Frank Tipler[*]
Walter E. Block[**]

* Tulane University New Orleans, e-mail: tipler@tulane.edu

** Loyola University New Orleans, e-mail: wblock@loyno.edu, https://orcid.org/0000-0003-2215-4791

Why Austrian Economists Can't Get No Respect: It Is Political

Abstract

Austrians are the Rodney Dangerfields of economics. We can't get no respect. Why not? On an intellectual level, our adherence for the necessary *a posteriori* (often termed synthetic *a priori*) is strongly off putting to the majority of this profession, who are in thrall to logical positivism, which adamantly rejects this type of claim. There are also divergences as regards the causes and cures for the business cycle, anti-trust, market failures such as public goods, externalities and utility. From an economic self-interest level, were this praxeological school ever to take root within the dismal science, thousands of jobs would be lost and salaries would be greatly lowered. It may be that for both of these reasons, Austrianism is deemed a "cult". We argue that Austrian economics is far more based on modern mathematics and physics than is mainstream economics.

V.9

Issues

Rodney Dangerfield "couldn't get any respect" and neither can the economists of the Austrian or praxeological school of thought.[1] For the uninitiated, the Austrian appellation has nothing to do with that country. It is so named since its founding fathers, Menger, Bohm-Bawerk, Mises, Schumpeter and Hayek were all born in that country and worked there for significant parts of their lives.[1]

Given that numerous leaders of the economics profession consider Austrian economics as a cult, and Austrian economists as cultish, it behooves us to discuss justifications, reasons, explanations, for this state of affairs.[2]

Rent seeking

We see two main explanations: intellectual opposition, and what the Public Choice School calls "rent seeking."[3] Let us consider the latter first. The economic bread is buttered on the mainstream side of the loaf, not the Austrian. If the free market views of the latter were implemented, it would mean cancellation of such organizations as the Federal Reserve system, the anti-trust division of the Justice Department, the Department of Labor, the Department of Agriculture, the Bureau of Labor Statistics, and numerous other informational and regulatory bureaus. But there are literally thousands of economists employed in this sector of the economy.[4] The implications of the praxeological school, thus, are an anathema to the wellbeing of an inordinate number of dismal scientists.

Saith Paul Krugman on this point: "Of course, I don't expect politicians and lobbyists to understand such arguments"[5] as Upton Sinclair said, "It's difficult to get a man to understand something when his salary depends on his not understanding it."[6] But Krugman is hoist by his own petard. It is very much in his own financial interest to regard Austrian economics as a cult.

Intellectual opposition

What are the intellectual and ideological criticisms of Austrianism launched by the mainstream?

One of them is surely mathematics. Austrianism all but abjures mathematics; it leans more in the literary and philosophical direction. Mainstream economists are sometimes characterized

1. In like manner, the "Chicago School" is not particularly involved in the economics of that city. Rather, the founders and most famous members of that school of thought (Milton Friedman, George Stigler, Aaron Director, Gary Becker, Ronald Coase) were all for a significant length of time located at the University of Chicago.

2. Becker misconstrues what a cult is. He defines it in terms of small groups of economists who only talk to, interact with, themselves, and ignore the majority of the profession (see: *Is Austrian Economics...*, op. cit.). This would apply to any group of highly specialized individuals who focus on each other. There is no negative, pejorative inkling in this definition. But to call someone a "cultist" is certainly to be highly critical of him.

3. For a critique of this appellation, but not the concept itself, see: T.J. Di Lorenzo, W.E. Block, *An Austro-Libertarian Critique of Public Choice*, Addleton Academic Publishers 2017.

4. Estimates are that 22% of all economists are employed by the federal government, see: *How many economists are employed by the US government?*, https://www.google.com/search?q=how+many+economists+are+employed+by+the+US+government%3F&rlz=1C1CHBF_enUS963US963&oq=how+many+economists+are+employed+by+the+US+government%3F&aqs=chrome.

as having physics envy. No words could be more true. However, they also have math envy. Thumb through any recent issue of mainstream economics journals such as the American Economic Review. It looks more like a compendium of math than anything else.

The "mathematical models" presented in these mainstream economic journals look more like "cargo cult" mathematics than the mathematics one sees in physics journals. Recall that the physics Nobel Prize winner Richard P. Feynman defined "cargo cult science" to be "science" that resembled the "airports" constructed by some South Sea islanders.[7] The islanders noticed that airplanes bringing cargo landed at airports constructed during World War II by the US navy. The islanders wanted cargo for themselves, so they constructed an "airport" made entirely of palm trees: palm tree radar sets, palm tree radio towers, etc. At first glance, it looked like a real airport. But of course no cargo planes have ever landed.[8]

In physics journals, the mathematical models are based on mathematically precise physical laws. In contrast, economists' models are pulled out of the thin air, having no basis whatsoever in observed fact, nor are they based on precise measurements. The models in physics journals aim at making mathematically precise predictions, which can then be checked. There are no corresponding predictions in the mathematical papers in mainstream economic journals.[9]

Finally, the data in physics journals are analyzed using valid mathematical statistics (called Bayesian statistics). The "empirical studies" printed in mainstream economics journals are analyzed using p-value methods which have been known for decades to be invalid.[10] We discuss this in more detail below.

