



# Austrian economics as a relevant research program

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## Abstract

What is the relevancy of modern Austrian economics? Austrian economics, from its origins, has attempted to push economics towards greater relevance by developing and refining a methodological approach that enhances the operational validity of its scientific conclusions for decision-making in the real world. In a theoretical paradigm, this led to the development of theoretical insights on significant economic phenomena often excluded from static economics models. As the economics profession took an empirical turn, modern Austrian economics has demonstrated its continued relevancy through empirical methods that apply economic theory to pressing, long-standing policy issues.

**Keywords** Austrian economics · Relevancy · Robust political economy

**JEL Classifications** B10 · B13 · B25 · B41 · B53

## 1 Introduction

One of the major distinguishing features of Austrian economics, or more broadly mainline economics (Boettke et al., 2012), is relevancy. By relevancy, I mean academic research with the methodological flexibility to avoid, or at least reduce the impact of, unrealistic or inappropriate assumptions that limit the soundness of its conclusions in real-world conditions. Economic research of relevance can advance our understanding of human decision-making and social phenomena in a way that

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provides operational implications for decision-making in politics, business, and everyday life. To paraphrase Buchanan (2000, p. 11), we draw our operational validity as a social science from the real world, which is not nearly as simple and elegant as many mainstream models. We need to be doing research, and the teaching that flows from our research, that has net social productivity because it is relevant to credibly justify our impositions on taxpayers and patrons (Buchanan, 1979, Ch. 14; Buchanan, 2000, p. 29).

In this paper, I argue that relevancy for the real world should be the goal of economists as social scientists. Austrian economists, and fellow travelers, have often been at the forefront of pushing economics towards greater relevancy. In a theoretical paradigm, they did this by developing a theoretical appreciation for significant economic phenomena, such as market process and uncertainty, that were missing in most formal theoretical models. As economics made an empirical turn, Austrian economists adopted methods enabling them to conduct relevant empirical work. While the use of econometrics, especially new methods that make statistical methods more relevant, is welcomed for understanding economic history, econometrics, as the sole method of an economist, undermines the development of qualitative methods that Austrian economists have productively employed to make economics more relevant. The future success of Austrian economics hinges on the ability of its practitioners to use Austrian theory and methods to make productive contributions to the long-standing issues in political economy.

In Sect. 2, I define relevant economic research and briefly argue why relevancy should be the goal of economists as social scientists. Section 3 describes the historical relevancy of Austrian economics and its fellow travelers during the theoretical paradigm of economics. Section 4 discusses the concerns that Austrian economists have with econometrics becoming the sole methodological approach of economists during the empirical turn of economics. Section 5 details how Austrian economics retained its relevancy in the empirical turn of the profession by applying Austrian theory and methods to important, long-standing issues in political economy. Section 6 concludes by calling for a continuation of this progress.

## 2 Relevant economics

The goal of economics, as a social science, should be to do relevant research. By relevancy, I mean research that provides operational implications for decision-making in politics, business, and everyday life. It is important to note that by relevance, I do not mean the development of public policy work. While relevant research translates more readily into public policy, and thus Austrian economists may have a comparative advantage in formulating sound policy work (Mitchell & Boettke, 2017) in referring to the relevancy of academic research.<sup>1</sup>

This distinction is important since navigating the tradeoff away from the corner solution of purely academic research is dependent on the unique skillset and circum-

<sup>1</sup> See for instance, Ebeling (2016).

stances of the scholar.<sup>2</sup> As Hutt (1990) argues in *Economists and the Public*, there can be pitfalls for economists seeking to contribute to current policy debates. Hayek (1991, p. 35–48), for instance, a month before the *Road to Serfdom* was released in 1944, gave a lecture “On Being an Economist” for the LSE at Cambridge University, where he warned that seeking contemporary influence can corrupt an economist and that instead we “must have the courage to be unpopular.”

Nor does research with relevance mean that it necessarily bears implications for current policy. There is obvious merit to advancing scholarly debate on the inveterate, complex problems of political economy that may be of no practical use today. There may be much merit in actively avoiding jejune takes on the fleeting issues of the day.

Instead, what I mean by relevance is specifically that we do scientific research with policy relevance and that we arrive at scientific conclusions that do not rely on limiting assumptions to the extent that would lead to potentially adverse unintended consequences if used today or in the future, as a basis for real-world decision-making (see, for instance, Munger, 2022). It is the distinction, according to Radomysler (1946, p. 198), “between theory that does apply to reality and theory that does not.” An academic can eschew public policy and be wholly concerned only with long-standing problems in political economy but still seek to produce relevant research under this definition.

### 3 The theoretical relevancy of Austrian economics

Austrian economists have a strong tradition of doing academic research with operational validity for the world (Ebeling, 2016; Kirzner, 1976), in interpreting Lachmann in the *Foundations of Modern Austrian Economics*, notes that it is our responsibility to “describe and explain reality”. Not hypothesized perfection.

