” of expertise, could provide robust and quantitative advice on government policy – was still alive, but it had been transformed. No longer were econometric models prostheses for experts to use when conducting activist countercyclical policies:

The preference for “rules versus authority” in economic policy making suggested by this point of view, is not, as I hope is clear, based on any demonstrable optimality properties of rules-in-general (whatever that might mean). [...] The point is rather that this possibility cannot *in principle* be substantiated empirically. The only *scientific* quantitative policy evaluations available to us are comparisons of the consequences of alternative policy rules.

Thus, the Lucas critique invalidated traditional Keynesian modes of policy analysis, which from Samuelson to Klein relied as much on the discretion and tacit knowledge of expert culture as on formal modeling.

The Lucas critique was the most important contribution to postwar macroeconomics because it changed the way economists handled both theory and data – and it took the profession by storm. As rumors of Lucas’ gospel spread, he received an escalating number of requests for copies of the unpublished article. Interested parties included, of course, academics, but Lucas also received letters from the media, banks, and even the military.[[60]](#footnote-61) By 1975 a professor at Brown was complaining to Lucas, “my copy of your ‘Econometric Policy Evaluation: A Critique’ is wearing out from people reading it, unstapling it, Xeroxing it, and restapling it; I haven’t seen it in print yet, and, having rational expectations about [...] publication lags, thought I should ask you for another.”[[61]](#footnote-62)

The immediate reaction to Lucas’ work was perplexity. His first few presentations on the rational expectations hypothesis were “highly chaotic,” he wrote to a coauthor, because “at first no one believed it and I tried to explain why various objections weren't valid.” One of the major problems was the level of rigor and abstraction – “no one seems to have heard of Blackwell's paper” – which were beyond his audiences, and so a significant amount of time was spent explaining optimization theory. This would become a persistent problem for the rest of Lucas’ career. However, not all of the push-back was on mathematics. Lucas’ insistence that methodological assumptions had settled the rules versus discretion debate, not empirical evidence, appeared to beg the question. “The rest of the time was spent on the assumption of rational expectations: what does it mean, is it reasonable, and so on […] most people felt it was an unreasonable assumption – and that we somehow ‘cheated.’”[[62]](#footnote-63) When Lucas submitted his first rational expectations model to the American Economic Review, its editor complained that if the paper “has a clear result, it is hidden by the exposition,” while the referee spat, “I find the paper exceedingly formal and I am not sure I fully understand the economics of the theorems Lucas presents [...] Lucas’ exposition is pitched at what I think is a distressingly arid level.”[[63]](#footnote-64) Older economists were especially hostile to what appeared to them as an elevation of form over substance, to pyrotechnic proof techniques that obscured an absurd content. Robert Gordon expressed the commonly held view that whatever the validity of the Lucas critique in theory, Lucas “overstates the impossibility of remedy” within the old Keynesian econometric framework.[[64]](#footnote-65) In earlier generations, it had been right-wing economists decrying economics’ formalization, excoriating Walrasian-socialists’ mathematical pretentions. Now that Lucas had captured Walrasian formalisms for neoliberal ends, liberal Keynesians were on the defensive.

After the shock of the new had worn off, however, Lucas quickly found common ground with scholars across the country. Some, like Robert Barro, were unexpected allies. Barro had spent his early career working on “disequilibrium” macroeconomics, which tried to explain fluctuations in economic activity as the result of market imperfections; but he turned out to be one of Lucas’ most fearsome, polemical students. The truly important converts, however, were the less aggressive and more compromising generation of New Keynesians. Scholars like Stanley Fischer, Gregory Mankiw, Laurence Summers, Paul Krugman, and Ben Bernanke built their careers around Lucas-style modeling, complete with rational expectations, market equilibrium assumptions, and rule-based policy, while still making room for a few *ad hoc* devices to generate Keynesian policy conclusions. This cohort quickly took over the Keynesian wing of the profession at its cutting edge, and by the early 1980s the New Keynesians were regularly hosting conferences on rational expectations and its policy implications.[[65]](#footnote-66) As the decade wore on, no major journal would publish an article that failed to address the Lucas critique in some fashion.