Necessary A posteriori

Another divergence between Austrians and majority economists concerns the necessary *a posteriori*.[11] These statements are necessarily true, as in the case of tautologies, but, unlike them, they pertain to the real word; they are not merely definitional, as are tautologies. Traditional economists eschew them with a purple passion; they are firmly within the tradition of the logical positivists in this regard.

Here is Friedman (1991) on this subject:

.69i57j33i160l2j33i299l2.12642j1j15& sourceid=chrome&ie=UTF-8, (access 10.01.2023).

5. P. Krugman, *Reckonings; Harvest Of Lemons*, 2001, https://www.nytimes.com/2001/10/14/opinion/reckonings-harvest-of-lemons.html, (access 10.01.2023).

6. *Upton Sinclair Quotes*, https://www.goodreads.com/quotes/21810-it-is-difficult-to-get-a-man-to-understand-something, (access 10.01.2023).

7. See: R.P. Feynman, *Surely You're Joking Mr. Feynman*, W.W. Norton 1997.

8. For a movie depicting these goings on, see: *Cargo Cult*, 2013, https://www.imdb.com/title/tt3047142/ (access 10.01.2023).

9. The mainstream economic journals which exemplify this phenomenon include The American Economic Review and Econometrica. Analogous physics journals include the following: Physical Review Letters, Physical Review D, and Nuclear Physics B.

10. Clayton gives a complete history of mathematicians pointing out the errors of using p-values, cf. A. Clayton, *Bernoulli's Fallacy: Statistical Illogic and the Crisis of Modern Science*, Columbia University Press 2021. The problem with p-values was first pointed out in the 1930's by the great geophysicist Harold Jeffreys; see especially H. Jeffreys, *Theory of Probability*, Oxford

"[In Mises's view, we] have absolutely certain knowledge of the motivations of human actions [sic] and (…) we can derive substantive conclusions from that basic knowledge. Facts, statistical or other evidence cannot, he argued, be used to test those conclusions."[12] That philosophy converts an asserted body of substantive conclusions into a religion.[13] Suppose two people who share von Mises's praxeological view come to contradictory conclusions about anything. How can they reconcile their difference? The only way they can do so is by a purely logical argument. One has to say to the other, "You made a mistake in reasoning." And the other has to say, "No, you made a mistake in reasoning." Suppose neither believes he has made a mistake in reasoning. There's only one thing left to do: "fight."

This is highly problematic.[14] Two logicians, mathematicians, who disagree with each other have no other option but to fight? Klein turns this around on Friedman as follows:

"Suppose two people who share Friedman's methodological views come to contradictory conclusions about anything. How can they reconcile their difference? The only way they can do so is by appealing to the econometric evidence. One has to say to the other, 'You made a mistake in your empirical analysis.' And the other has to say, 'No, you made a mistake in your empirical analysis.' Suppose neither believes he has made a mistake in his empirical analysis. There's only one thing left to do: fight."[15]

Consider as cases in point the following examples of necessary *a posterioris*; statements that are apodictically true, their denial leads into logical contradiction, and yet impart valuable insights about economic reality:

"Whenever two people A and B engage in a voluntary exchange, they must both expect to profit from it. And they must have reverse preference orders for the goods and services exchanged so that A values what he receives from B more highly than what he gives to him, and B must evaluate the same things the other way around.

Or consider this: Whenever an exchange is not voluntary but coerced, one party profits at the expense of the other.

Or the law of marginal utility: Whenever the supply of a good increases by one additional unit, provided each unit is regarded as of equal serviceability by a person, the value attached to this unit must decrease. For this additional unit can only be employed as a means for the attainment of a goal that is

University Press 1939. The mathematical error of using p-values was the basis of the most heavily cited article in medicine: J.P.A. Ioannidis, *Why Most Published Research Findings Are False*, "PLOS Medicine", 2005, 2 (8), e124, DOI: 10.1371/journal.pmed.0020124.

11. This is often called the "Synthetic Apriori." But we prefer the textual version.

12. M. Friedman, *Say 'No' to Intolerance*, "Liberty Magazine", 1991, Vol. 4, No. 6, p. 18.

13. We suspect that Friedman would have no objection to us interpreting this word as "cult."

14. W.E. Block, *Milton Friedman on Intolerance: A Critique*, http://archive.lewrockwell.com/block/block211.html, (access 10.01.2023).

15. P.G. Klein, *Fightin' Austrians*, https://mises.org/wire/fightin-austrians, (access 10.01.2023).

considered less valuable than the least valued goal satisfied by a unit of such good if the supply were one unit shorter.

Or take the Ricardian law of association: Of two producers, if A is more productive in the production of two types of goods than is B, they can still engage in a mutually beneficial division of labor. This is because overall physical productivity is higher if A specializes in producing one good which he can produce most efficiently, rather than both A and B producing both goods separately and autonomously.

Or as another example: Whenever minimum wage laws are enforced that require wages to be higher than existing market wages, involuntary unemployment will result.

