

Playing at markets: A New Austrian perspective on macroeconomic policy

Alexander William Salter¹

Published online: 4 July 2016 © Springer Science+Business Media New York 2016

Abstract The New Austrian (also called Neo-Mengerian) paradigm emphasizes the importance of nonequilibrium and emergent processes in explaining the social world. In this paper I analyze macroeconomic policy from a New Austrian perspective. I define macroeconomic policy broadly, encompassing not only policy relating to business cycles and growth, but to any policy aimed at directly manipulating emergent variables. Such policy is fundamentally incoherent, since it attempts to divorce social outcomes from the processes that generate them and give them meaning. A New Austrian approach to macroeconomic policy, which focuses on the rules structuring nonequilibrium-emergent social processes, avoids this problem.

Keywords Catallaxy · Emergence · Institutions · Menger · New Austrian · Praxeology

JEL classification $B4 \cdot B53 \cdot E02 \cdot E60$

1 Introduction

My purpose in this paper is an investigation into method and application of the social sciences from a 'New Austrian' perspective. Specifically, I address the concept of macroeconomic policy. Most economists, when thinking of macroeconomic policy, probably think of activities undertaken by some nonmarket actor, such as a central banker or fiscal agent, to influence familiar macro variables such as inflation or unemployment. While such policies fall under the scope of those considered here, I want to adopt a broader definition of macroeconomic policy. The definition I chose is any policy that proposes to influence directly a variable that, ontologically, is an emergent outcome of some social process. For example, inflation is not something that

Alexander William Salter alexander.w.salter@ttu.edu

¹ Rawls College of Business, Texas Tech University, 703 Flint Ave, Lubbock, TX 79410, USA



is immediately visible to an acting individual in the same way as, say, the price of apples is during a weekly trip to the grocery. Inflation is an example of a complex phenomenon-something whose existence that, while certainly real, must be inferred through theorizing, rather than apprehended by direct observation (Hayek 1967). The same is true of education, in the sense it is typically treated by many policy makers. Within a polity, a cross-sectional average describing the level of education, such as literacy rates or total years of schooling, attained by the public can easily be constructed. Measures can then be adopted to raise this number, due perhaps to perceived desirable causal effects between an increasingly educated populace and economic well-being. Such attempts fit the above definition of macroeconomic policy. However, it is obvious that underlying this average are the decisions of many, many individuals pursuing knowledge in ways deemed most effective given the local and particular knowledge of education-seekers. As such, there are an uncountable number of concrete educational strategies pursued by the public that would map on to a given 'average' level of education, however statistically constructed. It follows that any sort of exploitable relationship between average levels of education and economic prosperity (probably proxied by GDP, itself problematic for the same reasons) is chimerical-it is based on illusory correlations between variables whose very construction is an exercise in misplaced concreteness. In this sense, macroeconomic policy-attempting to manipulate emergent outcomes by directly acting on those outcomes, and ignoring the micro-level processes in virtue of which the emergent results have any meaning (Buchanan 1986)— is fundamentally incoherent.

Before proceeding, I should make clear that the above claim rests on the adoption of a theoretical framework fundamentally different from that of mainstream economics. Wagner (2007b) usefully distinguishes between the paradigm of value and the paradigm of exchange as two lenses through which a social theorist can examine the social world. The value paradigm focuses on the formal implications of rational choice, informed by preferences and constrained by market variables, for the allocation of resources. In this sense, social outcomes can be modeled as equilibrium snapshots that directly follow from individuals' economizing behavior. Furthermore, these outcomes are of the same degree of complexity as the variables that inform the agent's constrained optimization problem. A familiar example is representative agent modeling, where aggregate outcome variables are simply scaled-up versions of the variables that fall out of the representative agent's constrained optimization problem. In contrast, the exchange paradigm focuses on the implications of trading activity within a given set of institutions, with resource allocation following as an emergent-and thus of a higher order of complexity-outcome of the social process within which agents act. In this paradigm, equilibrium snapshots are replaced by disequilibrium, or even non-equilibrium, processes that unfold over time. The adoption of this latter paradigm is the foundation of New Austrian economics, or what has been called by Wagner (2010) Neo-Mengerian economics. This stands in contrast to the Neo-Walrasian paradigm, adopted by the mainstream. I will not defend the adoption of the Neo-Mengerian paradigm here; readers interested in the relative merits, and ontological justification, of this paradigm should consult Wagner's (2010) text. Instead I take this framework as my starting point, showing how its adoption renders conclusions that are familiar and unproblematic within the Neo-Walrasian paradigm to be untenable from the view of Neo-Mengerian social theory.