Sound research conducted with relevance for the real-world caution’s humility (Boettke et al., 2006). And the productivity of Austrian economists as social scientists may lie, at least partly, in consistently and repeatedly expressing this caution to the practitioners of the field that has become the dominant and most influential social science (Wolfers, 2015; Hayek, 1991, p. 44), for instance, argued that the economist’s task was to detect means-end incompatibilities and note opportunity costs. Mises (1936[1981], p. 9) wrote that “scientific criticism has no nobler tasks than to shatter false beliefs.” Simons (1983; see also Boettke & Candela, 2017) has more memorably summarized this as being a “prophylactic against popular fallacies”.

The early Austrians did a remarkable job at doing research with relevance that demonstrated the vital need for cautionary humility in real-world decision-making. As Vaughn (1990) has highlighted, while Menger is oftentimes lumped with Jevons and Walras, his economics reflects a deep appreciation for market process

<sup>2</sup> A scholar engaging in public policy work must also be careful not to succumb to the temptation to introduce their own values to advocate for specific programs (Boettke et al., 2006) or to define a social welfare function in a way that enables them to offer their preferred solutions (Aligica et al., 2019; Vaughn, 2021, Ch. 7). A set of policy conclusions in search of supporting research is also not social science.

and uncertainty that was missing in their expositions. Mises' *Nation, State, Economy* (1983), *Socialism* (1936[1981]), and the *Theory of Money and Credit* (1980) as well as Hayek's contributions to the socialist calculation debate, the *Road to Serfdom* (1944[2007]), his work on spontaneous order and economics and knowledge (1948) and the *Denationalization of Money* (1976), just for a few examples, advanced our scientific understanding of some of the most important long-standing issues in political economy, stressing the need for humility in the plans of policymakers due to knowledge and incentive problems.

The foundational principles that are often considered to give Austrians their uniqueness include subjectivism, methodological individualism, understanding the market as a process, entrepreneurship, spontaneous order, knowledge problems and uncertainty, and institutions. The underlying case for these principles, especially when Austrian economists advanced them, was that existing models of human behavior were missing key elements necessary for operational insight. Mainstream economists have found many, but not all, of these difficult to incorporate into their theorizing due to intractability (Cherrier, 2022). Mainstream economists argued that what Austrian economists were talking about was not operational in their models. On the other hand, Austrians argued that mainstream models might have internal operability, but only by neglecting important economic phenomena and insights and thus had limited external applicability.

Austrians demonstrated, remarkably successfully for some of these principles, that the conclusions and policy implications following from mainstream economics that failed to consider these principles often produced social control implications that were non-operational, invalid, or risked perverse unintended consequences. Even Friedman (1947), methodologically no Austrian economist, was forced to conclude that Abba Lerner's (1944) formal analysis of the *Economics of Control* was "almost entirely irrelevant to the institutional problem." Though, perhaps, we should give some credit to Lerner (1944, p. 6) for at least directly stating his assumption, "We shall assume a government that wishes to run society in the general interest and is strong enough to override the opposition afforded by any sectional interest" in his introduction. It is rare for the modern economist making that assumption today to do so explicitly.<sup>3</sup>

Boettke (1994, p. 602), channeling Kuhn (1962), argues that Austrian economists can engage in the extraordinary science required to confront the dominant paradigm with "troublesome anomalies which an alternative paradigm is better suited to explain."<sup>4</sup> Mainstream economics was often irrelevant to real-world decision-making because it neglected relevant factors. This neglect led to decision-making with economic repercussions due to, for instance, an incomplete understanding of how the structure of incentives and the flow of information affect human behavior in the market and political decision-making.

<sup>3</sup> Twenty years later, Lerner (1965, p. 1153) in critiquing Samuelson in the *American Economic Review*, wrote that "The combination of a postulated relationship with a particular set of observed changes or events in the complicated and messy world of reality necessitates recourse to "impure" conditions that involve deviations from the "pure" theory of imaginary limiting cases..."

<sup>4</sup> See also Dolan (1976, Part 1).

Formulating optimal policy without properly incorporating considerations for the expected knowledge and incentive problems that policymakers face in implementation has repeatedly led to policies that fail to overcome epistemic and motivational barriers (Pennington, 2011; Leeson & Subrick, 2006; Levy, 2002). It is not optimal if an optimal policy prescription is politically impossible to implement under realistic assumptions of the knowledge available to policy actors and the incentives they face (Boettke et al., 2021; Nye, 2008; Coase, 1964, p. 194-5) argued that comparing the market to the optimal policy was an ill-conceived project with little theoretical benefit because we don't have the knowledge of how to implement an optimal policy in the real world and because it distracts attention away from what should be our primary focus, analyzing how comparative institutions cope with these realities.

Our profession, which has gradually lost the wisdom contained in the works of classic political economists, keeps getting surprised when the problems of political economy inevitably emerge. The last two years have shown us this across a wide variety of governmental responses to COVID-19 (Cachanosky et al., 2021; Hebert & Curry, 2022; Koppl, 2021; Leeson & Rouanet, 2021).