Or as a final example: Whenever the quantity of money is increased while the demand for money to be held as cash reserve on hand is unchanged, the purchasing power of money will fall."[16]

These examples cannot be added to endlessly, but we can offer some additions to this list. For example, "People engage in human action." Any attempt to deny this claim is self-refutational, in that the very attempt involves human action. All true tendency claims have these same praxeological characteristics: they tell us about the real world, and yet are not subject to another key principle of the logical positivist: they are not subject to any falsifiability test. For example, there is a tendency for profits to equalize in all industries, assuming away risk. Or, there is a tendency for profits to fall to zero. Ditto for equilibrium statements: at equilibrium, there are no profits; at equilibrium, there are no shortages or surpluses; at equilibrium there are no mutually beneficial commercial actions that have yet to take place. These claims are apodictically true, yet are not subject to falsifiability.

The mathematical logician Saul Kripke[17] has provided a firmer foundation to the idea of the synthetic *a priori* and has expanded its scope. Kripke calls the idea "necessary *a posteriori*" — something that could not be otherwise but something that we nevertheless learn from experience. Two of Kripke's examples are what he terms "necessities of composition": water being H_2O and the element gold having 79 protons. Humans learned about water at the end of the eighteenth century, and about gold in the first part of the twentieth century. But these facts have always been facts, throughout all of time and always will be. Kripke, a mathematical logician specializing in "modality" — understanding what is meant by "possible" — would say that water is H_2O and gold has atomic number 79 is true in

16. H.-H. Hoppe, *Economic Science and the Austrian Method*, The Ludwig von Mises Institute 1995, pp. 14–15.

17. S. Kripke, *Naming and Necessity*, Harvard University Press 1980.

all possible worlds in which there is water or gold. In other words, there may be universes out there in which there is no water or gold. But in any universe in which there is water and gold, the water will be composed of H_2O, and the gold of 79 protons.[18]

Needless to say, conclusions of enormous importance can be drawn from water being H_2O, and gold having 79 protons. Similarly, conclusions of enormous importance can be drawn from the necessary truths of Human Action.

Let us consider a statement that Kant, in his book *Critique of Pure Reason*, gave in his list of synthetic *a priori* statements,[19] namely $2 + 2 = 4$. Would Friedman expect us to put this statement to an empirical test?

Actually, we could put it to the empirical test, because it does have an empirical content. "Two plus two equals four" is typically taught to schoolchildren by first showing two identical objects separated from two of the same identical objects, and then showing the four objects together. The empirical content is that one cannot, by the single action of contemplating the two pairs, change the number of objects from four. One can of course imagine a universe in which, merely by looking at two pairs, cause one or more of the objects to disappear, or cause an additional object to appear out of thin air. But this cannot happen in the universe we live in. In our universe, it is necessarily true that $2 + 2 = 4$, and contra the inner party member O'Brien in Orwell's book *1984*,[20] the will of the Party cannot change this necessary truth.

Kant gave as an example[21] of an analytic judgment — not merely a synthetic *a priori* judgment — the claim that all bodies are extended, by which he meant there is no entity existing in space that is a point particle. But according to modern physics, this is not true. Electrons are point particles, according to the Standard Model of particle physics, and according to the best experimental evidence to date.[22]

Our point is that, according to Kant and to modern physicists, the question of whether bodies are extended is a necessary truth. Kant was wrong that it was an analytic statement (or perhaps he would not consider an electron a "body", though modern physicists consider an electron as real, and as body-like as a human body, as emphasized in Kane, section 19.1).[23] According to modern physicists, whether an electron has extension is a question to be settled experimentally. But whatever the an-

18. See E. Morris, *The Ashtray (Or the Man Who Denied Reality)*, Chicago University Press 2018, for a popular presentation of Kripke's work, and an extended defense of his idea of the necessary *a posteriori*.

19. Kant himself used $7 + 5 = 12$ as his example in chapter 10, section 5 of the second edition of *Critique of Pure Reason*, but we have used $2 + 2 = 4$ as this is the standard example of a necessarily true mathematical statement in English.

20. G. Orwell, *1984*, New American Library 1961.

21. I. Kant, *Critique of Pure Reason*, 2nd ed., transl. N. Kemp Smith, Palgrave Macmillan 1929.

22. G. Kane, *Modern Elementary Particle Physics*, Addison-Wesley 1987, pp. 215–216. We cite here a particle physics textbook intended for undergraduates. The textbook is nearly 40 years old, and neither the theory (the Standard Model), nor the experimental evidence has changed. Google the subject matter discussed in the section we cite in Kane to get the latest experimental data.

23. G. Kane, *Modern Elementary…*, op. cit., pp. 215–216.

swer, its truth is necessary. It is an example of a fact that is necessary *a posteriori*, as are all ultimate physical laws, whatever they are.

So modern physicists are essentially Austrians when they are acting qua physicists. In other words, Austrian economics is much closer to modern physics than is mainstream economics. Both Austrian economists and modern physicists base their work on concepts they regard as necessary *a posteriori*.

Other divergences

There are still other elements of economics that divide Austrians from their economic brethren. The latter claim there are all sorts of "market failures": monopoly, public goods, externalities, wealth and income inequalities, etc. Each and every last one of these opens up the job market for economists; for example, members of this profession serve as highly paid expert witnesses in antitrust cases.

Here is a statement by the second mentioned author of this paper. I entered the Columbia University Ph.D. program in economics in 1965. Based on a preliminary exam, I was placed in Professor Gary Becker's economics class. He became my main mentor at Columbia until he departed for the University of Chicago in 1970 in the midst of supervising my dissertation.[24]

Gary and I had a lot in common. We were both Jewish; both from Brooklyn. We even went to the same high school.[25] I don't think it was because of this closeness that he and I engaged in several very polite, but knock down drag out debates over political economy; he did so with all of his students. But our closeness certainly did not hurt.