I proceed in the remainder of this paper as follows: In Section 2 I briefly recapitulate the important distinction between micro-level and macro-level phenomena in the New Austrian paradigm. In Section 3 I consider a concrete example, NGDP targeting and free (laissez-faire) banking, showing how these proposals, which appear to be close substitutes from the perspective of mainstream macro theory, actually are significantly different from the perspective of New Austrian economics. In Section 4 I discuss a key theoretical result that follows from the previous two sections. This insight has been mentioned in particular forms by mainstream theorists, but its importance has not been sufficiently appreciated. In Section 5 I conclude by discussing the implications of the insights built in this paper for future New Austrian social theory.

2 Choice, emergence, and survivability

New Austrian economics treats the relationship between mico phenomena and macro phenomena as non-scalable (Wagner 2012). Whereas mainstream economics treats macro objects as fundamentally similar to micro objects in complexity, New Austrian economics recognizes that micro phenomena, which acting individuals encounter on a regular basis, and macro phenomena, the emergent results of acting individuals' behaviors, exist on ontologically distinct levels and are characterized by different levels of complexity. In other words, macro phenomena are not simply scalar multiples of micro phenomena. Macro phenomena are emergent, and reflective of the underlying micro framework, but macro phenomena do not supervene on each other in the manner assumed by the mainstream.

As Hayek (1948) recognized, the micro level is characterized by purposive agents acting on their local and particular knowledge. In a market setting, the macro result is gradual reconciliation of plans. The coordination in markets, frequently shown to Principles students in the form of the Marshallian cross, is itself a spontaneous order. What is the link between micro interaction and macro stability? James Buchanan (1964) famously argued that the market order, or catallaxy, requires an institutional explanation, and thus the chief task of economists is focusing on the exchange behavior of individuals and the institutional framework within which exchange takes place. Thus there is a direct line between New Austrian social theory and the pioneering project of Menger (1985, 2007).

New Austrian economics does not eschew rational choice analysis. On the contrary, rational choice, plus methodological individualism, is an indispensable tool for understanding the exchange behavior of individuals. Without understanding value, which underlies rational choice, we cannot begin to understand the impulse to exchange in the first place. However, it is the institutional environment that specifies what incentives acting agents face, and the patterns of knowledge dispersal that necessarily unfold over time (O'Driscoll and Rizzo 2014). Institutions are the orientation points of the social world, and are also the filters that shape how purposive action at the micro level create system-wide characteristics and patterns at the macro level. Coming back to the market setting, the tendency towards efficiency—the exhaustion of gains from exchange—is a product of micro-level exchange behavior filtered through institutions that protect private property rights, enforce contracts, and maintain the rule of law.

Thus macro phenomena are the consequence of, *but not reducible to*, micro phenomena. The whole is ontologically real, and is more than the sum of its parts, because



it exhibits properties in dimensions that do not exist at the level of its parts. What is 'doing the work' in this scenario is the institutional framework underlying exchange. Purposive individuals in market settings, characterized by market-friendly institutions, engage in behavior that yields normatively and aesthetically pleasing results, precisely in virtue of these institutions (e.g. Brennan and Buchanan 2000). In a setting where private property is insecure, contracts can be re-written ex post, and the law is enforced discriminatorily, the same individuals would continue to pursue their self-interest and engage in exchange. However, the characteristics of exchange would be quite different. Such an environment would yield powerful incentives for individuals to use existing governance institutions to benefit themselves at the expense of others (e.g. Buchanan and Congleton 2003). To vary a theme explored by Podemska-Mikluch and Wagner (2012), exchange in such an environment is typically accompanied by a coerced third party, who does not enter the exchange voluntarily, and whose loss is the source of the gain for the other parties. The result would be widespread rent seeking, or perhaps even outright violent conflict. A rent seeking society or state of warfare is again a macro level result, which exists due to purposive behavior filtered through a set of institutions that promote some behaviors, discourage others, and dictate the patterns of knowledge feedback linking the two.

