

CENTRAL BANKING AND THE RULE OF LAW

Paul Tucker

Should there be a truly “independent” monetary authority? A fourth branch of the constitutional structure coordinate with the legislature, the executive, and the judiciary?

—Milton Friedman (1964)

Institutions [can] do the work of rules, and monetary rules should be avoided; instead, institutions should be drafted to solve time-inconsistency problems.

—Lawrence H. Summers (1991)

Most discussions, and especially justifications, of central bank independence are expressed entirely in the language of economics. I wrote *Unelected Power* partly because I think that is not remotely sufficient for finding a proper place for these institutions in healthy constitutional democracies.¹ At a high level, this goes to a methodological feature of economics, which proceeds by identifying a social

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¹What follows draws heavily on *Unelected Power: The Quest for Legitimacy in Central Banking and the Regulatory State* (Tucker 2018a).

welfare problem of some kind and works out how a benign social planner would cure the problem efficiently. All government functions are in the hands of the benign social planner, subject only to whether delegation can help to overcome any problems in credibly committing to the socially optimal plan.² By contrast, the starting point for much political and constitutional theory is that the greatest threat to the people's well-being is the possibility of arbitrary or oppressive government by an all-powerful unitary sovereign. The values of the rule of law and of constitutionalism, including in particular the separation of powers, are directed at keeping those problems at bay. In summary, one discipline, economics, positing a benign sovereign, sets out to achieve a flourishing society in which well-being is maximized (by the lights of its particular social welfare function), while the other, political and constitutional theory, alert to the possibility of a malign sovereign, aims to avoid tyranny. This tension bears on central banking to the extent that its powers and mandate risk creating an overmighty citizen beyond the checks and balances inherent in a decent constitutional order.

This point has not been entirely lost on economists. As Chicago's Henry Simons put it in the 1930s: "[Delegation] to administrative authorities with substantial discretionary power . . . must be invoked sparingly . . . if democratic institutions are to be preserved; and it is utterly inappropriate in the money field" (Simons 1936: 2–3). As it happens, I am going to depart somewhat from Simons, for reasons that run fairly deep, but he certainly raised serious points about the framing and constraining of a polity's monetary power. This is about legitimacy.

The legitimacy of institutions matters greatly because it is what holds things together when, inevitably in any field, public policy occasionally fails badly. While performance matters hugely, because welfare matters, it would be foolhardy to rely solely on *continuously* satisfactory outturns underpinning legitimacy. To be accepted as legitimate, a government institution's design and operation (in their broadest senses) must comport with a political society's deepest political values. For constitutional democracies, those include the values of democracy, constitutionalism (including, importantly, the

²In the language of economists, the social-planner device is employed precisely to procure the first-best outcome.

separation of powers), and of the rule of law. Although this article will focus on the third of those, I will consider constitutionalism and democracy as well.³

The Power of Central Banks

Today's central banks are quite extraordinarily powerful. First, the power to create money is always latently a power of taxation, capable of redistributing resources across society and between generations through a burst of surprise inflation (or deflation). Second, as an economy's lender of last resort, they can potentially pick winners and losers. Third, through their choice of collateral, counterparties, and other things for their various financial operations, they can affect the allocation of credit in the economy. Fourth, acting as banking-system supervisors, they, like their regulatory peers in other fields, are effectively delegated lawmakers. With such powers, why should they be formally insulated from quotidian politics?

Constitutionalist Monetary Authority

A major step toward our modern system of constitutional governance was the insistence, in England hundreds of years ago, that a representative assembly formally approve a monarch's wish to levy extra taxes. That separation of powers would be undermined if, in today's democracies, the elected executive branch could use a power to print money as a substitute for legislated taxation. If the president, prime minister, or chancellor controlled the money-creation power, the executive would at the very least be able to defer any need to go to the legislature for extra supply, and at worst could inflate away the real burden of government debts to reduce the amount of taxation requiring congressional (or parliamentary) sanction. In other words, it could usurp the legislature's prerogatives. The conclusion is stark: the last people who should hold the monetary power are the elected executive.