One of these debates is relevant to our present discussion. My Ph.D. dissertation was on rent control. My thesis was that the greater amount of rent control a city had, the worse would be its housing stock. I had set up a system of econometric equations, to explore this issue. My main independent variable was degree of rent control, sometimes measured by a dummy variable (presence or absence of this law), sometime by the number of years this law was in operation in a given city. Needless to say, I had to try to hold all sorts of other things constant, so as to attempt to reach as close as possible to ceteris paribus conditions. For example, wealth, crime, weather conditions, unionization, a north-south dummy variable. In all, I must have run a hundred different iterations, using dozens

24. I used to joke that Columbia wasn't big enough for both me and Gary; he had to leave! Bill Landes took Gary's place as my dissertation advisor; you'll never guess what happened after that! Yes, he too departed for the University of Chicago. I of course take full credit for both of these occurrences.

25. We are both listed as Notable Alumni of James Madison High School; it is an alphabetical list, so my name appears soon after his. See: *James Madison High School (Brooklyn)*, https://en.wikipedia. org/wiki/James_Madison_High_ School_(Brooklyn), (access 10.01.2023). I once even served as an informal real estate agent of his; he had some commercial property right near where I lived in Brooklyn, and I was able to find a tenant for him. (This refers to only one of the present co-authors, Walter Block).

of independent variables in different combinations. Most of the time, I got the "right sign" for my independent rent control variable: the more rent control, the worse the housing conditions. Often this result was significant at the 5% and even 1% levels. But, every once in a rare while, horrors!, I got the wrong sign. Even worse, on one occasion, this wrong sign was statistically significant!

Now, if professor Becker was the mainstream economist he held himself out to be, an adamant opponent of Austrian economics, which he characterized as a "cult", he would have greeted this rare result as follows: he would have said something along the lines of "I've got this young[26] genius student Block who, with his brilliant statistical analysis has overturned everything we know about rent control. It turns out that this legislation actually promotes housing quality, at least upon occasion." Did he say anything even remotely resembling that? He did not. Instead, he said, and I remember his exact words even though it was many years ago (somewhere between 1968 and 1970): "Block, go out and do it again until you get it right!"

What is the logical implication of all this? It is that my econometric analysis was not testing what we know about rent control from basic supply and demand, rather, it was the other way around: the correct theory was rejecting my (rare) results to the contrary. But this is precisely the Austrian, not the mainstream neoclassical point. My contention is that is you scratch a real good non Austrian economist, you'll find an Austrian lurking somewhere in there. Well, Gary Becker was a world class traditional economist. He thought just like an Austrian, in this case: my statistical analysis could at best illustrate what we all know[27] about rent control, it could never test it, since we already know the correct answer to that. However, I never could convince him that he was really an Austrian, and that it was not at all a cult. Well, you can't win'em all!

This anecdote by Block is a perfect illustration of why the standard statistical methods used by mainstream economists are mathematical nonsense. The standard methods do not allow a prior probability, which is the probability you have calculated that the theory you are testing is true before you have done the testing, or looked at any data. Both Becker and Block knew, before Block looked at any data, that rent control would reduce the quality of the housing stock, certainly not increase it. In the correct probability theory, which goes under the name "Bayesian Probability Theory", a scientist is allowed, indeed, is required, to take into account all the knowledge he has that bears in any way on the theory being tested, before he does any testing. Both Becker and Block assigned, before Block looked at the data, a very high probability to the theory "rent control reduces the quality of the hous-

26. I was young then, not now (ditto).

27. Well, except for Bernie Sanders and his economic illiterate ilk.

ing stock ceteris paribus" being true. Bayes' Theorem tells us that in such a case, the posterior probability of the theory being true is still very high.[28] So Becker and Block were correct, but they could not justify their correct opinions, because the standard statistical theory used by non-Austrian mainstream economists is false: standard theory is based on Bernoulli's Fallacy, which claims that the probability of a hypothesis given the data is equal to the probability of the data given the hypothesis. In symbols, $P(H|D) = P(D|H)$. Not true. Bayes' theorem tells us that $P(H|D) = P(D|H)[P(H)/P(D)]$, so the standard statistical methods leave out the two essential terms, here placed in brackets. The expression in brackets is called the "Bayes factor", while the term $P(D)$ is the probability that the observer will see the data whatever the hypothesis, and $P(H)$ is the prior probability of the hypothesis before the data is obtained. For Becker and Block, $P(H)$ is the probability both economists assigned the theory "rent control reduces the quality of the housing stock." Being a closet Austrian (Becker) or a real Austrian (Block), they both correctly assigned to $P(H)$ a value very near 1.[29] The Dupre-Tipler axioms for Bayesian probability are analogous to the Peano[30] axioms for arithmetic.[31] The former allows us to deduce Bayes' Theorem and the other central theorems of probability, while the latter allows us to deduce the fact that $2 + 2 = 4$. In both cases, Bayes' Theorem is necessarily true, and $2 + 2 = 4$ is necessarily true, even if we prefer deducing them from other axiom systems. Mainstreamers are taught to see if the data registers a p-value that leads the mainstreamer to "reject the null hypothesis." When one does this, one is implicitly calculating $P(D|H)$.[32] But no one is interested in the null hypothesis. Rather, one is interested in the probability that the hypothesis is true given the data, which is $P(H|D)$.