The New Austrian emphasis on institutions as the link between micro and macro phenomena naturally raises questions of survivability. If institutions are filters, they must 'let through' some behaviors and 'sift out' some others. Alchian (1950) famously argued that profit-maximization is not a direct motive of firms, but rather is a survivability characteristic of market environments. Firms that incur regular losses exit the market; firms making positive profits remain. Over time, firms which make the largest profits should attract labor and capital and allow them to expand their share of the market. Thus the institutions that underlie market exchange create the survivability condition of profit maximization, which itself is a system-level characteristic, rather than something directly imputed to the action of agents at the micro level.

As should be clear from the above, the key focus of New Austrian economics is not the direct effects of individual choice on social outcomes, but the emergent outcomes of individual choice, such as survivability criteria, that are created by a particular set of exchange-governing institutions. At this point, the contribution of the New Austrian School seems 'merely' ontological. However, as might be expected by social theorists with some commitment to causal realism, as opposed to conventional logical positivism (e.g. Friedman 1953), this difference in 'how things really are' has profound implications for practice as well as method. Any attempt to apply the knowledge gained through social science without due regard for the micro-macro distinction is fraught with difficulties. I will illustrate this with reference to a particularly popular macroeconomic proposal, nominal gross domestic product (NGDP) targeting, and its relationship to free (laissez-faire) banking.

3 NGDP targeting vs. free banking: the importance of process

Since the financial crisis, NGDP targeting—more specifically, stabilization of the level of aggregate nominal income, perhaps according to some constant rate of growth—has arisen as a popular proposal for achieving macroeconomic stability (e.g. Sumner 2011,



2012). The theoretical desirability of NGDP targeting within the mainstream paradigm can be exhibited with reference to the equation of exchange, MV = Py. A central bank that adopts an NGDP target promises to follow a rule that offsets decreases (increases) in velocity with an increase (decrease) in the money supply, stabilizing the level of Py. Theoretically, this method of aggregate demand stabilization avoids the welfare-reducing consequences of economic instability that arises due to money's role of a medium of exchange (Yeager 1956; see also Hendrickson 2015). However, a central bank with an NGDP target would not respond to supply shocks, except to keep aggregate demand at the level prescribed by the rule. Importantly, NGDP targeting appears theoretically superior to the more-popular rule of inflation targeting, given the latter's tendency to result in procyclical behavior in the event of aggregate supply shocks.

Interestingly, the scholarship on free banking systems—banking systems with no special legal restrictions, with the system subject only to the ordinary law of contract, torts, etc.—suggests that the macro result of having such a system in place is an NGDP target, albeit an unintended one (Selgin 1988, 1994; White 1989, 1995; Selgin and White 1994; see also Salter 2013, 2014; Salter and Young 2015). In such a system, banks would also offset decreases (increases) in velocity with increases (decreases) in the money supply, this time due to profit-maximizing behavior. Although stabilizing nominal income is not the intention of any bank or group of banks, aggregate demand-stabilizing behavior still follows.

It appears from the above that a central bank with an NGDP target and free banking can be viewed as alternative 'technologies' for stabilizing aggregate demand, and hence achieving macroeconomic stability. However, as Salter (2013) and Wagner and Veetil (2015) warn, this view only makes sense within a paradigm that overlooks the distinction between the micro and macro levels of the social world. In the New Austrian paradigm, the view that central banking with an NGDP target and free banking are merely substitutes, differing means of achieving the same end, does not hold up under scrutiny. This is because the micro process that generates the macro outcome is governed by fundamentally different institutions. As such, the macro results, while superficially similar, in fact are non-commensurate.