We can think of the old gold standard as an earlier era's response to this problem; broadly, sterling went off (and later back onto) gold, during the 19th century's wars and financial crises, only with

³For a more detailed discussion of central banking and constitutionalism, see Tucker (2019a).

parliamentary approval. But that kind of regime is not viable under full-franchise democracy given the volatility entailed for jobs and economic activity. With commodity standards sidelined, today's solution has been to delegate the management of the currency's value to an agency designed to be immune from the imperatives and temptations of short-term popularity, but acting under and within a mandate framed by the assembly, and which can be rescinded or recast by the assembly.⁴

Seen thus, delegation to an independent monetary authority is a *means* to underpinning the separation of powers once fiat money has been adopted. The regime is *derivative* or a corollary of the higher-level constitutional structure and the values behind it. *Pace* Milton Friedman, this is not a new fourth branch, but an institution that exists at the assembly's pleasure, shielded from day-to-day politics, precisely to uphold a constitutional system of government (see Tucker 2018a: chap. 12).

Preconditions for Delegation-with-Insulation to Work Functionally

This leaves hanging in the air the (positive) conditions necessary for such *delegation-with-insulation* to work as intended. It is commonplace to say that a monetary institution should mimic a rule or, as Larry Summers (1991) put it, do the work of rules in overcoming time-inconsistency problems. There is something missing in each formulation. The gap in the literature inspired by Kydland and Prescott (1977) is an explanation for why anybody could be relied upon to stick to a rule: that is just assumed, and so wishes away the big problem. The alternative "institution to do the work of rules" formulation, which of course dominates within the central banking community itself, largely on the grounds that we do not know how to write down a complete state-contingent rule for the monetary instrument, similarly leaves invisible the mechanism via which the "institution" is incentivised to deliver the goods.

When combined with an ancient tradition within political theory, I believe the answer is implicit in the work on delegation by Alesina and Tabellini (2007). If the unelected technocrat derives public and

⁴The ECB is an exception: see Tucker (2019a).

professional (peer group) esteem from faithfully delivering a legislated mandate, and if appointees care about that esteem more than about short-term popularity or their next job or delivering their own view of the public good, they are more likely to stick to the objective than a political policymaker who, under electoral pressure, puts the public's short-term welfare ahead of the mandate. Those "audience costs" and benefits, as political scientists term them, will kick in only in a society capable of bestowing esteem; that is to say where republican notions of honor and virtue live on, at least among officials' peers.⁵ (If you doubt that, think about the circumstances of Fed Chairman Powell under continuous tweet commentary from the president.)

The Values of the Rule of Law

But if delegation-with-insulation of the monetary power can find a warrant in some of our deepest values and, under certain conditions, can potentially work, the need for careful design and constraints hardly goes away. Any delegated regime needs to be constrained by our deep political values, among them the values of the rule of law.

The three nonsubstantive components of mainstream (thin) conceptions of the rule of law are that the law should apply to all equally, including government (Dicey); that the law should be predictable, general, clear, and so on (Fuller); and that the processes through which the law is applied should be fair and open (England).⁶

Many people over many centuries have emphasized the importance of rules. In modern times, Hayek (1994: 80) famously so, but also Rawls (1973: 235), make it clear that agreement on the centrality of rules leaves plenty of room for disagreement on the substance of public policy. The emphasis on rules revolves, partly, around the costs and dangers of untrammelled discretionary power. Law is the most elemental form of commitment device: the sovereign power cannot simply decide each day what policies to apply using their

⁵For the political science, see Lohmann (2003); for the neorepublican political philosophy, see Pettit (1995).

⁶For the distinction between "thin" and "thick" conceptions, see Tucker (2018a: chap. 8). For major statements on the rule of law, see Fuller (1969) and Bingham (2010).

monopoly control of coercive power. Rather than just promising to stick to a steady policy, they are constrained to implement laws, and to change course, they have to go through the recognized process for changing the law.

To eliminate discretion, however, the rules would have to be mechanical, in the sense of everyone readily agreeing—indeed, finding obvious—how each and every rule must be applied in every conceivable circumstance.

