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“Private” Means to “Public” Ends: Governments as Market Actors

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Abstract

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Robert C. Hockett & Saule T. Omarova

Many people recognize that governments can play salutary roles in relation to markets by (a) “overseeing” market behavior from “above,” or (b) supplying foundational “rules of the game” from “below.” It is probably no accident that these widely recognized roles also sit comfortably with traditional conceptions of government and market, pursuant to which people tend categorically to distinguish between “public” and “private” spheres of activity.

There is a third form of government action that receives less attention than forms (a) and (b), however, possibly owing in part to its straddling the traditional public/private divide. We call it the “government as market actor” form, whereby government instrumentalities pursue traditionally “public” ends through traditionally “private” means. Inattention to this pervasive form of government action might signal a theoretical blindspot attending the public/private distinction itself. At least as importantly, however, this inattention also denies us a practical opportunity: it prevents our more fully exploiting the government role in question.

This essay, part of a larger project, aims to encourage fuller theoretical appreciation and wider practical use of the role we identify. It first offers a provisional taxonomy of recurrent forms that the government market actor role appears to take, affording a wealth of illustrative case studies in so doing. It then envisions additional good that governments might do, simply by extending their market acting roles to spheres in which they have yet to be fully utilized. The essay concludes by suggesting next steps in both theorizing and employing the government market actor role.

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Robert C. Hockett & Saule T. Omarova*

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1. INTRODUCTION: THE MURKY MIDDLE

Early each weekday morning, people at a Wall Street trading desk receive carefully drafted sets of detailed trading instructions. These prescribe purchases and sales of specified quantities of specified securities, as well as specified sale and repurchase (“repo”) agreements with specified counterparties. The decisions on which the traders transact have been reached earlier the same morning by a select group of executives, who have digested reams of financial and market data concerning recent past and likely future market behavior. Shortly after the sun rises over the East River, the traders will begin executing their trades. They will be buying and selling, lending and borrowing all morning. And they will be doing so on behalf of the United

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States of America. For these traders are government agents.¹

Many people seem as a matter of course to draw hard, fast distinctions between public and private, or government and market, spheres of activity. When governments mix with markets, on this understanding, they “intervene.” The *in*-terventions then count as *ex*-ogenous. Governments “step in” from “outside,” altering the otherwise natural order of things – like the hand of God breaking in from the overhead clouds. Government is in this sense taken for “external” to markets, while “we,” the public – for unexplained reasons categorically distinguished from “our” government – are counted as “internal” to the practices of market exchange. Call this the “supervisory,” or “*deus ex machina*” view of government in its relation to markets.

Sometimes one also encounters a “deeper” view of the relation between government and market, pursuant to which government occupies a space more “below” – in the “grounding” or “foundational” sense of that word – than “above” the market. On this alternative, governments *constitute* markets by formulating and/or enforcing “rules of the game” that underwrite, structure, and even define markets “from the inside” or “ground up.” Government is in this sense “internal” to markets, on this understanding, somewhat in the way that genetic structure is internal to an organism or rules are internal to games they define. It determines the shape and indeed possibility of the market somewhat as DNA structures a life form and is prerequisite to such forms. Call this the “constitutive,” or “foundational” view of government in its relation to markets.

These understandings of government and market have much to recommend them. Each metaphorically captures some critical aspect of governmental activity in relation to markets, as well as some corresponding aspect of our corpus of law.

Much of the law we call “public,” for example, is indeed what we call “regulatory” or “supervisory.” And much regulation is indeed less *constitutive* of a market than *improving* of it,

¹ No, we are not here describing a CIA “black op” or DARPA adventure - though in some ways we could have been. This is just a generic snapshot of a typical day’s Fed open market operations as conducted by the Trading Desk of the Federal Reserve Bank of New York on Liberty Street. See *infra*, Parts 3 through 7 for more on both these and a number of other forms of actual or possible government market operation.

in the sense that the market in question could, and in some cases in fact did, function more or less sustainably prior to promulgation of the public regulation in question, but functions better – often much better – when regulated.

Much of the law we call “private,” for its part, seems indeed to be foundational, even prerequisite, to functioning markets. It is difficult to imagine market exchange taking place at all absent some form of protectable possessory – “property” – interest, for example. Much the same holds of promise and its legal face, contract, at least where market exchange is to include future performance. And in the absence of tort law or its functional normative equivalent, it is difficult to imagine sociality itself, let alone that form of sociality which is “the market,” persisting through time.