Looking more closely at free banking, what we observe is an evolved money, banking, and financial system within the context of private ordering. The 'rules of the game' are, again, the familiar and generally-applicable laws of contract, property, and torts. In this context, the process of financial intermediation, and by implication the patterns governing the issuance and destruction of the economy's medium of exchange, is decentralized. If the economic system is conceived as a network, with various profitmaximizing (in Alchian's [1950] sense) institutions as nodes within the network, then what we observe is a decentralized subset of nodes that are responsible for the governance of the economy's 'grammar of commerce' (Wagner 2010, 2012). Ultimately, the composition of goods and services produced across the economy that 'map on to' the level of aggregate nominal income, denominated in the unit of account, is a function of this private ordering process. Macro stability, which simply means well-coordinated markets, is the emergent result of micro-level interactions under the purview of a specific feedback loop.

In contrast, a central bank-implemented NGDP target is a 'top-down' approach. This is true whether the institutional arrangement comprises a traditional central bank, an



organization responsible for maintaining a futures market for NGDP contracts, or some other centralized arrangement designed to implement an NGDP target. The network of decentralized decision nodes that characterized a free banking system is replaced by a network oriented around a single monolithic decision node. The implementation mechanism is no longer a plurality of market organizations offering an array of intermediation services; instead it is a board of bureaucrats, or a group of specialized arbitrageurs, depending on which institutional arrangement is adopted. The result is the attempt to manipulate, actively and directly, a macro variable in an environment of common ordering, or an entangled ordering of common and private (e.g. Wagner 2014). Because the process by which the maco outcome is reached follows a fundamentally different process, the 'meaning' of stabilized nominal income is fundamentally different than in the case of stabilized nominal income by process of private ordering. Entrepreneurial efforts will be directed at capturing any gains that result from having a privileged position in the centralized implementation process. Expectations will differ, since the exchange institutions that anchor expectations in the first place vary. As a result, the resource flows (the mix of goods and services) that will be created as a result of this process will differ significantly as well. The only aspect the two regimes have in common is the scalar figure of nominal income.

While there are many implications of this, one of particular importance has to do with the 'meaning' of nominal income under the two regimes, as referenced above. In the New Austrian paradigm, stabilized NGDP as a result of private ordering processes is one of many macro features exhibited by well-coordinated markets; stabilized NGDP as a result of a common or entangled ordering process simply means some 'big player' (Koppl 2002, 2014) organization wanted to stabilize NGDP. The conclusion that follows from the above is that centralized NGDP targeting schemes and free banking systems cannot be conceived as alternative means for achieving the same ends. As such, the New Austrian perspective suggests it is incoherent to ask which is 'better' at achieving macroeconomic stability. Questions of desirability imply reference to a welfare criteria that only has meaning within the context of a given set of institutions. Divorced from these institutions, evaluative criteria cannot be made, unless one adopts a perspective that relies on process-irrelevance and the inherent similarity between micro and macro phenomena—the implicit perspective of the mainstream.

4 A generalization of the problem

In the New Austrian paradigm, macro outcomes cannot be micro process-invariant. This points to a generalization of the difficulties associated with attempting to influence macro variables in the manner of contemporary economic policy, whether those policies are aimed at countercyclical stabilization (e.g. NGDP targeting) or enhancing some socially-desirable metric (e.g. education spending). Interestingly, this insight has been recognized by those operating within the mainstream. For example, concerning conventional macroeconomic policy, Lucas (1976) recognized that the effects of a policy experiment cannot be evaluated when the model parameters are sensitive to that experiment. In other words, attempting to predict future results using past data, and assuming constant past relationships among the variables comprising the data, is unwise. Goodhart (1975) noted essentially the same point in describing how a



seemingly-stable money demand function would break down when policymakers attempted to exploit the money demand function for purposes of control. Taken together, these critiques suggest policymakers should be hesitant to infer general and invariant relationships from historical data. However, this interpretation, which is perfectly sensible within the confines of the mainstream paradigm, radically understates the importance of process-reliance, as can be seen by reformulating these insights within the New Austrian paradigm.