The alterations in economists’ theoretical practice suggested by the Lucas critique had implications beyond the academy. Lucas addressed himself directly to policy-makers:

[I]t appears that policy makers, if they wish to forecast the response of citizens, must take the latter into their confidence. This conclusion, if ill-suited to current econometric practice, seems to accord well with a preference for democratic decision making.

This seemingly out of place ethical injunction appears at the end of a rather dry technical critique, underlining the extent to which Lucas had begun imbuing his formalisms with political significance. In the 1960s, Lucas had been content to confine himself to a politically neutral, mathematical economics, contributing to the ostensibly unideological neoclassical synthesis without contesting it. But with the Lucas critique firmly in view, the conditions of possibility for scientific economics became the performance of a very particular kind of political economy, which Lucas viewed as anti-Keynesian. Virtues which were otherwise political – the accountability of experts to popular democracy, access to state knowledge, stability and order in governmental policy – were now put forward as a scientific standard.

Friedman had argued that economists were too ignorant to craft discretionary policy. Lucas insisted this gap in knowledge was a *necessary* ignorance – the only scientific economics was one that considered alternative policy regimes. But the end goal of his program was the transformation of the sovereign’s economic management through transparency, not the end of management itself. His project was founded on the prospect that an economic sovereign was possible, under the correct circumstances. The Lucas critique asserted that “agents' responses become predictable to outside observers only when there can be some confidence that agents and observers share a common view” of the economy.[[66]](#footnote-67) The state’s form of management may or may not be extremely reactive to economic developments. The only essential facet for Lucas was that policy be reliably predictable. This left Lucas open to the Keynesian legacies of demand management and econometrics, and indeed one pitch he made for rational expectations was that it was the salvation of Keynesianism’s best features. In his polemic with Tom Sargent, “After Keynesian Economics,” he asserted that his objectives were “taken, *without modification*, from the goal which motivated the construction of the Keynesian macroeconometric models: to provide a scientifically based means of assessing, quantitatively, the likely effects of alternative economic policies.”[[67]](#footnote-68) He was pleased to see the New Keynesians adopt the language of rational expectations, and their later success in pushing Bill Clinton toward the center on economic policy impressed him. Lucas held out high hopes for Barack Obama’s technocratic approach to politics, and voted for him in 2008, even praising the 2009 stimulus bill.[[68]](#footnote-69)

Lucas’ technocratic appeals to the average economic actors’ intelligence obtained their vigor from the tension between his growing disillusionment with and his progressive program for econometrics. Lucas’ economic science was first and foremost concerned with agency and intentionality – capturing the purposeful behavior of agents and using that to provide principles on which to build governmental policy. Further, his conception of agency required the ontology of a government-of-rules, because it was only in that context that agents could formulate optimal plans and hence act deliberately. An economic agent must be surrounded by stable policy rules to even exist. And the Lucas critique was part of Lucas’ project to bring that agent into being by systematically eliminating the possibility of non-rules-based policy within economic discourse.

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As the 1980s progressed, it became increasingly clear that rational expectations would replace midcentury Keynesianism as the new consensus economics. As a genuine paradigm shift, complete with new objects of analysis and new mathematical methods, it was accompanied by a shift in the questions addressed. Optimal monetary rules, as this paper has emphasized, were a major difference in problematic. As the turbulent 1970s receded, Lucas turned his attention away from stabilization, which he increasingly viewed as a low value-added area of scholarship.[[69]](#footnote-70) He admitted there was a “residue” of events that moved too rapidly and occurred too infrequently for rational expectations analysis to gain traction, such as the Great Depression.[[70]](#footnote-71) But his laments were academic, not practical. The damage that residue-type events might cause was large, Lucas admitted, but economists since Keynes knew how to prevent, if not analyze them. Lucas expected a much larger return from the analysis of growth.