Whatever the utility of the supervisory and constitutive views of government and market as metaphors for the functions of “public” and “private” law, however, there remains at least one critically important governmental role that these views both overlook or leave out of account – a role implicit in the story with which we began this discussion. If we view the supervisory and constitutive roles of government as disjoint sets that exhaust all possibilities, then, we lay ourselves prey to a cognitive blindspot. That in turn not only can weaken our theorizing on government and market, or public and private, spheres of activity, but also can prevent our fully utilizing, improving, and building upon the phenomenon in question.

We call the underappreciated governmental role that we have in mind here the “market actor” role. In this capacity, governments act much as private actors do in particular markets. They employ the same means toward their ends. They do so, however, for *public* rather than *private* ends, thereby defying, in limited ways, such venerable but misleading dichotomies as the “public/private” divide. They do so, moreover, with greater influence than private parties are

typically able – or permitted – to bring to bear. And we permit our governments this form of market power, in turn, precisely because it is public rather than private power – power wielded on behalf of and in the name of us all.

Our aim in this essay is to draw out and illuminate this market acting role of government. Our hope in so doing is to facilitate better and fuller use of it.² The present seems an auspicious moment to do this, given both (a) broad public perception that crisis-wrought, bailout-style government stakeholding in some large financial firms warrants some public say over what these firms do, accompanied nevertheless by (b) dissatisfaction, in some quarters, with some forms of traditional “command and control” styles of regulating.

The essay is structured as follows. Part 2 provides a brief, provisional taxonomy of governments’ market actor roles, which we disaggregate into what we call “market-making,” “market-moving,” “market-levering,” and “market-preserving.” Parts 3 through 6 then elaborate each of these roles in greater detail, providing specific examples of actual government action along each of the specified lines. On that basis, Part 7 then suggestively notes additional spheres of activity in which government instrumentalities might take on the market actor role to salutary effect. Part 8 then concludes and looks forward.

2. FOUR MARKET-ACTOR ROLES: A PROVISIONAL TAXONOMY

There are several recurrent forms that public participation for public ends in private markets appears to take. We distinguish four such forms in particular, which we call “market-making,” “market-moving,” “market-levering,” and “market-preserving.”

² Another role played by this essay, we hope, will be to encourage further consideration of the strengths and limitations of the traditional “public”/“private” divide in legal and other discourses. One of us has done additional work along these lines in other recent work. See, e.g., Saule T. Omarova, *Rethinking the Future of Self-Regulation in the Financial Industry*, 35 BROOK. J. INT’L L. __ (2010), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1695031. See also Saule T. Omarova, *Bankers, Bureaucrats, and Guardians: Towards Tripartism in Financial Services Regulation*, 37 J. CORP. L. __ (2012) (forthcoming), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1924546.

Per the first, “market-making” form, government’s playing a particular risk-bearing role that private actors themselves sometimes but not always are able to play either (a) makes a publicly beneficial market possible, or (b) facilitates an incipient such market’s growth to critical mass. Per the second, “market-moving” form, government action affects certain market prices in certain publicly beneficial ways that we cannot ordinarily trust profit-driven private actors to pursue. Per the third, “market-levering” form, government action enables existing private markets to do better, or to do more of, what they already do in more limited or otherwise suboptimal manners. Finally, per the fourth, “market-preserving” form, government action – typically temporary and only *in extremis* – prevents complete liquidation or collapse of a normally well-functioning market whose collapse would impose negative externalities.

The distinctions among these forms do not render them altogether mutually excluding, nor are they hard and fast – the forms are not “Platonic.” We shall note, for example, that market-making can serve as a means of market-levering or market-preserving. Market-moving can do likewise, and indeed generally any one of these roles can be employed as means to discharging the functions of one or more of the others in particular circumstances. But the distinctions will prove helpful for expository purposes. They will also afford helpful guidance when we move to envisioning additional good that our governments can do by extending their current market actor roles into realms where they’ve not market-acted already.

We turn now to elaborating the four forms of government market action over the next four parts of this essay, then to envisaging extensions in the subsequent part.