Conclusion

Let us conclude. We have attempted to make the case not only that Austrian economists "can't get no respect" but, also, that this is an unjust situation. Hopefully, the present paper will at least in some small way lead to a rectification of this unfairness.

Explanatory footnotes

I. Rosen is perhaps the most outspoken and direct rejection of Austrianism, see: S. Rosen, *Austrian and Neoclassical Economics: Any Gains from Trade?*, "Journal of Economic Perspectives", 1997, Vol. 11, No. 4, pp. 139–152. For a rejoinder to him, see: W.E. Block, *Unblocking Progress in Austrian Economics: Response to Skousen*, "Revista Procesos de Mercados", 2020, Vol. 17, No. 1, pp. 313–326; W.E. Block, Ch. Westley, A. Padilla, *Internal vs. external explanations: a new perspective on the history of economic thought*, "Procesos De Mercado: Revista Europea De Economia Politica", 2008, Issue 2, pp. 35–132. Perhaps second

28. T. Bayes, *LII. An essay towards solving a problem in the doctrine of chances. By the late Rev. Mr. Bayes, F. R. S. communicated by Mr. Price, in a letter to John Canton, A. M. F. R. S.*, "Philosophical Transactions of the Royal Society of London", 1763, Vol. 53, pp. 370–418.

29. For more discussion of the invalid mathematics that underlies mainstream economics, see: A. Clayton, *Bernoulli's Fallacy...*, op. cit.; E.T. Jaynes, *Probability Theory: The Logic of Science*, Cambridge University Press 2004. For an axiomatic foundation of Bayesian probability theory see: M. Dupre, F.J. Tipler, *New Axioms for Rigorous Bayesian Probability Theory*, "Bayesian Analysis", 2009, Vol. 4, No. 3, pp. 191–198.

30. G. Peano, *Formulario Mathematico*, 5th ed., Fratres Bocca 1908.

31. The Peano axioms were first published by Peano in 1889 (quoted in Peano 1908), but no mathematician today would refer to his original book. The term "Peano axioms" now refer to an entire class of re-formulations and simplifications. The Wikipedia article gives a good introduction to the Peano axiom literature. See: *Peano axioms*, https://en.wikipedia.org/wiki/Peano_axioms, (access 10.01.2023).

32. See: A. Clayton, *Bernoulli's Fallacy...*, op. cit.

to Rosen in terms of negative impact is Caplan, see: B. Caplan, *Probability and the Synthetic A Priori: A Reply to Block*, "Quarterly Journal of Austrian Economics", 2003, Vol. 6, No. 3, pp. 77–83; B. Caplan, *Probability, Common Sense, and Realism: A Reply to Hülsmann and Block*, "Quarterly Journal of Austrian Economics", 2001, Vol. 2, No. 4, pp. 69–86; B. Caplan, *The Austrian Search for Realistic Foundations*, "Southern Economic Journal", 1999, Vol. 65, No. 4, pp. 823–838; B. Caplan, *The Trojan Horse Example*, http://econlog.econlib.org/archives/2008/06/the_trojan_hors.html, (access 10.01.2023); B. Caplan, *Why I am not an Austrian Economist*, https://econfaculty.gmu.edu/bcaplan/whyaust.htm, (access 10.01.2023). For responses to him, see: R.P. Murphy, R. Wutscher, W.E. Block, *Mathematics in Economics: An Austrian Methodological Critique*, "Philosophical Investigations", 2010, Vol. 33, No. 1, pp. 44–66, DOI: 10.1111/j.1467-9205.2009.01397.x; E. Stringham, *Economic Value and Cost Are Subjective*, in: *Handbook on Contemporary Austrian Economics*, ed. P. Boettke, Edward Elgar Publishing 2010, pp. 43–66; M. Machaj, *A Praxeological Case for Homogeneity and Indifference*, "New Perspectives on Political Economy", 2007, Vol. 3, No. 2, pp. 231–238; W.E. Block, *Reply to Caplan on Austrian Economic Methodology*, "Corporate Ownership & Control", 2007, Vol. 4 (3-2), pp. 312–322, DOI: 10.22495/cocv4i3c2p8; W.E. Block, *Rejoinder to Caplan on Bayesian Economics*, "Journal of Libertarian Studies", 2005, Vol. 19, No. 1, pp. 79–95; H.-H. Hoppe, *A Note on Preference and Indifference in Economic Analysis*, "Quarterly Journal of Austrian Economics", 2005, Vol. 8, No. 4, pp. 87–91; E. Stringham, M. White, *Economic Analysis of Tort Law: Austrian and Kantian Perspectives*, in: *Law and Economics: Alternative Economic Approaches to Legal and Regulatory Issues*, eds. M. Oppenheimer, N. Mercuro, M.E. Sharpe 2004, pp. 374–392; W.E. Block, *Realism: Austrian vs. Neoclassical Economics, Reply to Caplan*, "Quarterly Journal of Austrian Economics", 2003, Vol. 6, No. 3, pp. 63–76; A.M. Carilli, G.M. Dempster, *A note on the treatment of uncertainty in economics and finance*, "Journal of Education for Business", 2003, Vol. 79, Issue 2, pp. 99–102; E. Stringham, *Kaldor-Hicks Efficiency and the Problem of Central Planning*, "Quarterly Journal of Austrian Economics", 2001, Vol. 4, No. 2, pp. 41–50; W.E. Block, *Austrian Theorizing: Recalling the Foundations*, "Quarterly Journal of Austrian Economics", 1999, Vol. 2, No. 4, pp. 21–39; J.G. Hülsmann, *Economic Science and Neoclassicism*, "Quarterly Journal of Austrian Economics", 1999, Vol. 2, No. 4, pp. 1–20; P. Rajsic, *Did Rothbard "Borrow" the Income and Substitution Effects?*, http://mises.org/daily/4223, (access 10.01.2023); R.P. Murphy, *Austrian Realists*, http://mises.org/story/3028, (access 10.01.2023); G. Callahan, *Choice and Preference*, https://mises.org/library/choice-and-preference, (access 10.01.2023). See also S. Subramanian, *Why have two long-dead Austrian economists become cult figures in Brazil?*, https://www.yahoo.com/video/why-two-long-dead-austrian-135100870.html, (access 10.01.2023) and de Avila who stated: "there's an almost religious cult surrounding hayek (sic) and mises (sic) in brazil (sic) these days. there's a whole political party, the 'new' party, devoted to their ideas and, to no one's surprise, they're rabid bolsonaro (sic) supporters", cf. A.L. De Avila, *Statement*, https://twitter.com/ArthurLimadeAv1/status/1358421982342184967?s=20, (access 10.01.2023). Also Krugman opined: "Substance aside — not that substance isn't important — Austrian economics very much has the psychology of a cult. Its devotees believe that they have access to a truth that generations of mainstream economists have somehow failed to discern; they go wild at any suggestion that maybe they're the ones who have an intellectual blind spot. And as with all cults, the failure of prophecy — in this case, the prophecy of soaring inflation from deficits and monetary expansion — only strengthens the determina-