The tools of rational expectations were designed to analyze long-run rules, so the transition from an analysis of short-run fluctuations to growth was smooth. The technical difficulty of rational expectations modeling was extreme, and the math kludgey. One of the only tractable modeling strategies was to assume a single agent was simultaneously the macroeconomy’s sole consumer-saver-worker-owner-lender-borrower. This “representative agent” injected the neoliberal *homo oeconomicus* into macroeconomics, ejecting finance and sidelining distributive questions in the process. If one agent owned every asset, the model could have no equity or credit markets.[[71]](#footnote-72) The momentous divorce of finance and macroeconomics was supported by the Efficient Market Hypothesis (EMH), another third generation Chicago invention that built on work done at Cowles.[[72]](#footnote-73) Eugene Fama proposed the EMH at the same time that Lucas was developing the rational expectations hypothesis. The EMH assured economists that financial markets worked smoothly and macroeconomists were not missing anything by their loss. There was a deep isomorphism between the two theories of market rationality – both asserted that market participants were making optimal predictions about the future and that competitively produced market signals were accurate reflections of underlying economic realities. As the EMH became more deeply entrenched in financial economics, the separation of macroeconomics and finance appeared less momentous. Similarly, inequality was rendered unintelligible by the representative agent, a turn of events Lucas encouraged, writing, “of the tendencies that are harmful to sound economics, the most seductive, and in my opinion the most poisonous, is to focus on questions of distribution.”[[73]](#footnote-74)

Better to focus on tides that lift all boats. The 1980s saw a quiescent economy as America entered what economists eventually called the Great Moderation. In that stable environment, Lucas’ sights turned to the long-term growth process.[[74]](#footnote-75) The central question posed by growth was still its origins. Ever since Robert Solow’s work in the 1950s, neoclassical theory had stalled on that point. Solow’s “exogenous growth model” ruled out capital accumulation and demographic expansion, instead singling out a mysterious residual variable, which Solow labeled “technology.” But how or why “technology” improved was unexplained. In his 1985 Marshall Lectures at Cambridge University, Lucas proposed to endogenize growth with human capital theory.[[75]](#footnote-76) The *homo oeconomicus* who is human capital does not exist in a world of exchange, where agents trade in order to satisfy mutual wants. Rather, *homo oeconomicus* as human capital exists in a world of rivalry, where his value is constantly measured in competitive market prices, and his goal is to “entrepreneurialize” all of his activities. Ironically, as finance capital was being ejected from macroeconomics, Lucas was importing human capital to explain growth. This was the first contact between macroeconomics and human capital, and it extended that neoliberal model of *homo oeconomicus* still further. Lucas resolved longstanding problems with a familiar formalism, and a literature on “endogenous growth” quickly took off.

The ideological shifts this precipitated at the macroeconomic level paralleled those at the microeconomic level. Lucas’ believed that human capital determined a nation’s place in the international commercial order; the imperative to “entrepreneurialize” was thus extended to the state. The most obvious entrepreneurial policy was subsidizing education, but Lucas argued that macroeconomic human capital bolstered the case for free trade as well – the most effective modes of accumulation were imitation, learning-by-doing, and international technology diffusion, which could only take place if producers were forced to compete internationally. Thus, the old world of Ricardian trade, where nations exchanged goods according to comparative advantage, was gone, replaced by the nation as human capital in competition with others. Neoliberal social theory had thus grown to encompass all of macroeconomics, from stabilization to growth to trade to inequality. By the 1990s, the future for the third Chicago school no longer looked so dim.

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A common refrain emerged that modern macroeconomics was not particularly influential outside the academy, leading to jibes that if it was not useful for banks or businesses then it had failed the market test. Its absence from the policy-maker’s daily routine was even more keenly felt amidst of financial crises, beginning with the late 1990s East Asian financial crisis.[[76]](#footnote-77) The list of similar complaints has only extended since 2008. The one exception to this trend has been the extremely perceptive Narayana Kocherlakota, former President of the Minneapolis Fed and chair of the economics department at the University of Minnesota. What these complaints characteristically missed, Kocherlakota wrote, was that academic macroeconomics was “specifically *designed* to be of limited use to policymakers.”[[77]](#footnote-78) Indeed, Lucas hoped that reorienting the discipline around long-run rules would allow economists to back away from being used to make discretionary policy, enabling them to assert autonomous demands for transparency, stability, and free markets on their government sponsors. Apparent worthlessness to state actors facing a novel situation, especially a crisis, was the surest sign of success – rules do not change just because policy-makers are startled.