A sensible metaphor for showing the importance of this insight is a road race. The purpose of a road race is to ascertain, from a field of participants, the correct ordinal ranking of the participants' speed. The rules of the race are the underlying institutions; the race is the process; the order in which the participants finish is the outcome of the process. So long as the institutions are selected appropriately—all racers should start at the same time, and should start from the same position, for example—the race is an appropriate process for determining relative speed. Now, at the risk of venturing into the ridiculous, suppose a subset of the participants, focused purely on the outcome—where they finish with respect to the other racers—show up with bicycles. These 'racers' will obviously finish ahead of the racers on foot, and probably significantly so. However, nobody would infer from this that the race was still an appropriate process by speed on foot. A crucial rule underlying the process has been violated, in the attempt to manipulate the outcome without consideration for the role of the rule in constituting the process as a filter.

The same style of reasoning can be used to indict mainstream conceptions of GDP accounting, and attempts to increase GDP via fiscal policy, as in Salter (2013). In an economy characterized by protection of private property rights, enforcement of contract, and maintenance of the rule of law, micro actors will have strong incentives to produce real goods and services. In such an environment the bulk of the economy's output would be consumed by the private sector, with the public sector limiting itself to maintaining the institutions within which exchange takes place. Now suppose an ambitious statistician keeps track of total spending on goods and services, and total output of goods and services, over time. To the statistician's delight, there appears to be a simple relationship between the two: more spending is associated with more real goods and services. With the unobjectionable added assumption that human welfare is positively associated with higher availability of real goods and services, the statistician feels comfortable recommending the public sector be empowered to increase spending on final goods and services. The result, the statistician predicts, will be more final goods and services produced, and higher welfare. The mainstream cautions against this conclusion, due to offsetting behaviors such as crowding out. But even assuming away all these offsetting behaviors, there is still a fatal flaw in the statisticians' scheme. He has overlooked the importance of the underlying institutions in generating the result (higher spending, higher output) in question. To the statistician, spending causes output causes prosperity. But he has it exactly backwards, of course: prosperity causes output causes spending, where prosperity is ultimately an institutional feature. Even if the public sector's fiscal behavior succeeds in greatly expanding the volume of final goods and services, any generalizations concerning welfare are illusory. In a scheme of private ordering, the high volume of production represents a tendency to exhaust gains from trade, reflected in the macro characteristic of the maximization of the value of society's

ا المسارك للاستشارات

resources. In such a scheme it is reasonable to infer high levels of welfare from high levels of final goods and services availability. No such inference is possible in an environment where the mix of final goods and services depended on a process of common ordering, as in the case of a government's fiscal behavior. The process by which these final goods and services was fundamentally dissimilar. As was the case in top-down NGDP targeting, the only thing that can be inferred from high production levels is that government agents wished to create high production levels.

This is far more serious an issue than mistaking the direction of causation in social processes. The fundamental insight of New Austrian economics concerning process sensitivity is that *divorcing a social phenomenon from the process by which it emerges robs it of its epistemic content*. Trying to 'game the system' and target the macro result directly merely results in the macro outcome losing its role as a conveyor information concerning the properties of the system. This loss of interpretability is important because it is precisely the properties of interest of the system that were of interest in the first place. The very idea of macroeconomic policy, as understood by the mainstream, rests on a failure to recognize the full implications of process sensitivity.

5 Conclusion

Two chief conclusions follow from the above reasoning. The first, and most obvious which has already been alluded to several times in the paper—is that 'macroeconomics' does not mean what the vast majority of economists think it means. If the New Austrian perspective on this issue is correct, 'macro' refers to all phenomenon that emerge from interactions between purposeful individuals. Mises (2008: 235) importantly referred to the distinction between micro and macro using the terms 'praxeology' and 'catallaxy.' Praxeology is the pure logic of choice; catallaxy is the study of exchange relationships that is rooted in praxeology. Buchanan (1964) embraces this distinction, and implicitly defines the study of macro phenomena as the analysis of how particular exchange institutions incentivize different exchange behaviors (praxeological aspect), and how the interaction between the individuals 'carrying' these behaviors yields, or fails to yield, orderliness (catallaxical aspect). The important aspect of macro theory, then, is the institutions and processes in virtue of which macro phenomena exist, rather than these phenomena considered in themselves, or considered in direct comparison to micro phenomena.