Where law cannot be applied as a mechanical rule, as very often it cannot, it is subject to interpretation and judgment-based application. Another of the values of the rule of law is, accordingly, that the processes through which judgments on the law (and on the facts to which the law is being applied) are made should be fair (including consistent). This leaves open who should apply the law in the first instance, and who should write our laws.

Courts versus Administration: Rule of Law with Democratic Values

One possible benchmark for modern administration is a detailed code that is passed into law by an elected legislature and is applied, case by case, via the courts. Where a particular field requires technical expertise, the adjudicators could be specialist judges of some kind, subject to judicial review by generalist courts. To the extent that benchmark has normative force, departures from it need to be justified.

Of course, not all laws come through legislation. In adjudicating private legal disputes and in applying statutory law, the judiciary has to interpret and construe: it decides what contracts, trusts, and statutes mean and the boundaries of their reasonable application. In order to maintain consistency and generality, adjudication, whether in the hands of courts or specialist regulatory agencies, entails an accretion of principles. A series of adjudicatory decisions generates something like an implicit rule or general policy.

In the early 1960s, U.S. Judge Henry J. Friendly expressed concern that the regulatory standards applied via agencies' adjudicatory decisions were not "sufficiently definite to permit decisions to be fairly predictable and the reasons for them understood," and went on to prescribe that "the case-by case method should . . . be supplemented by greater use of . . . policy statements and rulemaking" (Friendly 1962: 5, 145).

Those arguments are plainly rooted in some of the values of the rule of law but also in democracy. There are some fields where, it seems by revealed preference, we want regulation to proceed via the *open promulgation and debate* of systematic policy (rules) rather than the accretion of adjudicatory precedent. Whereas the elected executive branch and agencies of all kinds, independent or not, can, like elected legislators, consult on their planned policies, courts do not (and cannot) consult the public on their principles and precedents. Judicial lawmaking is in its essence incrementalist, developing and refining principles through a stream of individual cases, each with their own specific circumstances but linked by common threads that gradually emerge and which judges discern and enunciate.

Moreover, in some fields, we want our regulatory policymakers, elected or unelected, to explain and defend their policies publicly and to the legislature, whereas we do not want our judges to be compelled to explain themselves to legislators.

In summary, given our democratic values of participation and accountability, regulatory policymaking by the executive branch, instead of the judicial branch, is preferable where society desires consultation on the evolution of a systematic public policy and wants to keep both the regime and the exercise of delegated power under public review.⁷

Politicized Executive Branch Regulatory Policymaking versus Commitment Devices

But that argument does not make a case for regulatory rule-making occurring beyond the day-to-day control of the *elected* executive branch. In fact, the writing of legally binding rules is typically regarded as a function that, in a democracy, requires not independence from elected representatives but, rather, their active involvement (or at least their oversight).⁸

By contrast, what we call independent agencies are largely insulated from the day-to-day politics of both the executive branch and

⁷At a high level of generality, my argument fits broadly with the principled limits on judicial lawmaking advanced in Bingham (2000: chap. 1). In particular, he argues that judges should not make law where “amendment calls for . . . research and consultation”; “there is no consensus within the community”; and “the issue arises in a field far removed from ordinary judicial experience” (Bingham 2000: 31–32).

⁸See, for example, Verkuil (1988) and Stack (2011).

the legislature: their policymakers have job security, control over their delegated policy instruments, and some autonomy in determining their organization's budget. That is a reasonable description of many modern central banks, and of some regulatory bodies (especially outside the United States).⁹

Part of the warrant for such delegation-with-insulation is, I have argued, the welfare benefits that can be obtained by enhancing the credibility of the delegated policy goal: credible commitment.¹⁰ If, however, the delegated objective is vague or cannot be monitored for some other reason, the unelected policymaker is not constrained. Ostensibly committing to something vague or indeterminate is hardly commitment at all.

The Rule of Law and Central Banking

This is where debates about the legitimacy of central banking meet debates about the relative merits of "rules" and "standards." The difference can be illustrated with an example from prudential policy for a stable financial system:

- *Rule*: "Licensed banks must maintain tangible common equity (as defined) of at least x percent of total assets (as defined)."
- *Standard*: "Licensed banks must manage their affairs prudently and maintain capital adequate to remain safe and sound in stressed states of the world."