3. MARKET-MAKING: PRIMING THE COUNTERPARTY PUMP

Markets require willing counterparties. That trivial truth carries important and sometimes overlooked implications for the very possibility of markets. It can be costly, for example, to

“take one’s goods to market.” Hence if some party does not know in advance that (a) there will be people at a particular location who (b) desire what s/he is ready to sell and (c) are able to pay for the desired items with other goods, services, or currencies that the seller is prepared to accept, this would-be seller might very well not “go to market.” This will be so even if in fact there *are* good, willing prospective counterparties. For it is what prospective participants actually *know*, rather than what is actually the case, that is decisive here.

Insofar as trading opportunities are missed in this manner, there is “tragedy” here – even if of a decidedly quotidian sort. An opportunity to improve multiple parties’ lots has been lost. That is a waste.

It is in response to such waste that the market-making role emerges. The market-maker “makes” a market in some submarket by ensuring the continuous availability of, and thereby inducing confidence in, prospective counterparties. S/he does this in turn by agreeing to bear two complementary risks. One is the risk that some product does not actually sell. The market-maker assumes this risk by agreeing to serve as something akin to a buyer of last resort. In doing this, s/he engages in a form of what finance folk call “underwriting.” S/he thereby affords confidence to the would-be marketer of the product in question to go ahead and “bring it to market,” since this seller need no longer bear the risk of non-sale.

The other risk that the market-maker assumes is the flip side of underwriter risk. This is the risk faced by prospective buyers that there might not be adequate supplies of the product they wish to purchase in the market. That too is a risk that might prevent people from going to market – people who otherwise *would* go to market, and whom the seller hopes come to market. The market-maker assumes this risk by maintaining inventories of or access to the item in question, and committing to sell units of the item to anyone offering anything equal to or greater than a

predetermined price. In assuming this risk, the market-maker affords confidence to prospective buyers much as s/he does to the seller in underwriting. By assuming both risks, in turn, the market-maker averts the “tragedy” of needlessly missed opportunities for socially beneficial exchange of goods and services noted above.

The market-maker role is perhaps most familiar in financial and commodities markets, though it is not restricted to these. Market-makers agree to purchase particular securities or commodities from anyone offering them at an amount less than or equal to a stipulated “ask” price. Symmetrically, they likewise agree to sell the securities or commodities to anyone offering an amount greater than or equal to a stipulated “bid” price.

Given the risks assumed by would-be market-makers, it is not surprising that they have traditionally been “big” actors endowed with substantial resources – people like John Pierpont Morgan in his day, for example.³ This is particularly so given the sense in which market-making amounts to a canonical “public good,” inherently prone to underprovision by private providers. Hence it is also unsurprising that the role sometimes has had to be played by public instrumentalities. Such instrumentalities are, after all, often (a) well resourced, (b) instituted specifically to provide public goods, and (c) actuated by purposes other than profit-taking.

Several cases in point, one of them quite conspicuous in recent years, help to illustrate the importance of the government as market-maker role.

The conspicuous case is the role played by the Federal Reserve and the U.S. Treasury as “market-makers of last resort” during the worst of the 2008-09 financial market collapse. The Fed played this role through a number of facilities established specifically for the purpose, the

³ An illuminating popular account of the role that Morgan, in particular, played as a sort of private provider of public goods in the financial markets, particularly in the years prior to passage of the Federal Reserve Act in 1913, is RON CHERNOW, *THE HOUSE OF MORGAN* (2nd ed., 2010). See also JEAN STROUSE, *MORGAN: AMERICAN FINANCIER* (2000).

best known of which probably were the New York Fed's "Maiden Lane Fund" operations.

Treasury played the role through the Troubled Asset Relief Program, better known as "TARP."

The objective in all of these cases was to stave-off panic-induced, self-fulfillingly prophetic drops in certain asset-backed securities ("ABS") prices below what fundamentals appeared to warrant, by committing to purchase any such assets whose prices fell beneath a certain floor level. In some cases, a reciprocal commitment to sell the same assets to any who offered more than a certain ceiling price closed the proverbial market-making circle – or perhaps better put in this case, defined the proverbial spread. In other cases, there was less in the way of a public commitment to making such sales than there was an intention to do so once conditions permitted – as with TARP and Maiden Lane, for example.

In all such cases, the government entities involved ultimately turned profits when at length they sold off, some three to four years later, the assets they had purchased pursuant to these programs. That in turn vindicated the original judgment that panic conditions had indeed been inducing undervaluation of the relevant assets by private market participants, such that market-making could in fact prevent mere transitory liquidity crises from morphing into avoidable, hence classically "tragic," permanent solvency crises. In this sense, the market-making role doubled as a justifiable market-preserving role, in a manner that we elaborate more fully below in Part 6.