Existing macro paradigms, both old and new, fail to recognize this distinction. Consider the differences between Old Keynesianism and New Keynesianism. For all its faults, Old Keynesianism acknowledged a macro realm distinct from the micro realm, where macro outcomeswere not merely the sum of micro parts. In Old Keynesian theory, macro phenomena had their own separate realm of existence, and through a feedback process could impinge on micro phenomena. This in itself is unobjectionable from a New Austrian perspective. However, Old Keynesianism mistakenly assumed simple and, usually, time-invariant relationships between macro variables. These variables supposedly could be manipulated in a fashion akin to the simple mechanics of billiard balls moving each other to a more preferred position on the table, as evaluated by the billiard player. This simple interaction, and direct imposition, of macro variables on each other is nonsensical from a New Austrian



perspective. New Keynesianism—indeed, all macro models with 'microfoundations' made it explicit that macro variables resulted from micro variables, and specified a coherent link between the two. But it too made a fatal error: by deriving macro variables directly from the rational choice of a representative agent, and then multiplying this result by however agents were assumed to populate the model space, New Keynesian models eliminated the distinction in complexity between micro and macro variables. This too is unacceptable. Embracing the New Austrian paradigm enables the theorist to practice scholarship without 'doing damage to reality,' i.e. resting their analysis on an ontologically unsatisfying, and therefore epsistemically questionable, foundation.

What becomes of traditional macro policy, especially fiscal and monetary policy, in the New Austrian paradigm? Is there no role for these public sector responses to market outcomes? Not necessarily. A theorist could be consistent in arguing that, for example, fiscal and monetary policy would result in a situation that is more *politically* palatable than otherwise. In the event of macro turbulence, refraining from 'going through the motions' and placating an angry public may result in disturbances to the politicaleconomic order. In democratic processes (a particular form of common orderings), this may result in damage to the fundamental institutions that promote peaceful exchange and efficiency-as-tendency. While arguments can be made against this justification, it is no longer incoherent. So long as the theorist is honest, and jettisons any notions of 'operating on the market to fix the market'—the traditional justification for such policies—his claims can be debated among scholars situated within a New Austrian common ground.

The second conclusion, which is a straightforward implication of the first, is that the way macroeconomics is conceived and practiced must be significantly different. The 'model,' if it can be called that, of the New Austrian paradigm is purposive individual actors, filtered through incentive-creating and knowledge-generating institutions, yielding macro phenomena. Boettke (2012) contends that this mode of analysis is common to all 'mainline' economics. In this sense, New Austrianism can be considered a branch of the mainline tree. In particular, New Austrian economics holds that there is no macroeconomics but institutional economics. Macroeconomists, if they are New Austrians, will focus on the particular properties of specific institutional filters. In virtue of what do they generate a given set of incentives? In virtue of what do they facilitate a particular pattern of knowledge flows? What are the properties of the feedback mechanisms, linking the arena of praxeology to the arena of catallaxy? In this sense, the New Austrian project has many similarities to Vernon Smith's (2003) research project, but these are only a subset of questions scholars can and should address. More concretely, the comparative properties of institutions characterized by private and common orderings, as explored by Wagner (e.g. 2007a), deserve particular attention, given today's dominant economic problem appears to be the clash of rationalities between politics and markets.

I explored only one aspect of the New Austrian paradigm. Many others deserve attention. For example, I hardly addressed the New Austrian emphasis on disequilibrium and non-equilibrium, as opposed to the dominant approach of equilibrium-based modeling, although such an emphasis was admittedly implicit in several of the above points. A complete apologia for New Austrian economics must be a body of work built by several scholars in cooperation, almost certainly building on Wagner's (2010)

important contribution. This corpus should have as its goal building a compelling case for its superiority over the mainstream as an engine for social theory.