Economists shouldn't be surprised when knowledge and incentive problems complicate the implementation of proffered optimal policies. Economics, after all, has a highly developed toolkit for examining knowledge and incentive problems. Economists should not forsake their absolute and comparative advantage among the social-scientific sciences for ideal theory, where we have no clear comparative advantage against philosophers or even laypeople. For economics to be a science of constraints, we can't very well ignore two of the most considerable constraints that humanity faces and still consider ourselves to be doing relevant social science. This is especially the case when we have highly regarded members of our profession, who have direct experience, such as in monetary policy, failing to overcome these knowledge and incentive problems (Boettke et al., 2021; Hogan et al., 2015; White, 2005).

The progress of Austrian economics can be interpreted as the development of ways to counteract assumptions and methods that rendered economic research operationally invalid and irrelevant. Many fellow travelers to the Austrian school can also be interpreted as having embraced Austrian ideas, directly or indirectly, due to a gap between the mainstream literature and real-world policy. That gap contained economically significant phenomena that fell outside the purview of the literature, whether due to intractability, unavailability of data, or another reason. The contributions of scholars like Coase (1960), Easterly (2006), Smith (1994), and Ostrom (2015), for instance, found an affinity with Austrian influences in their search to make mainstream research more relevant because they were missing transaction costs, local knowledge, experimental insights, and informal institutions. Even the renewed interest in institutions more broadly can be interpreted in this framework (Acemoglu & Robinson, 2012; Williamson, 2000). It became apparent even to mainstream economists that an economically significant factor was missing in their literature, rendering their work operationally invalid. For instance, while noting the technocratic progress of cliometrics, North (1978, p. 963) observed that practitioners failed to appreciate

historical influences, making the implications of their research irrelevant to contemporary decision-making.<sup>5</sup>

Too often, however, when important phenomena are brought to the attention of mainstream economists, they tend to still exclude them due to modeling difficulties. That mentality reveals that the priority in our profession may be to reward the development of clever, pristine models, despite their limited relevancy in the real world. Certainly, abstract models can be helpful in thinking through cause and effect in isolation, especially for teaching key theoretical insights. Still, this research must either be ignored for public policy purposes or reintegrated into less abstract models. Sometimes worthwhile, at least to some extent, to clarify our thinking, but it should not be considered the finished product of a social science striving for relevancy. The Diamond-Dybvig model (Diamond & Dybvig, 1983) provides an example of how simplifying assumptions abstracting away from reality can be used to provide ungrounded justification for government interventions, such as deposit insurance, that comes with a substantial cost entirely assumed away by the model (Dowd, 1992, 1993, & 2000; Selgin & White, 1994; Hogan & Luther, 2014).

The Austrian focus on research with relevancy was, in line with the rest of the profession at that time, primarily theoretical. But as the economics profession took an empirical turn, this concern for relevancy was readily adapted for empirical investigations by Austrian economists. Just as high theory could abstract itself from phenomena necessary for understanding human behavior, modern empirical research, focused almost exclusively on statistical methods, could commit similar mistakes. Rather than being an antique, this means Austrian economics is even more relevant today (Kirzner, 2022).

#### 4 Austrian economics and the development of econometrics

Austrian economists' concern with econometrics is often misunderstood, especially by its adherents, including me, for a long time. Most Austrian economists are not opposed to the use of econometrics. Many Austrian economists have papers employing it as a method (Williamson, 2020). And several Austrian economists successfully use Austrian insights to make important contributions to the mainstream literature using econometrics, moving it towards relevancy. Claudia Williamson Kramer, for instance, gets mainstream economists to appreciate the magnitude of culture and informal institutions (Williamson, 2009). There is also growing diversity within econometrics, with the spread of new techniques such as difference-in-difference and synthetic control. And many of these advancements should be welcomed by Austrians to the extent that these new techniques make econometrics more relevant.

The objection to econometrics is related to its operational relevancy. Every method, including Austrian economics, has limitations and vulnerabilities, such as those that lead to the proverbial drunk looking for their keys under the lamp post, choosing research topics that fit their methods rather than the appropriate method for addressing the most important issues. Many of the technical limitations of economet-

<sup>5</sup> Higgs (1971[2011], p. v-vi) makes a similar observation.

rics have been pointed out by prominent members of the profession (Akerlof, 2020; Arel-Bundock et al., 2022; Caplan, 2022; Heckman & Moktan, 2020; Huntington-Klein et al., 2021; Fanelli, 2010; Imbens, 2021; Ioannidis et al., 2017; Leamer, 1978 & 1983; Lee et al., 2022; McShane et al., 2019; Leeson, 2020; Ménard, 2020; Meng, 2018; Scargle, 2000; Shirley, 2020; Skarbek, 2020a; Ziliak & McCloskey, 2008; Zingales, 2020). But I believe two concerns are particularly concerning for Austrian economists. First is the ascendancy of econometrics as the sole method of conducting economics. Second is the use of econometrics to develop theory and, increasingly, the growing trend to use it as a justification to disband theory altogether.