But over the long run Lucas’ work has been influential at central banks around the world, each of whom either has or wants a model that passes the Lucas critique. By the late 1990s, transparency had become standard, and central banks clarified their policy regimes for the public; and arguments about the value of commitment in monetary policy were the driving force behind central bank independence. Like Kocherlakota, by the mid-1990s all of the Fed’s advisory staff were intimately familiar with the arguments for policy-choice as regime-choice, having been trained in the by-then dominant Lucas paradigm in graduate school. Older Keynesian models were still maintained, but they were increasingly supplemented with rational expectations options, and knowledge of how to use them was no longer part of university initiation into the “complex culture” of policy advising. Thinking through an ontology of rules became second nature. Discussions at the Fed were increasingly filtered through the lens of “credibility,” as policy-makers became intensely aware of how their day-to-day actions fit within long-run policy regimes.[[78]](#footnote-79)

Lucas was an MPS fellow traveler, but his political interventions were inspired by something distinct from MPS’s concerns and took a different form. The MPS project was organized in the lonely days after WWII when planning seemed like the norm across the Atlantic world and market advocates felt the need to regroup and reexamine the foundations of their shared commitments. As time passed and the society moved away from philosophical contemplation toward worldly engagement, organizing an elaborate network of philanthropic foundations, think tanks, and journals, the sights nevertheless remained fixed on shaking off national planning schemes and destabilizing the social liberal-Keynesian establishment. The historiographical focus on MPS has led to an image of neoliberalism overdetermined by Keynes as its main “doctrinal adversary,” the “common enemy” linking the otherwise divergent European and American wings, and one of the movement’s “invariant ideological others.”[[79]](#footnote-80) For Lucas, it was Keynesianism’s destabilization that proved so upsetting, as it left the orthodox profession unable to repel demands for market interference that cropped up after the dissipation of Keynes’ political hegemony. Further, it was his impression of an autonomous, prelapsarian Keynesian science that motivated him to find new ways of rehabilitating the econometric advising tradition that MPS excoriated. Lucas’ quarrels with Keynesianism were more about form than content. The econometric dream of expert advising, which pits neoclassical economists’ projections against the market’s own calculations, could be salvaged – but only if economists were willing to limit themselves to the analysis of policy regimes, which could be done well outside the state.[[80]](#footnote-81) This having been accomplished by reintroducing microeconomic intentionality into macroeconomics, economists could reorient the form of their relationship to the state, extricating themselves from its demands and instead lobbing advice from afar.

Lucas was neither a patient institution builder nor a happy warrior plunging into public intellectual combat on behalf of the market. While some neoliberals took it upon themselves to act on their political beliefs without proper epistemological warrant – for who can know what the market wants except the market itself? – it was Lucas’ reluctance to do this which led him to call for a strategic retreat into the academy. Lucas was an intellectual, with an unshakable faith in the progress of technocratic knowledge and its ability to shape political economies from afar. His brand of neoliberalism is crucial to think with, as it showcases a more ambiguous relationship with Keynesianism than mere opposition, and directs attention to the ways in which the neoliberal imaginary has inspired even its allegedly unloved others. The Lucas critique informed an entire generation of macroeconomic scholarship, enthroning the long-run policy rule as the only thinkable mode of governmental policy in academic theory. It should come as no surprise then that academic macroeconomics has proven so unwieldy in moments of crises – it was written that way by design.