The distinction is no less relevant to monetary policy:

- *Rule for Objective*: "Monetary policy shall be set so as to achieve an annual rate of inflation (as defined) of y percent."
- *Standard*: "Monetary policy shall be set so as to maintain price stability and full employment over the medium to long term."
- *Rule for Instrument*: "The policy interest rate (as defined) shall be set according to the formula F ."

⁹Confusingly, the United States typically applies the term "independent agency" to a government body whose leaders the president cannot sack on a whim. Since many such agencies are under the continuing influence of Congress (e.g., the Securities and Exchange Commission) but others are not (Federal Reserve), the United States has ended up with a rather impoverished (albeit voluminous) debate on the warrant for agency independence.

¹⁰In addition to Alesina and Tabellini (2007), see Majone (1996).

Hayek's choice between rules and standards is clear enough:

When we obey laws, in the sense of general abstract rules laid down irrespective of their application to us, we are not subject to another man's will and are therefore free. It is because the lawgiver does not know the particular cases to which his rules will apply, and it is because the judge who applies them has no choice in drawing the conclusions that follow from the existing body of rules and the particular facts of the case, that it can be said that laws and not men rule [Hayek 1960: 153].

Unsurprisingly, therefore, those who place great weight on that conception of the rule of law espouse instrument rules for monetary policy and rules-based banking regulation.

On the other side of contemporary debates, standards tend to be preferred by those who regard the state of economic knowledge as insufficient for society to harness itself to an interest-rate rule, let alone a mechanical one (see above); and, in the regulatory sphere, fear that an entirely rules-based regime would be undermined by letter-of-the-law arbitrage strategies likely to be adopted by regulated industries. In overcoming those problems, some room for interpretation and discretionary judgment becomes unavoidable, but our rule-of-law values push in the direction of the application of any standard being consistent over time—in other words, principled. Among other things, that means exceptions being carefully explained and changes in the agency's underlying operating principles being signaled in advance. This is, in other words, a world where policymakers are expected to furnish their choices with *reasons*, enabling challenge, and incentivizing consistency and clarity.

In the same spirit, formalist rule-of-law values mean that room for discretionary judgment should be constrained by laws that incorporate a *clear* standard (or objective), avoiding unnecessary vagueness or indeterminacy. Hayek might not get his mechanic, but he should be spared an artist. One vital *Design Precept* for delegation-with-insulation is, therefore, that objectives should be monitorable: in legal language, a rule for the objective.

The same demand flows from the values of democracy: if independent central banks are a commitment device, the commitment

needs to be to the people's purposes, articulated clearly through the processes of the elected legislature.¹¹

*The Constraints of Representative Democracy:
Comprehensibility*

I want to suggest, however, that democratic values also sometimes have a bearing on choices between objective-rules and instrument-rules. A regime of delegation-with-insulation needs to separate accountability for stewardship (trusteeship), which lies with the agency and is to the legislature, from accountability for the design of the regime and for its continuation, which lies with legislators and is to the people. Both legs of that accountability structure are hard to achieve unless the legislative designers understand what they have done.¹² Otherwise, congressional or parliamentary overseers will not be able to ask pertinent questions about the regime's operation and stewardship, which is essential to generating the audience costs and benefits for central bankers upon which, I have argued, republican delegation-with-insulation depends. And, in terms of their own accountability, they would be in no position to explain to their electors what they had delegated.

So when considering, for example, legislating a monetary-policy rule onto the statute book, an important test is whether legislators would be capable of explaining, say, the equilibrium real interest rate that is central to most interest-rate rules. I doubt it, whereas I expect they could explain to an interested member of the public why low and stable inflation is a good thing, and why a public inflation target can be useful.

*What This Means for Central Banking:
A Money-Credit Constitution*

Where does this sketch take us? I have argued that the monetary authority's independence is, under fiat money, a corollary of the separation of powers.¹³ Given our reflections on the rule of law, I now

¹¹For a concerted attempt to raise interest in the importance of legislative processes for realizing our values, see Waldron (1999: Part 1).

¹²It is striking how few U.S. books on democratic theory mention accountability.