The first problem with econometrics is that it is often viewed modernly as the defining characteristic of what an economist is. Econometrics is what economists do, and the implicit assumption is that there are no diminishing marginal returns to its use. It is a corner solution method from which deviation is discouraged and punished. Those that do not do econometrics are, in the eyes of the profession, not economists. Essentially every economist, aside from perhaps historians of economic thought, a field which used to be a part of every economist's training but has unfortunately been marginalized (Vaughn, 1993), is expected to tackle their research questions using statistical methods.

While econometrics is a valuable tool for examining history, it is certainly not the only tool economists have at their disposal. It can only investigate one piece of the puzzle. There are also economic and social phenomena worthy of investigation and necessary for operational relevancy, for which conventional data is simply unavailable or questions concerning democratic justifiability or philosophical implications for which econometrics is often irrelevant (Benzecry & Smith, 2022; White, 2008). The every-economist-an-econometrician equilibrium necessarily leaves economically important phenomena or topics for which economics can usefully inform debates left unexplored by economists. Ironically, this leaves \$20 bills on the sidewalk. This mentality can also lead to the exploration of important economic phenomena using knowingly problematic data (Coyle, 2021, p. 101; Coyle, 2014; Jerven, 2013). The fact that it is the "best data we have" or that other scholars have also used the data in published papers are not adequate justifications for using poor data. It may count as a peer-reviewed publication in economics, but that is not relevant social science.

Econometrics can also become an end. Journal editors and referees can view the failure to use or advance the econometrics tool as the objective of economics. This necessarily edges out the truth-tracking that expands our knowledge of relevant economic and social phenomena, no matter the empirical method used.

There is also the possibility for the exclusive focus on econometrics, as the sole tool of an economist, to distort graduate curricula. There are tradeoffs in what can fit into graduate school, so more and more emphasis on econometrics can squeeze out content less important for immediately getting published (Coyle, 2021; Vaughn, 1998). Journals often, by their nature, focus on novelty, so mastering basic economics becomes unprofitable to the economist-in-training. It thus can become one of the unfortunate casualties of econometrics taking over the curriculum. While a grasp of economic theory may still be necessary for teaching, universities often only give lip service to the value of teaching. Even at regional state universities, hiring, promotion,



and tenure decisions come down to research and research alone. We should not be surprised when graduate students and young scholars follow these incentives.

On the margin, there is an immense benefit to economists doing economics with alternative methods, primarily qualitative approaches such as analytical narratives (Bates et al., 1999; Boettke, 2000; Chamlee-Wright, 2010; Skarbek, 2020a). Even Friedman (1991) observed that economists were carrying on their “reliance on mathematics and econometrics beyond the point of vanishing returns...”, regarding the attempt to calculate an estimate for the demand for money, the core knowledge problem faced by central bankers (Boettke et al., 2021).

But a problem we face is that the skills necessary to pass the professional entry barrier of econometrics do not necessarily correlate with the skill set required to do economics with alternative methods. There are, of course, polymath academics who have mastered multiple methods, but these people tend to be exceptions. Nor is there necessarily a transfer of learning from the econometrics skillset to a qualitative skillset. Thus, the every-economist-as-an-econometrician equilibrium may be self-reinforcing, at least to some degree.

The second concern with econometrics is that, as Leeson (2020) argues, economics is not statistics. Economics is necessarily a theoretical approach. The problem is that economic theory is now playing second fiddle in most modern economic research. While the concern of Austrian economists was initially that econometrics would be used as a tool for theoretical conception rather than, more appropriately, understanding economic history, we are starting to see an even more concerning trend, the use of econometrics to entirely displace economic theory itself.

To the extent that economics moves in a more atheoretical direction, where economic theory is de-emphasized to look at the facts statistically, the neglect of basic economic theory in graduate school becomes even more of a possibility. And these pressures run the risk of being pushed down to the undergraduate level, where economics courses become watered-down versions of graduate classes, or where students preparing for a Ph.D. in economics are encouraged to focus on mathematical courses, to the exclusion of studies in philosophy, politics, or even economics (Benzecry & Smith, 2022). In the words of McCloskey (1982, p. v), it results in our students learning “the formalities but not the substance of economics.” Or, as Friedman (1986, p. vii) observed, our students become “competent technicians with no understanding of economics.”

We thus run the risk of having the next generation of scholars, university professors, and public intellectuals having little mastery or even exposure to basic economic theory. This was a trend that Koppl (2006) expressed concern about in his presidential address to this society, referring to “supply and demand, marginalist logic, opportunity-cost reasoning, and the elementary theory of markets” as “elements at risk of becoming half-forgotten themes of an earlier era.”

Suppose we continue this trend, where not just Austrian economics but basic economics becomes an antique of a bygone era. In that case, mainstream economists will undoubtedly continue to reduce the relevancy of economic research. And thus, concomitantly, the potential adverse consequences of proffered policy advice based on that research.