References

- Alchian, A. A. (1950). Uncertainty, Evolution, and Economic Theory. Journal of Political Economy, 58(3), 211–221.
- Boettke, Peter J. (2012). Living economics: yesterday, today, and tomorrow. Oakland: Independent Institute.
- Brennan, G. and J. M. Buchanan. (2000). The reason of rules: constitutional political economy. Indianapolis: Liberty Fund.
- Buchanan, J. M. (1964). What should economists do? Southern Economic Journal, 30(3), 213-222.
- Buchanan, J. M. (1986). Order defined in the process of its emergence. In liberty, market, state. New York: New York University Press.
- Buchanan, J. M. and R. D. Congleton. (2003). Politics by principle, not interest: toward nondiscriminatory democracy. Indianapolis: Liberty Fund.
- Friedman, M. (1953). The methodology of positive economics. In idem, essays in positive economics. Chicago: University of Chicago Press.
- Goodhart, C. A. E. (1975). Monetary relationships: A view from Threadneedle Street. In Papers in Monetary Economics, 1(1), 1–27 Reserve Bank of Australia.
- Hayek, F. A. (1948). Individualism and economic order. Chicago: University of Chicago Press.
- Hayek, F. A. (1967). The theory of complex phenomena. In idem, Studies in philosophy, politics, and Economics. Chicago: University of Chicago Press.
- Hendrickson, J. (2015). Monetary Equilibrium. Review of Austrian Economics, 28(1), 53-73.
- Koppl, R. (2002). Big players and the economic theory of expectations. New York: Palgrave Macmillan.
- Koppl, R. (2014). From crisis to confidence: macroeconomics after the crash. London: Institute for Economic Affairs.
- Lucas, R. J. (1976). Econometric policy evaluation: a Critique. Carnegie-Rochester Conference Series on Public Policy, 1, 19–46.
- Menger, Carl. (1985). Investigation into the methods of the social sciences with special reference to economics. New York and London: New York University Press.
- Menger, Carl. (2007). Principles of economics. Auburn: Ludwig von Mises Institute.
- Mises, L V. (2008). Human action: A treatise on economics. scholar's edition. Auburn: Ludwig von Mises Institue.
- O'Driscoll, G. P. and M. Rizzo. (2014). Austrian economics Re-examined: The economics of time and ignorance. London: Routledge.
- Podemska-Mikluch, M., & Wagner, R. E. (2012). Dyads, Triads, and the Theory of Exchange: between liberty and coercion. *Review of Austrian Economics*, 26(2), 171–182.
- Salter, A. W. (2013). Not All NGDP is created equal: A critique of market monetarism. *Journal of Private Enterprise*, 29(1), 41–52.
- Salter, A. W. (2014). Is there a self-enforcing monetary constitution? *Constitutional Political Economy*, 25(3), 280–300.
- Salter, A. W. and A. T. Young. (2015). Would a free banking system target NGDP growth? Working paper.
- Selgin, G. (1988). The theory of free banking: Money supply under competitive note issue. Totowa: Rowman and Littlefield.
- Selgin, G. (1994). . Free banking and monetary control. Economic Journal, 104(427), 1449-1459.
- Selgin, G., & White, L. H. (1994). How would the invisible hand handle money? Journal of Economic Literature, 32(4), 1718–1749.
- Smith, V. (2003). Constructivist and ecological rationality in economics. American Economic Review, 93(3), 465–508.
- Sumner, S. (2011). Re-targeting the fed. National Affairs, 9(Fall), 79-96.
- Sumner, Scott. (2012). The Case for nominal GDP targeting. mercatus center working paper. Available online at: http://mercatus.org/sites/default/files/NGDP_Sumner_v-10%20copy.pdf.
- Wagner, Richard E. (2007a). Fiscal sociology and the theory of public finance. Cheltenham: Edward Elgar.
- Wagner, R. E. (2007b). Value and exchange: Two windows for economic theorizing. *Review of Austrian Economics*, 20(2–3), 97–103.



- Wagner, R. E. (2012). A macro economy as an ecology of plans. Journal of Economic Behavior and Organization, 82(2–3), 433–444.
- Wagner, R. E. (2014). Entangled political economy: a keynote address. Advances in Austrian Economics, 18, 15–36.
- Wagner, R. E. and V. Veetil. (2015). NGDP Stabilization within an ecology of plans: Chasing a mirage. GMU working paper in economics No. 15–02.
- White, L. H. (1989). Competition in currency: essays on free banking and money. New York: New York University Press.
- White, L. H. (1995). Free banking in britain: theory, experience, and debate, 1800–1845. London: Institute for Economic Affairs.
- Yeager, L. B. (1956). A cash-balance interpretation of depression. Southern Economic Journal, 22(4), 438-447.

المتسارات للاستشارات

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