tion of the faithful to uphold the faith", cf. P. Krugman, *Fine Austrian Whines*, https://archive.nytimes.com/krugman.blogs.nytimes.com/2013/02/20/fine-austrian-whines/, (access 10.01.2023). For a defense of praxeologists, see: A. Navabi, *Cultonomics and the Austrian School*, 2014, https://ashnavabi.com/2014/07/31/cultonomics-and-the-austrian-school/, (access 10.01.2023); *Is Austrian Economics a Cult?*, "The Market Oracle", 2013, http://www.marketoracle.co.uk/Article39910.html, (access 10.01.2023), which demonstrates that economics Nobel Prize winners Gary Becker and James Buchanan deemed Austrian economics as a cult. Critics of Austrianism include: D.N. Laband, R.D. Tollison, *On Secondhandism and Scientific Appraisal*, "Quarterly Journal of Austrian Economics", 2000, 3 (1), pp. 43–48; R. Vedder, L. Gallaway, *The Austrian Market Share in the Marketplace for Ideas, 1871-2025*, "Quarterly Journal of Austrian Economics", 2000, 3 (1), pp. 33–42; S. Rosen, *Austrian and Neoclassical...*, op. cit., pp. 139–152; D. Laidler, *The Price Level, Relative Prices and Economic Stability: Aspects of the Interwar Debate*, BIS conference "Monetary Stability, Financial Stability and the Business Cycle", 2003, http://www.bis.org/publ/work136.pdf, (access 10.01.2023). See rejoinders by: W.E. Block, Ch. Westley, A. Padilla, *Internal vs. external...*, op. cit., pp. 35–132; W.E. Block, W. Barnett II, *On Laidler on Austrian Business Cycle Theory*, "Review of Austrian Economics", 2007, Vol. 20, pp. 43–61, DOI: 10.1007/s11138-006-0004-y; M. Thornton, *Does Academic Publishing Pass the Real Market Test?*, "Public Choice", 2004, Vol. 120, pp. 41–61; W.L. Anderson, *Austrian Economics and the 'Market Test': A Comment on Laband and Tollison*, "Quarterly Journal of Austrian Economics", 2000, 3, pp. 63–73; W.E. Block, *Austrian Journals: A Critique of Rosen, Yeager, Laband and Tollison, and Vedder and Gallaway*, "Quarterly Journal of Austrian Economics", 2000, Vol. 3, No. 2, pp. 45–61; L.B. Yeager, *The Tactics of Secondhandism*, "Quarterly Journal of Austrian Economics", 2000, 3 (3), pp. 51–61; L. Yeager, *Austrian Economics, Neoclassicism, and the Market Test*, "Journal of Economic Perspectives", 1997, Vol. 11, No. 4, pp. 153–163. See also: D.J. Smith, *Austrian economics as a relevant research program*, "The Review of Austrian Economics", 2023, DOI: 10.1007/s11138-023-00615-1; C.R. Williamson, *Are we Austrian economists?*, "The Review of Austrian Economics", 2020, Vol. 33, pp. 407–413, DOI: 10.1007/s11138-020-00510-z.