¹³For an argument that the grounds of the separation of powers are themselves rooted in the rule of law, see Waldron (2013).

want to add that we should think of independent central banks as being located within a *Money-Credit Constitution*. This is obviously in the spirit of the economic constitutionalism advocated by James Buchanan and the German *ordo-liberal* tradition, but accepts the existence of fiat money and of fractional-reserve banking.¹⁴ That means accepting that the monetary power is inevitably the lender of last resort, and that that in turn unavoidably entails the central bank's involvement in prudential policy, regulation, and supervision for the banking system—the private-sector component of an economy's monetary system (see Tucker 2018a: chaps. 20–21). Our rule-of-law (and democratic) values entail that those roles and powers should be formalized, in law.

All this being so, in a world of fiat money and fractional-reserve banking, the central banking mission is *monetary system stability*, which has two components: (1) stability in the value of central bank money in terms of goods and services; and (2) stability of private-banking system deposit money in terms of central bank money.¹⁵

But what of constraints? The 19th century's gold-standard provided a money-credit constitution with fairly strong constraints, although the overall regime was deficient insofar as it did not cater explicitly for solvency crises as opposed to liquidity crises. A modern money-credit constitution would, then, at a schematic level, have five components: (1) a target for inflation (or some other nominal magnitude); (2) a requirement to hold reserves (or assets readily exchanged for reserves) that increases with a bank's leverage/riskiness and with the social costs of its failure;¹⁶ (3) a liquidity-reinsurance regime for the banking system (and, under specified conditions, shadow banks);

¹⁴See, for example, Buchanan (2010). But, *pace* Buchanan and some others, the idea of constitutionalist constraints does not of itself entail much about what the substance of those constraints should be: they have to be argued for in their own right.

¹⁵The second leg absolutely does not entail that no banking institutions can be allowed to fail, only that the monetary liabilities of distressed firms must be transferable into claims on other, healthy deposit-taking firms or otherwise mutualized so that payments services are not interrupted.

¹⁶In the limit, this would require banking groups to cover 100 percent of their short-term liabilities with assets against which the central bank would lend. Since leaving office, both Mervyn King and, later, I have argued publicly for such a regime. See King (2016: chap. 7) and Tucker (2018b). As discussed in Tucker (2018b), 100 percent liquid-assets cover does not obviate the need to reach a judgment on whether or not a firm has fundamental problems of solvency, and so does not remove the need for a standard of resilience.

(4) a resolution regime for bankrupt banks; and (5) constraints on how far the central bank is free to pursue its mandate and to structure its balance sheet.

The values of the rule of law, and of democracy, should shape that last set of constraints. For example:

- For monetary policy: The central bank should monitor itself against one or more instrument rules, explaining publicly why it sometimes departs from one or more of the rules.
- For balance sheet operations: The central bank should keep its operations and balance sheet as simple and as small as possible, consistent with achieving its objective(s); and any major distributive effects should be cooked into the delegation and not result from discretionary choices.
- As lender of last resort: It should not lend to firms that it knows (or should know) to be fundamentally insolvent (Tucker 2019b).
- For prudential policy: It should be given a clear mandate to achieve a monitorable standard for the resilience of the system as a whole.
- Across the board: A central bank should not exceed its powers during an emergency and must articulate its within-mandate contingency plans in advance.¹⁷
- Accountability: In all things, it should be transparent, if only with a lag (when early transparency would be perverse).
- Communications: Its policymakers should speak frequently in the language of the public rather than just of Wall Street or monetary experts.
- Self-restraint: It should keep out of affairs that are neither mandated nor intimately connected to the delivery of its delegated objectives.

Application in the United States

So, is any of this feasible in the United States? I concluded in *Unelected Power* that there is nothing in U.S. constitutional law that would outlaw it but that the incentives of elected legislators and of jurists make it unlikely.

¹⁷This relates to a massive and deep debate about who, if anyone, should exercise emergency powers (see Tucker 2018a: chaps. 11, 16, and 23). On the U.S. response to the 2008–2009 crisis, see Wallach (2015).