## 5 The modern empirical turn in Austrian economics

As Vaughn (1998) pointed out in the inaugural presidential address to this society, we will make progress not by focusing on what we are not but on what we can contribute. Austrian economists need to offer a new paradigm, not just critique the existing one. Here was Vaughn's advice from that address, "I think it would be enormously productive to the development of an Austrian research program if each of us became an expert on some contemporary issue of applied economics" (p. 297).

I have long appreciated the contribution to political economy that Boettke (1990 & 1993) made with his work on the Soviet Union. Still, I'm only now beginning to realize what a giant step he and his contemporaries were taking for modern Austrian economics, moving it from theoretical to applied economics by demonstrating empirically, through the lens of Austrian theory, the failures of socialism. There was also Chamlee Wright (1997) applying Austrian economics to development, Horwitz (1990) and White (1984) on banking and competitive note issuance, and Storr (2004) on enslaved people and pirates.

This is not to say that there weren't Austrian economists or fellow travelers doing applied research before this point, Vera Smith (1936) is an obvious exception that comes to mind, but this transition made empirical work the primary project of Austrian economics. Importantly, unlike many mainstream practitioners, the empirical turn in Austrian economics has not led to the disbandment of economic theory. Instead, empirical Austrian economics uses theory to explore and understand the world curiously. And, while the empirical turn has become dominant, it is not a corner solution. Austrian economists still welcome and recognize the need for theoretical contributions.

In the time of high theory, Austrian economists made progress the only way they could by attempting to cut down the mainstream paradigm to replace it with an Austrian paradigm. But it was a handful of Austrians versus the broad profession. Since we were using the terminology of a paradigm entirely foreign to mainstream economists, we found ourselves talking past them all too often, thus talking amongst ourselves. This is not a critique of earlier Austrians. On the contrary, their valiant work laid the necessary edifice that led to the modern growth of Austrian economics. But the entrenchment of the existing paradigm was too great to tackle in one fell swoop. Nor was the entire neoclassical tree rotten.

The empirical turn, however, enabled Austrian economists to find narrower areas to demonstrate the relevancy of the Austrian paradigm in specific contexts to smaller groups of scholars. Scholars committed to a particular policy-relevant research area are much less prone to be wedded to a specific method because they are interested in progress on that issue and are thus more receptive to methods that demonstrate promise for progress. Rather than attempt to cut down the entire tree of mainstream economics at its trunk, Austrian economists have been able to show why particular branches on the tree weren't bearing fruit and that, by grafting them onto an Austrian tree, we can get them to bear fruit by making the research more relevant.

Despite the constraints, Austrian economists faced historically and modernly, they have done a remarkable job doing just that. Austrian economists have been producing

high-quality research that anyone working in the pertinent area of inquiry is forced to contend with. You can trace the success of this empirical turn in Coyne (2007) and Coyne and Hall Blanco (2018; 2021) on militarism, Leeson (2007 & 2014), Koppl (2018) on expert failure, Stringham (2007 & 2015) making explorations in the theory of anarchy (Tullock, 1972, 1974) empirical, Powell (2014) on sweatshops and immigration (2015 and Nowrasteh & Powell, 2020), Skarbek (2014 & 2020b) on prisons, Selgin (2018 & 2020) on the Fed's new operating system and the consequences of fiscal quantitative easing, Thomas on regulation (2018), and Rizzo and Whitman on paternalism (2020).

## 6 Conclusion

Like Vaughn (1998) envisioned, I also see the future of Austrian economics in continuing to build on these successes. In this applied turn, Austrian economists will continue to do academic research with policy relevance. We can't change the mainstream paradigm in one fell swoop, but we can make substantial progress by dividing our efforts and each doing recognized top-notch research within our own area of inquiry. But the burden of proof falls on Austrian economists. We cannot just say subjectivism matters, knowledge and incentive problems exist, or that markets are a process. We need to empirically demonstrate it in expositions that can be understood and appreciated by mainstream social scientists working in the relevant topic area.

If the broader economics profession continues abandoning economic theory, it may fall to us to preserve. To the extent this occurs, Austrian economists will have the opportunity to achieve even more success, using James Buchanan's terminology, by being observational geniuses simply by doing relevant research. At the same time, the outputs of our talented but misguided mainstream colleagues would continue to fall short of relevancy (Boettke, 2020). We can demonstrate the explanatory power of not just Austrian economics but even just basic economics to a profession that is moving in the direction of abandoning it.

The justification for the school of Austrian economics and its future success hinges on our ability to continue demonstrating how it is relevant to the pressing long-standing policy issues that we face. As Buchanan observed (2000, p. 29), "...I think that most of those who espouse a variant of Austrian-subjectivist economics know what they are doing. And I think our efforts are socially productive, highly so. I suppose that all of this finally reduces to an admonition to keep the faith..." And he goes on that "We can have a part to play in developing a meaningful "public philosophy." And therein lies the continued relevancy of Austrian economics.