1. Robert Lucas, “Rules, Discretion, and the Role of the Economic Advisor,” ed. Stanley Fischer *Rational Expectations and Economic Policy* (Chicago, 1980), 189-210 and “The Death of Keynesian Economics,” *Collected Papers on Monetary Theory* (Cambridge, 2013), 500-3. [↑](#footnote-ref-2)
2. Daniel Rodgers, *Age of Fracture* (Cambridge, 2012), 49. [↑](#footnote-ref-3)
3. Lucas remained scornful of supply-side economics into the 1980s; Lucas, “Rules, Discretion” and *Collected Papers,* xxi, 503. An academic line of research on tax cuts emerged that he came to terms with, but this had nothing to do with Jude Wanniski or Art Laffer – individuals he called a malignant “symptom” of the post-Keynesian world – and was more about obscure technicians Brock, Turnovsky, Chamley, and Judd. Arjo Klamer, *Conversations with Economists* (Totowa, 1984), 51, for Lucas on Reagan. [↑](#footnote-ref-4)
4. Lucas, *Collected Papers*, 502. [↑](#footnote-ref-5)
5. Michel DeVroey, *A History of Macroeconomics from Keynes to Lucas and Beyond* (Cambridge, 2016). [↑](#footnote-ref-6)
6. Greg Mankiw, “Back in Demand,” *Wall Street Journal*, September 21 (2009); Oliver Blanchard, “The State of Macro,” *Annual Review of Economics*, 1/1, 209-28, at 210, 225. [↑](#footnote-ref-7)
7. On the concept of theoretical practice, see Joel Isaac, “Tangled Loops: Theory, History and the Human Sciences in Modern America,” *Modern Intellectual History* 6 (2009), 397-424 and Louis Althusser, *For Marx* (London, 1969). [↑](#footnote-ref-8)
8. The major exception is Rodgers, *Age of Fracture.* [↑](#footnote-ref-9)
9. Kevin Hoover, *The New Classical Macroeconomics* (Oxford, 1988), and Roger Backhouse and Mauro Boianovsky, *Transforming Modern Macroeconomics: Exploring Disequilibrium Microfoundations 1956-2003* (Cambridge, 2013)*.* [↑](#footnote-ref-10)
10. Angus Burgin, *The Great Persuasion: Reinventing Free Markets Since the Depression* (Cambridge, 2012), Wendy Brown, *Undoing the Demos: Neoliberalism's Stealth Revolution* (New York, 2015), Philip Mirowski and Dieter Plehwe eds., *The Road from Mont Pèlerin: The Making of the Neoliberal Thought Collective* (Cambridge, 2016), Rodgers, *Age of Fracture.* On the specificity of neoliberal epistemology, see especially S.M. Amadae, *Prisoners of Reason: Game Theory and Neoliberal Political Economy* (Cambridge, 2016), Philip Mirowski, *Never Let a Serious Crisis Go To Waste: How Neoliberalism Survived the Financial Meltdown* (London, 2013) and “The Political Movement that Dared not Speak its own Name: The Neoliberal Thought Collective Under Erasure,” *INET Working Paper #23* (2014), and Foucault, *The Birth of Biopolitics* (New York, 2008). Amadae implausibly excludes Hayek and Friedman from neoliberalism, but Lucas fits her game theoretic framework. Mirowski and Foucault capture important features of neoliberalism by focusing on the market as inscrutably efficient, integrating economic actors’ partial knowledges in a way no other human institution, especially the state, possibly could; however, Lucas’ theoretical emphasis on transparency and totality run afoul of their formulations. [↑](#footnote-ref-11)
11. See especially Burgin and Mirowski, cited above. [↑](#footnote-ref-12)
12. See for example, box 3, folder “1978,” Robert E. Lucas Papers, David M. Rubenstein Rare Book & Manuscript Library, Duke University (hereafter RLPD), letter dated Feb 27, 1978. [↑](#footnote-ref-13)
13. Lucas recounts his parents’ New Deal politics and his early interest in Marxism in Robert Lucas, “Nobel Autobiography,” available on Nobel webpage (1995), “Professional Memoir,” mimeo (2001), “Interview by Ian P. King,” *New Zealand Economic Papers,* 42/1 (2008), 1-15, “Chicago Economics on Trial: an interview by Holman W. Jenkins Jr.,” *Wall Street Journal,* September 24 (2011). His interest in Chomsky is revealed in letters exchanged with anti-war Cowles Foundation economists, RLPD, box 1, folders “1967” and “1968,” letters dated December 6, 1967 and January 5, 1968. [↑](#footnote-ref-14)