A New Nondelegation Doctrine

Something broadly akin to the *Design Precept* I have been stressing—the legislature setting a clear, monitorable objective—used to be known in the United States as the “nondelegation doctrine,” which since the late-1920s has required that delegation to an agency (any agency) should not occur without an “intelligible principle” being laid down to guide and constrain the agency.¹⁸ Formally the doctrine survives, but its last serious outing was in 1935 (Ginsburg and Menashi 2016). The expression “intelligible principle” has become a vacuous term of art for a high priesthood, slipping the moorings of the language used by the people over whom the judges and other officials preside.

Part of the problem, I want to suggest, is the failure to distinguish truly independent trustee-type agencies (such as the Fed), formally insulated from day-to-day politics (and so from both elected branches), from agencies tied to congressional purse strings (e.g., the Securities and Exchange Commission), and those whose leadership serve at the president’s pleasure (e.g., the Environmental Protection Agency). The absence of such distinctions is careless, and that carelessness has been costly in terms of maintaining coherent policies for the distribution (delegation) of the state’s power.

I propose that the “intelligible principle” doctrine could be revived in substance for the truly independent agencies.¹⁹ For the Fed, this would mean that each of its missions—price stability and banking-system stability—would need to carry a statutory objective that, among other things, is capable of being monitored.

The Challenge of Incentives-Values Compatibility

Put thus, the question becomes whether Congress would deliver; not could, but would. I doubt it. Members of Congress have powerful incentives to minimize the time they spend on legislating and to shed blame by conferring vague or indeterminate mandates on agencies.

¹⁸J. W. Hampton, Jr., & Co. v. United States 276 US 394, 409 (1928). The key holding is: “If Congress shall lay down by legislative act an intelligible principle to which the person or body . . . is directed to conform, such legislative act is not a forbidden delegation of legislative power.”

¹⁹That would require criteria for when Congress should be permitted to grant delegation-with-insulation. For my own tests, see Tucker (2018a: 569).

And, given the difficulty in passing legislation in the United States, the courts have powerful incentives to leave things alone, rather than substitute themselves as the supreme legislature. In consequence, delegated rulemaking and policymaking power can land wherever it is taken by the contingent balance of bargaining power in Congress rather than being guided by values-compatible principles on the structure of government.

Arguably, therefore (and I believe this to be the most important point about the United States in *Unelected Power*), the system of government struggles to achieve *incentives-values compatibility* as opposed to the narrower incentive-compatibility emphasized by economists and political scientists (see Tucker 2018a, chap. 14). This might go some way to explain the vexed and tortured tone of much U.S. commentary on the administrative state. Given the structure of legislators' incentives, it is tough for the U.S. system of government to live up to the values that, thanks to the Founders, supposedly animate it (see DeMuth 2016).

If something like that analysis is correct, each generation of Fed leaders carries the burden of ensuring that they apply their powers in ways compatible with their country's deep values.

That is saying something. For example, a few years ago it would have meant consulting publicly on the Fed's choice of inflation target, rather than merely discussing it with members of Congress behind the scenes. Today, among other things, it would entail more openness about the cumulative effects of the Fed's deregulatory measures on banks' equity and liquidity requirements.

Conclusion

Central banks have emerged, alongside the military and judiciary, as a third core pillar of unelected power. The comparison is instructive because our political societies have spent centuries thinking carefully about how the military and judiciary should fit into constitutional rule-of-law democracies, with of course quite different solutions for those two vital functions.

The same deliberations have barely begun when it comes to central banking. But the need is no less important. To get to a tolerable place, one that appropriately constrains unelected power but also protects us from misuses of elected executive power, welfarist considerations will need to be combined with constraints implied by our deepest political values, including those of the rule of law.