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## References

- Acemoglu, D., & Robinson, J. A. (2012). *Why nations fail*. Crown Business.
- Akerlok, G. A. (2020). Sins of omission and the practice of economics. *Journal of Economic Literature*, 58(2), 405–448.
- Aligica, P. D., Boettke, P. J., & Tarko, V. (2019). *Public governance and the classical-liberal perspective: Political Economy Foundations*. Oxford University Press.
- Arel-Bundock, V., Briggs, R. C., Dougouliagos, H., Aviña, M. M., & Stanley, T. D. (2022). Quantitative political science research is greatly underpowered. *OSFPrePrints*.
- Bates, R. H., Grief, A., Levi, M., Rosenthal, J. L., & Weingast, B. R. (1999). *Analytical Narratives*. Princeton University Press.
- Benzecri, G., & Smith, D. J. (2022). The wisdom of classical political economy in economics: Incorporated or lost? *The Review of Austrian Economics*, forthcoming.
- Boettke, P. J. (1990). *The Political Economy of Soviet Socialism*. Springerlink.
- Boettke, P. J. (1993). *Why Perestroika failed*. Routledge.
- Boettke, P. J. (1994). In P. J. Boettke (Ed.), *The Eglar Companion to Austrian Economics* (pp. 601–615). Edward Elgar.
- Boettke, P. J. (2000). Reviews of Analytical Narratives. *Constitutional Political Economy*, 11, 377–379.
- Boettke, P. J. (2020). The four pillars of economic understanding. *American Institute for Economic Research*. Available online: <https://www.aier.org/article/the-four-pillars-of-economic-understanding/>
- Boettke, P. J., & Candela, R. (2017). Price theory as prophylactic against popular fallacies. *Journal of Institutional Economics*, 13(3), 725–752.
- Boettke, P. J., Coyne, C. J., & Leeson, T. (2006). P. T. High priests and lowly philosophers: The battle for the soul of economics. *Case Western Reserve Law Review* 56(3).
- Boettke, P. J., Fink, A., & Smith, D. J. (2012). The impact of Nobel prize winners in economics: mainline vs. mainstream. *The American Journal of Economics and Sociology*, 71(5), 1219–1249.
- Boettke, P. J., Salter, A. W., & Smith, D. J. (2021). *Money and the rule of Law*. Cambridge University Press.
- Buchanan, J. M. (1979). *What Should Economists Do?* LibertyPress.
- Buchanan, J. M. (2000). *Economic Inquiry and Its Logic*. Liberty Fund.
- Cachanosky, N., Cutsinger, B. P., Luther, W. L., & Salter, A. W. (2021). The Federal Reserve's response to the COVID-19 contraction: an initial appraisal. *Southern Economic Journal*, 87(4), 1152–1174.
- Caplan, B. (2022). RCTs and the status quo: The special relationship. *Econlib*.
- Chamlee-Wright, E. (1997). *The Cultural Foundations of Economic Development*. Routledge.
- Chamlee-Wright, E. (2010). Qualitative methods and the pursuit of economic understanding. *The Review of Austrian Economics*, 23(4), 321–331.
- Cherrier, B. (2022). The price of virtue: Some hypotheses on how tractability has shaped economic models. SSRN Working Paper.
- Coase, R. H. (1960). The problem of social cost. *Journal of Law and Economics*, 3, 1–44.
- Coase, R. H. (1964). The regulated industries: a discussion. *American Economic Review*, 54(May), 194–197.
- Coyle, D. (2014). *GDP: a brief but affectionate history*. Princeton University Press.
- Coyle, D. (2021). *Cogs and monsters*. Princeton University Press.
- Coyne, C. (2007). *After War*. Stanford University Press.
- Coyne, C., & Hall, A. R. (2018). *Tyranny comes Home*. Stanford University Press.
- Coyne, C., & Hall, A. R. (2021). *Manufacturing Militarism*. Stanford University Press.
- Diamond, D. W., & Dybvig, P. H. (1983). Bank runs, deposit insurance, and liquidity. *Journal of Political Economy*, 91(3), 401–419.
- Dolan, E. G. (1976). Austrian economics as extraordinary science. In E. Dolan (Ed.), *The Foundations of Modern Economics* (pp. 3–13). Sheed & Ward, Inc.
- Dowd, K. (1992). Models of banking instability: a partial review of the literature. *Journal of Economic Surveys*, 6, 107–132.
- Dowd, K. (1993). Re-examining the case for government deposit insurance. *Southern Economic Journal*, 59(3), 363–370.
- Dowd, K. (2000). Bank capital adequacy versus deposit insurance. *Journal of Financial Services Research*, 17(1), 7–15.
- Easterly, W. (2006). *The White Man's Burden*. The Penguin Press.