14. RLPD, box 2, folder “1973.” Letter dated July 6, 1973. Unless otherwise stated, quotes from this section are taken from Robert Lucas, “Econometric Policy Evaluation: A Critique,” *Carnegie-Rocheseter Conference Series on Public Policy,* 1/1 (1976), 19-46. [↑](#footnote-ref-15)
15. RLPD, box 2, folder “1973.” Letter dated November 13, 1973. At this point he was not calling them “Keynesian” models, just “econometric” models. [↑](#footnote-ref-16)
16. Rodgers, *Age of Fracture,* 45-7 provides a short, orthodox summary; Mary Morgan and Malcolm Rutherford, eds.*, From Interwar Pluralism to Postwar Neoclassicism* (Durham, 1998) and E. Roy Weintraub, *How Economics Became A Mathematical Science* (Durham, 2002) provide an in-depth analysis of the broad transformation. [↑](#footnote-ref-17)
17. Philip Mirowski, “The Cowles Commission as anti-Keynesian Stronghold,” in Pedro Duarte and Gilberto Lima, eds. *Microfoundations Reconsidered: The Relationship of Micro and Macroeconomics in Historical Perspective* (Northampton, 2012), 131-167. [↑](#footnote-ref-18)
18. Lucas, “Professional Memoir.” [↑](#footnote-ref-19)
19. Quoted in Stanley Fischer, speech to Warwick Economics Summit, Coventry, United Kingdom, Feb 11, 2017, available on the Federal Reserve website. [↑](#footnote-ref-20)
20. James Smith, *The Idea Brokers: Think Tanks And The Rise Of The New Policy Elite* (New York, 1993); Thomas Medvetz, *Think Tanks in America* (Chicago, 2012). [↑](#footnote-ref-21)
21. On the significance of “the economy” as a new concept in the twentieth century, see Timothy Mitchell, *Carbon Democracy* (London, 2011) and “Fixing the Economy,” *Cultural Studies,* 12/1 (1998), 82-101, and Timothy Shenk,  *Inventing The American Economy, 1917-1981* (forthcoming, Princeton). [↑](#footnote-ref-22)
22. Stanley Fischer, “Reflections on Macroeconomics Then and Now,” *Policy Challenges in an Interconnected World* (Washington, D.C, 2016). [↑](#footnote-ref-23)
23. Alan Greenspan, “Transparency in Monetary Policy,” *Economic Policy Conference,* October 11 (2001). Robert Lucas, “Expectations and the Neutrality of Money,” *Journal of Economic Theory,* 4/2 (1972), 103-24. [↑](#footnote-ref-24)
24. Till Düppe and E. Roy Weintraub, *Finding Equilibrium: Arrow, Debreu, McKenzie and the Problem of Scientific Credit* (Princeton, 2014). Shenk,  *Inventing The American Economy.* [↑](#footnote-ref-25)
25. Mirowski, “The Cowles Commission as anti-Keynesian Stronghold,” 141. For more on Klein specifically, see Shenk, *Inventing The American Economy.* [↑](#footnote-ref-26)
26. Ibid. 147. [↑](#footnote-ref-27)
27. Quoted in ibid., 146. [↑](#footnote-ref-28)
28. Friedman, quoted in *ibid*, 156. [↑](#footnote-ref-29)
29. On the specificity of Walrasian model, see Hoover, *New Classical Macroeconomics*; on their interwar politics, see Mirowski and Plewhe, *The Road From Mont Pèlerin*, xiii; Johanna Bockman, *Markets in the Name of Socialism: The Left-Wing Origins of Neoliberalism* (Stanford, 2011). [↑](#footnote-ref-30)
30. Angus Burgin, “Age of Certainty: Galbraith, Friedman, and the Public Life of Economic Ideas,” *History of Political Economy,* 41/supplement (2013), 191-219, see 215. [↑](#footnote-ref-31)
31. See for example, his *Theory of the Consumption Function* (Chicago, 1957). [↑](#footnote-ref-32)
32. On the way this “as-if” methodology was an attack on Cowles and Keynes, see Marion Fourcade, *Economists and Societies: Discipline and Profession in the United States, Britain, & France, 1890s to 1990s* (Princeton, 2009), 93-96. [↑](#footnote-ref-33)
33. Lucas, “Nobel Autobiography.” [↑](#footnote-ref-34)
34. Lucas, “My Keynesian Education,” 19. [↑](#footnote-ref-35)