References

Anderson W.L., *Austrian Economics and the 'Market Test': A Comment on Laband and Tollison*, "Quarterly Journal of Austrian Economics", 2000, 3, pp. 63–73.

Bayes T., *LII. An essay towards solving a problem in the doctrine of chances. By the late Rev. Mr. Bayes, F. R. S. communicated by Mr. Price, in a letter to John Canton, A. M. F. R. S.*, "Philosophical Transactions of the Royal Society of London", 1763, Vol. 53, pp. 370–418.

Block W.E., *Austrian Journals: A Critique of Rosen, Yeager, Laband and Tollison, and Vedder and Gallaway*, "Quarterly Journal of Austrian Economics", 2000, Vol. 3, No. 2, pp. 45–61.

Block W.E., *Austrian Theorizing: Recalling the Foundations*, "Quarterly Journal of Austrian Economics", 1999, Vol. 2, No. 4, pp. 21–39.

Block W.E., Barnett II W., *On Laidler on Austrian Business Cycle Theory*, "Review of Austrian Economics", 2007, Vol. 20, pp. 43–61, DOI: 10.1007/s11138-006-0004-y.

Block W.E., *Milton Friedman on Intolerance: A Critique*, http://archive.lewrockwell.com/block/block211.html, (access 10.01.2023).

Block W.E., *Realism: Austrian vs. Neoclassical Economics, Reply to Caplan*, "Quarterly Journal of Austrian Economics", 2003, Vol. 6, No. 3, pp. 63–76.

Block W.E., *Rejoinder to Caplan on Bayesian Economics*, "Journal of Libertarian Studies", 2005, Vol. 19, No. 1, pp. 79–95.

Block W.E., *Reply to Caplan on Austrian Economic Methodology*, "Corporate Ownership & Control", 2007, Vol. 4 (3-2), pp. 312–322, DOI: 10.22495/cocv4i3c2p8.

Block W.E., *Unblocking Progress in Austrian Economics: Response to Skousen*, "Revista Procesos de Mercados", 2020, Vol. 17, No. 1, pp. 313–326.

Block W.E., Westley Ch., Padilla A., *Internal vs. external explanations: a new perspective on the history of economic thought*, "Procesos De Mercado: Revista Europea De Economia Politica", 2008, Issue 2, pp. 35–132.

Callahan G., *Choice and Preference*, https://mises.org/library/choice-and-preference, (access 10.01.2023).

Caplan B., *Probability and the Synthetic A Priori: A Reply to Block*, "Quarterly Journal of Austrian Economics", 2003, Vol. 6, No. 3, pp. 77–83.

Caplan B., *Probability, Common Sense, and Realism: A Reply to Hülsmann and Block*, "Quarterly Journal of Austrian Economics", 2001, Vol. 2, No. 4, pp. 69–86.

Caplan B., *The Austrian Search for Realistic Foundations*, "Southern Economic Journal", 1999, Vol. 65, No. 4, pp. 823–838.

Caplan B., *The Trojan Horse Example*, http://econlog.econlib.org/archives/2008/06/the_trojan_hors.html, (access 10.01.2023).

Caplan B., *Why I am not an Austrian Economist*, https://econfaculty.gmu.edu/bcaplan/whyaust.htm, (access 10.01.2023).

Cargo Cult, 2013, https://www.imdb.com/title/tt3047142, (access 10.01.2023).

Carilli A.M., Dempster G.M., *A note on the treatment of uncertainty in economics and finance*, "Journal of Education for Business", 2003, Vol. 79, Issue 2, pp. 99–102.

Clayton A., *Bernoulli's Fallacy: Statistical Illogic and the Crisis of Modern Science*, Columbia University Press 2021.

De Avila A.L., *Statement*, https://twitter.com/ArthurLimadeAv1/status/1358421982342184967?s=20, (access 10.01.2023).

Di Lorenzo T.J., Block W.E., *An Austro-Libertarian Critique of Public Choice*, Addleton Academic Publishers 2017.

Dupre M., Tipler F.J., *New Axioms for Rigorous Bayesian Probability Theory*, "Bayesian Analysis", 2009, Vol. 4, No. 3, pp. 191–198.

Feynman R.P., *Surely You're Joking Mr. Feynman*, W.W. Norton 1997.

Friedman M., *Say 'No' to Intolerance*, "Liberty Magazine", 1991, Vol. 4, No. 6, pp. 17–20.

Hoppe H.-H., *A Note on Preference and Indifference in Economic Analysis*, "Quarterly Journal of Austrian Economics", 2005, Vol. 8, No. 4, pp. 87–91.

Hoppe H.-H., *Economic Science and the Austrian Method*, The Ludwig von Mises Institute 1995.

How many economists are employed by the US government?, https://www.google.com/search?q=how+many+economists+are+employed+by+the+US+government%3F&rlz=1C1CHBF_enUS963US963&oq=how+many+economists+are+employed+by+the+US+government%3F&aqs=chrome..69i57j33i160l2j33i299l2.12642j1j15&sourceid=chrome&ie=UTF-8, (access 10.01.2023).

Hülsmann J.G., *Economic Science and Neoclassicism*, "Quarterly Journal of Austrian Economics", 1999, Vol. 2, No. 4, pp. 1–20.