References

- Alesina, A., and Tabellini, G. (2007) "Bureaucrats or Politicians? Part I: A Single Policy Task." *American Economic Review* 97 (1): 169–79.
- Bingham, T. (2000) *The Business of Judging: Selected Essays and Speeches: 1985-1999*. Oxford: Oxford University Press.
- _____. (2010) *The Rule of Law*. London: Allen Lane.
- Buchanan, J. M. (2010) "The Constitutionalization of Money." *Cato Journal* 30 (2): 251–58.
- DeMuth, C. (2016) "Can the Administrative State Be Tamed?" *Journal of Legal Analysis* 8 (1): 121–90.
- Friedman, M (1964) "Statement, Testimony, and Comments" to the U.S. House of Representatives' Banking and Currency Committee, "Hearings on the Federal Reserve System after Fifty Years," before the Subcommittee on Domestic Finance, 88th Congress, 2nd Session, March 3. In *The Federal Reserve System after Fifty Years*. U.S. Congress House of Representatives, Committee on Banking and Currency, 1133–78. Washington: U.S. Government Printing Office.
- Friendly, H. J. (1962) *The Federal Administrative Agencies: The Need for Better Definition of Standards*. Cambridge, Mass.: Harvard University Press.
- Fuller, L. L. (1969) *The Morality of Law*. Revised ed. New Haven, Conn.: Yale University Press.
- Ginsburg, D. H., and Menashi, S. (2016) "Our Illiberal Administrative Law." *New York University Journal of Law and Liberty* 10 (2): 475–523.
- Hayek, F. A. (1960) *The Constitution of Liberty*. Chicago: University of Chicago Press.
- _____. (1994) *The Road to Serfdom*. Edited with a foreword and introduction by B. Caldwell. Chicago: University of Chicago Press, 1994.
- King, M. (2016) *End of Alchemy: Money, Banking and the Future of the Global Economy*. London: Little Brown.
- Kydland, F. E., and Prescott, E. C. (1977) "Rules Rather than Discretion: The Inconsistency of Optimal Plans." *Journal of Political Economy* 85 (3): 473–92.
- Lohmann, S. (2003) "Why Do Institutions Matter? An Audience-Cost Theory of Institutional Commitment." *Governance* 16 (1): 95–110.

- Majone, G. (1996) "Temporal Consistency and Policy Credibility: Why Democracies Need Non-Majoritarian Institutions." European University Institute, Working Paper RSC No 96/57.
- Pettit, P. (1995) "The Cunning of Trust." *Philosophy and Public Affairs* 24 (3): 202–25.
- Rawls, J. (1973) *A Theory of Justice*. Oxford: Oxford University Press.
- Simons, H. (1936) "Rules versus Authorities in Monetary Policy." *Journal of Political Economy* 44 (1): 1–30.
- Stack, K. M. (2011) "Agency Independence after PCAOB." *Cardozo Law Review* 32 (6): 2391–420.
- Summers, L. H. (1991) "Price Stability: How Should Long-term Monetary Policy Be Determined?" *Journal of Money, Credit and Banking* 23 (3, Part 2): 625–31.
- Tucker, P. (2018a) *Unelected Power: The Quest for Legitimacy in Central Banking and the Regulatory State*. Princeton, N.J.: Princeton University Press.
- _____ (2018b) "Is the Financial System Sufficiently Resilient?" BIS research conference. Available at http://paultucker.me/wp-content/uploads/2018/07/tucker_paper.pdf.
- _____ (2019a) "How the ECB and Other Independent Agencies Reveal a Gap in Constitutionalism: A Spectrum of Institutions for Commitment." Paper delivered at the Carl Friedrich von Siemens Stiftung, Munich, February 11. Available at: <https://bit.ly/37pGEes>.
- _____ (2019b) "Solvency as a Fundamental Constraint on LOLR Policy for Independent Central Banks: Principles, History, Law." Paper presented at the St. Louis Federal Reserve Bank conference to mark the anniversary of the Diamond-Dybvig paper on bank runs, March 30. Available at <http://paultucker.me/wp-content/uploads/2019/04/Solvency-As-A-Fundamental-Constraint-On-Lolr-Policy.pdf>.
- Verkuil, P. R. (1988) "The Purposes and Limits of Independent Agencies." *Duke Law Journal* 37 (2): 257–79.
- Waldron, J. (1999) *Law and Disagreement*. New York: Oxford University Press.
- _____ (2013) "Separation of Powers in Thought and Practice." *Boston College Law Review* 54 (2): 433–68.
- Wallach, P. (2015) *To the Edge: Legality, Legitimacy, and the Response to the 2008 Financial Crisis*. Washington: Brookings Institution Press.