- Ebeling, R. (2016). *Austrian Economics and Public Policy*. The Future of Freedom Foundation.
- Fanelli, D. (2010). Do pressures to publish increase scientists' Bias? An empirical support from US States Data. *PLOS ONE*, 5(4), 210271.
- Friedman, D. (1986). *Price theory*. South-Western Publishing Co.
- Friedman, M. (1947). Lerner on the economics of control. *The Journal of Political Economy* LV(5):405–416.
- Friedman, M. (1991). Old wine in new bottles. *The Economic Journal*, 101(404), 33–40.
- Hayek, F. A. (1944). [2007]. *The road to serfdom*. The University of Chicago Press.
- Hayek, F. A. (1948). *Individualism and economic order*. University of Chicago.
- Hayek, F. A. (1976). *Denationalisation of money*. Institute for Economic Affairs.
- Hayek, F. A. (1991). *The Trend of Economic Thinking*. Liberty Fund.
- Hebert, D. J., & Curry, M. (2022). Optimal lockdowns. *Public Choice*, forthcoming.
- Heckman, J. J., & Moktan, S. (2020). Publishing and promotion in economics: the tyranny of the top five. *Journal of Economic Literature*, 58(2), 419–470.
- Higgs, R. (1971[2011]). *The Transformation of the American Economy*. Ludwig Von Mises Institute.
- Hogan, T., Le, L., & Salter, A. W. (2015). Ben Bernanke and Bagehot's Rules. *Journal of Money Credit and Banking*, 47(2–3), 333–348.
- Hogan, T. L., & Luther, W. J. (2014). The explicit costs of government deposit insurance. *Cato Journal*, 34(1), 145–170.
- Horwitz, S. (1990). Competitive currencies, legal restrictions, and the origins of the Fed. *Southern Economic Journal*, 56(3), 639–649.
- Huntington-Klein, N., Arenas, A., Beam, E., Bertoni, M., Bloem, J. R., Burli, P., Chen, N., Grieco, P., Ekpe, G., Pugatch, T., Saavedra, M., & Stopnitzky, Y. (2021). The influence of hidden researcher decisions in applied microeconomics. *Economic Inquiry*, 59(3), 944–960.
- Hutt, W. H. (1990). *Economists and the Public*. Transaction Publishers.
- Imbens, G. W. (2021). Statistical significance, p-values, and the reporting of uncertainty. *Journal of Economic Perspectives*, 35(3), 157–174.
- Ioannidis, J. P. A., Stanley, T. D., & Dourcouliagos, H. (2017). The power of bias in economics research. *The Economic Journal*, 127(605), F236–265.
- Jervens, M. (2013). *Poor numbers*. Cornell University Press.
- Kirzner, I. (1976). *The Foundations of Modern Austrian Economics*. Institute for Humane Studies at George Mason University. Available online: <https://oll.libertyfund.org/title/dolan-the-foundations-of-modern-austrian-economics-1976>
- Kirzner, I. (2022). Israel Kirzner on his career as an Austrian economist. *Hayek Program Podcast*. Available online: <https://www.mercatus.org/hayekprogram/hayek-program-podcast/israel-kirzner-his-career-austrian-economist>
- Koppl, R. (2006). Austrian economics at the cutting edge. *The Review of Austrian Economics*, 19(4), 231–241.
- Koppl, R. (2018). *Expert failure*. Cambridge University Press.
- Koppl, R. (2021). Public health and expert failure. *Public Choice*, forthcoming.
- Kuhn, T. S. (1962). *The structure of Scientific Revolutions*. The University of Chicago Press.
- Leamer, E. E. (1978). *Specification searches: ad Hoc Inference with Non-Experimental Data*. Wiley.
- Leamer, E. E. (1983). Let's take the con out of econometrics. *The American Economic Review*, 73(1), 31–43.
- Lee, D. S., McCrary, J., Moreira, M. J., & Porter, J. (2022). Valid t-ratio inference for IV. *American Economic Review*, 112(10), 3690–3690.
- Leeson, P. T. (2007). An-arrgh-chy: the law and economics of pirate organization. *Journal of Political Economy*, 115(6), 1049–1094.
- Leeson, P. T. (2014). *Anarchy unbound*. Cambridge University Press.
- Leeson, P. T. (2020). Economics is not statistics. *Journal of Institutional Economics*, 16(4), 423–425.
- Leeson, P. T., & Rouanet, L. (2021). Externality and COVID-19. *Southern Economic Journal*, 87(4), 1107–1118.
- Leeson, P. T., & Subrick, J. R. (2006). Robust political economy. *Review of Austrian Economics*, 19, 107–111.
- Lerner, A. P. (1944). *The Economics of Control*. Macmillan.
- Lerner, A. P. (1965). Professor Samuelson on theory and realism: comment. *The American Economic Review*, 55(1), 1153–1155.
- Levy, D. M. (2002). Robust institutions. *The Review of Austrian Economics*, 15, 131–142.
- McCloskey, D. N. (1982). *The Applied Theory of Price*. MacMillan.