Ioannidis J.P.A., *Why Most Published Research Findings Are False*, "PLOS Medicine", 2005, 2 (8), e124, DOI: 10.1371/journal.pmed.0020124.

Is Austrian Economics a Cult?, "The Market Oracle", 2013, http://www.marketoracle.co.uk/Article39910.html, (access 10.01.2023).

James Madison High School (Brooklyn), https://en.wikipedia.org/wiki/James_Madison_High_School_(Brooklyn), (access 10.01.2023).

Jaynes E.T., *Probability Theory: The Logic of Science*, Cambridge University Press 2004.

Jeffreys H., *Theory of Probability*, Oxford University Press 1939.

Kane G., *Modern Elementary Particle Physics*, Addison-Wesley 1987.

Kant I., *Critique of Pure Reason*, 2nd ed., transl. N. Kemp Smith, Palgrave Macmillan 1929.

Klein P.G., *Fightin' Austrians*, https://mises.org/wire/fightin-austrians, (access 10.01.2023).

Kripke S., *Naming and Necessity*, Harvard University Press 1980.

Krugman P., *Fine Austrian Whines*, https://archive.nytimes.com/krugman.blogs.nytimes.com/2013/02/20/fine-austrian-whines/, (access 10.01.2023).

Krugman P., *Reckonings; Harvest Of Lemons*, 2001, https://www.nytimes.com/2001/10/14/opinion/reckonings-harvest-of-lemons.html, (access 10.01.2023).

Laband D.N., Tollison R.D., *On Secondhandism and Scientific Appraisal*, "Quarterly Journal of Austrian Economics", 2000, 3 (1), pp. 43–48.

Laidler D., *The Price Level, Relative Prices and Economic Stability: Aspects of the Interwar Debate*, BIS conference "Monetary Stability, Financial Stability and the Business Cycle", 2003, http://www.bis.org/publ/work136.pdf, (access 10.01.2023).

Machaj M., *A Praxeological Case for Homogeneity and Indifference*, "New Perspectives on Political Economy", 2007, Vol. 3, No. 2, pp. 231–238.

Morris E., *The Ashtray (Or the Man Who Denied Reality)*, Chicago University Press 2018.

Murphy R.P., *Austrian Realists*, http://mises.org/story/3028, (access 10.01.2023).

Murphy R.P., Wutscher R., Block W.E., *Mathematics in Economics: An Austrian Methodological Critique*, "Philosophical Investigations", 2010, Vol. 33, No. 1, pp. 44–66, DOI: 10.1111/j.1467-9205.2009.01397.x.

Navabi A., *Cultonomics and the Austrian School*, https://ashnavabi.com/2014/07/31/cultonomics-and-the-austrian-school/, (access 10.01.2023).

Orwell G., *1984*, New American Library 1961.

Peano axioms, https://en.wikipedia.org/wiki/Peano_axioms, (access 10.01.2023).

Peano G., *Formulario Mathematico*, 5th ed., Fratres Bocca 1908.

Rajsic P., *Did Rothbard "Borrow" the Income and Substitution Effects?*, http://mises.org/daily/4223, (access 10.01.2023).

Rosen S., *Austrian and Neoclassical Economics: Any Gains from Trade?*, "Journal of Economic Perspectives", 1997, Vol. 11, No. 4, pp. 139–152.

Smith D.J., *Austrian economics as a relevant research program*, "The Review of Austrian Economics", 2023, DOI: 10.1007/s11138-023-00615-1.

Stringham E., *Economic Value and Cost Are Subjective*, in: *Handbook on Contemporary Austrian Economics*, ed. P. Boettke, Edward Elgar Publishing 2010, pp. 43–66.

Stringham E., *Kaldor-Hicks Efficiency and the Problem of Central Planning*, "Quarterly Journal of Austrian Economics", 2001, Vol. 4, No. 2, pp. 41–50.

Stringham E., White M., *Economic Analysis of Tort Law: Austrian and Kantian Perspectives*, in: *Law and Economics: Alternative Economic Approaches to Legal and Regulatory Issues*, eds. M. Oppenheimer, N. Mercuro, M.E. Sharpe 2004, pp. 374–392.

Subramanian S., *Why have two long-dead Austrian economists become cult figures in Brazil?*, https://www.yahoo.com/video/why-two-long-dead-austrian-135100870.html, (access 10.01.2023).

Thornton M., *Does Academic Publishing Pass the Real Market Test?*, "Public Choice", 2004, Vol. 120, pp. 41–61.

Upton Sinclair Quotes, https://www.goodreads.com/quotes/21810-it-is-difficult-to-get-a-man-to-understand-something, (access 10.01.2023).

Vedder R., Gallaway L., *The Austrian Market Share in the Marketplace for Ideas, 1871-2025*, "Quarterly Journal of Austrian Economics", 2000, 3 (1), pp. 33–42.

Williamson C.R., *Are we Austrian economists?*, "The Review of Austrian Economics", 2020, Vol. 33, pp. 407–413, DOI: 10.1007/s11138-020-00510-z.

Yeager L., *Austrian Economics, Neoclassicism, and the Market Test*, "Journal of Economic Perspectives", 1997, Vol. 11, No. 4, pp. 153–163.

Yeager L.B., *The Tactics of Secondhandism*, "Quarterly Journal of Austrian Economics", 2000, 3 (3), pp. 51–61.