35. Compare, for example, the letters Lucas sent to Phelps and Friedman after writing his first rational expectations model. RLPD, box 1, folder “1969.” Letters both dated November 7, 1969. The former is multiple pages, detailing the motivation, strengths, and weaknesses of the paper, contextualizing it in the literature – and explicitly saying that it was directly motivated by comments that Phelps had made to Lucas. The latter is one sentence, asking for comments. Or the letter, which Friedman sent Lucas that begins “We must be wary of forming a mutual admiration society” dated November 13, RLPD, box 3, folder “1978.” Or the letter dated August 14, 1979 which Lucas sent to Friedman, carefully explaining, with overly-strained patience, that “really, no one ‘working on rational expectations’ claims that ‘all predicted effects’ of policies would be ‘rendered nugatory’. This ‘idea’ is due to Lindlay Clark or some other journalist.” Interior quotes are Lucas quoting Friedman. This basic misunderstanding survived their overlap at Chicago, and was the canard that irked Lucas most about his work. The misimpression stems from Thomas Sargent and Neil Wallace, “’Rational’ Expectations, the Optimal Monetary Instrument, and the Optimal Money Supply Rule,” *Journal of Political Economy,* 83/2 (1975), 241-254, playing devil’s advocate, showing how standard Keynesian models, modified slightly by rational expectations, produced the conclusion Friedman apparently took to be the main claim of rational expectations *tout court*. [↑](#footnote-ref-36)
36. A robust debate followed, for which see the footnotes in Burgin, *The Great Persuasion*. Noteworthy in the back and forth is that Paul Samuelson, “Jacob Viner,” in Edward Shils, ed., *Remembering the University of Chicago* (Chicago, 1991), 533-47, endorses the existence of not two, but threeChicago schools, centered on Knight, Friedman, and Lucas. For Lucas’ part, he once mused to an interviewer, “No one would describe the younger faculty here [Chicago] as ‘followers’ of Becker, Rosen and me, but I don't know if we could be described as followers of people like Milton Friedman and George Stigler, or they of Frank Knight and Jacob Viner,” “Interview with David Levy,” *The Region,* June (1993). Becker, Rosen, and Lucas *were*, however, all students of Gregg Lewis. [↑](#footnote-ref-37)
37. Lucas, “Professional Memoir.” [↑](#footnote-ref-38)
38. Orley Ashenfelter, ed., “H. Gregg Lewis Memorial Comments,” *Journal of Labor Economics*, 12/1 (1994), 138-54. [↑](#footnote-ref-39)
39. Yves Steiner, “The Neoliberals Confront the Trade Unions,” in Mirowski and Plehwe, eds., *Road from Mont Pèlerin,* 181-203,at193. [↑](#footnote-ref-40)
40. For Lucas, only money growth caused inflation [↑](#footnote-ref-41)
41. The correspondence with Jorgenson and Phelps are found in various letters, RLPD, box 1, folders “1963” through “1971.” Lucas, “My Keynesian Education,” Klamer, *Conversations*. [↑](#footnote-ref-42)
42. Klamer, *Conversations*, 36. Robert Lucas and Leonard Rapping, “Price Expectations and the Phillips Curve,” *American Economic Review,* 59/3 (1969), 342-50. [↑](#footnote-ref-43)
43. Lucas, “Nobel Autobiography.” Friedman never liked either libertarian or conservative as a label; Burgin, *The Great Persuasion*, 175-6. [↑](#footnote-ref-44)
44. RLPD, box 3, folder “1978,” letter dated November 13. [↑](#footnote-ref-45)
45. Lucas, “My Keynesian Education,” 22. [↑](#footnote-ref-46)
46. Klamer, *Conversations*, 52. [↑](#footnote-ref-47)
47. Lucas, “Interview with David Levy.” [↑](#footnote-ref-48)
48. Klamer, *Conversations,* 51. [↑](#footnote-ref-49)
49. Robert Lucas, “A report to the OECD by a group of independent experts: A Review,” *Carnegie-Rochester Conference Series on Public Policy,* 11/1 (1979), 161-8, at 164. [↑](#footnote-ref-50)
50. Bruce Lambert, “Leonard Rapping Obituary,” *New York Times,* October 4 (1991). For requests that Lucas serve as a consultant, there are various letters, RLPD, box 1, folders “1966” through “1969.” [↑](#footnote-ref-51)