- McShane, B., Gal, D., Gelman, A., Robert, C., & Tackett, J. L. (2019). Abandon statistical significance. *The American Statistician*, 73(1), 235–245.
- Ménard, C. (2020). Please, open the windows. *Journal of Institutional Economics*, 16(4), 427–428.
- Meng, X. (2018). Statistical paradises and paradoxes in big data. *The Annals of Applied Statistics*, 12(2), 685–726.
- Mises, L. (1936[1981]). *Socialism*. Liberty Fund.
- Mises, L. (1980). *The theory of money and credit*. Liberty Fund.
- Mises, L. (1983). *Nation, State, and Economy*. Liberty Fund.
- Mitchell, M. D., & Boettke, P. J. (2017). *Applied Mainline Economics*. Mercatus Center at George Mason University.
- Munger, M. (2022). What ain't so can hurt you. American Institute for Economic Research. November 3rd. Available online: <https://www.aier.org/article/what-aint-so-can-hurt-you/>
- North, D. (1978). Structure and performance: the task of economic history. *Journal of Economic Literature*, 16(3), 963–978.
- Nowrasteh, A., & Powell, B. (2020). *Wretched refuse?*. Cambridge University Press.
- Nye, J. V. (2008). The Pigou problem. *Regulation* 31(2).
- Ostrom, E. (2015). *Governing the Commons*. Cambridge University Press.
- Pennington, M. (2011). *Robust political economy*. Edward Elgar.
- Powell, B. (2014). *Out of poverty*. Cambridge University Press.
- Powell, B. (2015). *The Economics of Immigration*. Oxford University Press.
- Radomysler, A. (1946). Welfare economics and economic policy. *Economica*, 13(51), 190–204.
- Rizzo, M. J., & Whitman, G. (2020). *Escaping paternalism*. Cambridge University Press.
- Scargle, J. D. (2000). Publication bias: the “file-drawer” problem in scientific inference. *Journal of Scientific Exploration*, 14(1), 91–106.
- Selgin, G. (2018). *Floored!: how a misguided Fed experiment deepened and prolonged the great recession*. Cato Institute.
- Selgin, G. (2020). *The Menace of Fiscal QE*. Cato Institute.
- Selgin, G., & White, L. H. (1994). How would the invisible hand handle money? *Journal of Economic Literature*, 32, 1718–1749.
- Skarbek, D. (2014). *The Social Order of the underworld*. Oxford University Press.
- Skarbek, D. (2020a). Qualitative research methods for institutional analysis. *Journal of Institutional Economics*, 16(4), 409–422.
- Skarbek, D. (2020b). *The puzzle of Prison Order*. Oxford University Press.
- Smith, V. (1936[1990]). *The Rationale of Central Banking and the Free Banking Alternative*. Liberty Fund.
- Smith, V. (1994). Economics in the laboratory. *Journal of Economic Perspectives*, 8(1), 113–131.
- Shirley, M. M. (2020). How should economists analyze institutions? *Journal of Institutional Economics*, 16(4), 429–431.
- Simons, H. (1983). *Simon's syllabus*. Fairfax, VA: Center for Study of Public Choice at George Mason University.
- Stringham, E. (2007). *Anarchy and the Law*. The Independent Institute.
- Stringham, E. (2015). *Private governance*. Oxford University Press.
- Storr, V. H. (2004). *Enterprising slaves and Master Pirates*. Peter Lang.
- Thomas, D. (2018). A process perspective on regulation: who bears the dispersed costs of regulation? *The Review of Austrian Economics*, 31, 395–402.
- Tullock, G. (1972). *Explorations in the theory of Anarchy*. Center for the Study of Public Choice.
- Tullock, G. (1974). *Further Explorations in the theory of Anarchy*. Center for the Study of Public Choice.
- Vaughn, K. I. (1990). The mergerian roots of the austrian revival. *History of Political Economy*, 22, 379–407.
- Vaughn, K. I. (1993). Why teach the history of economics? *Journal of the History of Economic Thought*, 15(2), 174–183.
- Vaughn, K. I. (1998). Does austrian economics have a useful future? *Advances in Austrian Economics*, 5, 3–14.
- Vaughn, K. I. (2021). *Essays on Austrian Economics and Political Economy*. Mercatus Center at George Mason University.
- White, L. H. (1984). *Free Banking in Britain*. Cambridge University Press.
- White, L. H. (2005). The Federal Reserve's system's influence on research in monetary economics. *Econ Journal Watch*, 2(2), 325–354.

- White, L. H. (2008). Can economics rank slavery against free labor in terms of efficiency? *Politics Philosophy & Economics*, 7(3), 327–340.
- Williamson, C. (2020). Are we austrian economists? *The Review of Austrian Economics*, 33, 407–413.
- Williamson, C. (2009). Informal institutions rule: institutional arrangements and economic performance. *Public Choice*, 139(3/4), 371–387.
- Williamson, O. E. (2000). The new institutional economics: taking stock, looking ahead. *Journal of Economic Literature*, 38(3), 595–613.
- Wolfers, J. (2015). How economists came to dominate the conversation. *New York Times*. January 23rd.
- Ziliak, S. T., & McCloskey, D. N. (2008). *The cult of statistical significance*. The University of Michigan Press.
- Zingales, L. (2020). The political limits of economics. *American Economic Review Papers and Proceedings* 110(May): 378 – 82.

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