51. The longest he seems to have worked as a consultant was while analyzing optimal naval transportation routes for the Center for Naval Analysis. Speculating, it may have lasted anywhere between a week and two months, although the contract lasted a full year. There is no evidence that he even had to leave campus to complete the report. [↑](#footnote-ref-52)
52. Lucas, “Professional Memoir.” [↑](#footnote-ref-53)
53. RLPD, box 1, folder “1967.” Letters dated June 13, June 18, and February 13 1967. [↑](#footnote-ref-54)
54. Smith, *The Idea Brokers;* Medvetz, *Think Tanks In America*. Medvetz argues persuasively that “think tank” as an analytic category does not make sense until the arrival of “activist intellectuals” in the 1970s. [↑](#footnote-ref-55)
55. Burgin, *The Great Persuasion.* [↑](#footnote-ref-56)
56. Burgin, *The Great Persuasion, 51.* [↑](#footnote-ref-57)
57. Henry Simons, reprinted in *Economic Policy for a Free Society,* 42, all other quotes in this paragraph at 162-4. Proposed interventions included a progressive income tax, railroad nationalization, and securities regulation. [↑](#footnote-ref-58)
58. Note the contrast here with the Fed policy described above. [↑](#footnote-ref-59)
59. Milton Friedman, “A Monetary and Fiscal Framework for Economic Stability,” *American Economic Review,* 38/3 (1948), 245-64. [↑](#footnote-ref-60)
60. RLPD, box 2, folders “1973” through ”1978.” [↑](#footnote-ref-61)
61. RLPD, box 2, folder “1975.” [↑](#footnote-ref-62)
62. RLPD, box 1, folder “1968.” Letters dated March 22 and December 2, 1968. [↑](#footnote-ref-63)
63. J.S. Gans & G.B. Shepherd, “How Are the Mighty Fallen: Rejected Classic Articles by Leading Economists," *Journal of Economic Perspectives*, 8/1 (1994), 172. [↑](#footnote-ref-64)
64. Robert Gordon, “Can econometric policy evaluations be salvaged? – A comment,” *Carnegie-Rochester Conference Series on Public Policy*, 1/1 (1976), 47-61, [↑](#footnote-ref-65)
65. NBER Conference Series (1980). [↑](#footnote-ref-66)
66. Robert Lucas, “Econometric Policy Evaluation: A Critique,” *Carnegie-Rocheseter Conference Series on Public Policy,* 1/1 (1976), 19-46, at 41 [↑](#footnote-ref-67)
67. Robert Lucas and Thomas Sargent, “After Keynesian Macroeconomics,” *After the Phillips Curve* (Boston, 1978). emphasis added. [↑](#footnote-ref-68)
68. “Lucas, “Chicago Economics on Trial” and “Interview with David Levy.” [↑](#footnote-ref-69)
69. Robert Lucas, “Macroeconomic Priorities,” *American Economic Review,* 93/1 (2003), 1-14, at 1. [↑](#footnote-ref-70)
70. Robert Lucas, “My Keynesian Education.” [↑](#footnote-ref-71)
71. Government debt is another matter, as it continued to receive attention. [↑](#footnote-ref-72)
72. For more on the EMH and its entrenchment, see Donald Mackenzie, *An Engine Not a Camera* (Cambridge, 2006). [↑](#footnote-ref-73)
73. Robert Lucas, “The Industrial Revolution: Past and Future,” *The Region*¸ 5 (2004). [↑](#footnote-ref-74)
74. Robert Lucas, “On the Mechanics of Economic Development,” *Journal of Monetary Economics*, 22 (1988), 3-42. [↑](#footnote-ref-75)
75. Brown, *Undoing the Demos*; Foucault, *Birth of Biopolitics;* Dardot and Laval, *The New Way of the World*. [↑](#footnote-ref-76)
76. Paul Krugman, *The Return of Depression Economics* (New York, 1999). [↑](#footnote-ref-77)
77. Narayana Kocherlakota, “Academic Macroeconomics and Policymaking,” personal weblog (2016). [↑](#footnote-ref-78)
78. Peter Conti-Brown, *The Power and Independence of the Federal Reserve* (Princeton, 2016); Gretta Krippner, “The Making of US Monetary Policy: Central Bank Transparency and the Neoliberal Dilemma,” *Theory and Society,* 36/6 (2007), 477-513; Greenspan, “Transparency in Monetary Policy.” [↑](#footnote-ref-79)
79. Foucault, *Birth of Biopolitics,* 79; Peck, *Constructions of Neoliberal Reason,* 17. [↑](#footnote-ref-80)
80. See Davies and McGoey, “Rationalities of ignorance,” for more on the epistemological tension between neoclassicism and neoliberalism. [↑](#footnote-ref-81)