It also bears noting that in all of these cases, "last resort" market-making of a sort that only government entities could do played the classic "last resort *lending*" role first articulated by Bagehot in connection with Bank of England operations during the 19th century.⁴ This in turn underscored – and continues to underscore – the fact that modern financial markets are significantly disintermediated relative to times past, such that governments as market actors now

⁴ See, of course, WALTER BAGEHOT, *LOMBARD STREET: A DESCRIPTION OF THE MONEY MARKET* (1873).

can aid markets more effectively by buying and selling debt instruments than by extending and accepting repayment of loans in the more traditional bank-like sense. That fact – the fact that an old role best assumes new forms when markets themselves take new forms – proves instructive below in Part 7.

The less conspicuous cases of government market-making that bear notice here are secondary market-making by government-sponsored enterprises (“GSEs”) first in home mortgage, then in higher education debt. Though few seem aware of the fact, the securitization of home mortgage lending effectively began not in the 1980s or 1990s, but circa 1938, with the establishment of the first-ever mortgage loan purchaser, the Federal National Mortgage Association, better known as “Fannie Mae.” The point here was to make home mortgage lending more attractive to banking institutions by establishing a secondary market in home loans to which banks wishing quickly to liquidate such assets could resort when they so chose. That would in turn lower the cost of home mortgage credit in the primary markets, ultimately jumpstarting the Depression-struck building industry in the short term and fostering broader home-ownership in the long term.

As it happened, this system worked very well until the 1990s, boosting the domestic employment-inducing construction industry and converting the U.S. from a nation in which fewer than 40% of households owned their own homes to one in which nearly 70% did. Fannie was so successful that by the 1960s it was privatized, with the Federal Home Loan Mortgage Corporation (“Freddie Mac”) and Government National Mortgage Association (“Ginnie Mae”) then established to act as competitors.⁵

⁵ For a full account of this history, see Robert Hockett, *A Jeffersonian Republic by Hamiltonian Means: Values, Constraints and Finance in an Authentic American “Ownership Society,”* 79 S. CAL. L. REV. 563 (2006), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=926409.

Things came a cropper only when the vacuum opened by deregulation-induced collapse in the savings and loan industry over the course of the 1980s attracted a new industry of unregulated “mortgage banks.” These operated pursuant to an “originate to distribute” model of mortgage lending designed to exploit the presence of the still mammoth and implicitly government-guaranteed GSEs, which ultimately led to improvident lending. Trouble might have been avoided had (a) the mortgage banks been regulated, (b) the GSEs been kept public and accordingly less profit-oriented, or (c) the GSEs been better regulated with a view to their loan-purchase criteria, though there are additional complexities that should be borne in mind here.⁶

The home loan secondary market making case also was sufficiently successful, at least over its first several decades, as to have been expressly embraced as a model for U.S. federal higher education finance policy. It is no accident that the best known “Mae” after Fannie and Ginnie is Sallie – the “SLM Corporation” previously known as the “Student Loan Marketing Association,” a GSE that purchases higher education loans. It is also no accident that (a) as with Fannie, the fully federal Sallie immensely increased higher education availability from the 1960s down into the first decade of the 21st century, while (b) since privatization – in 2005 for Sallie – matters have taken an ominous turn.⁷

A final point bears noting before we turn to our next market actor role. That is the role that government-induced standardization – a form of what we call “market-levering” as discussed below in Part 5 – can play in facilitating the market-making role. One thing that made

⁶ It must be noted, for example, both that federal agencies had income-stagnation-, demand-maintenance-related reasons to encourage housing price appreciation, and that, once the bubble process was underway, no agency lacking a macroprudential perspective on the financial markets was apt to look past the seeming rationality of many decisions against the backdrop of steadily rising home prices. For more on the importance of macroprudential regulation here, see *infra*, Parts 4, 6 and 7. For a full account of the housing bubble story, including regulators’ and policy-makers’ multiple reasons for encouraging continued home price appreciation against a backdrop of thirty years of middle class income stagnation, see Robert Hockett, *A Fixer-Upper for Finance*, 87 WASH. U. L. REV. 1 (2010), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1367278.

⁷ See again Hockett, *A Jeffersonian Republic by Hamiltonian Means*, *supra* note 5.

secondary market development possible, by both Fannie and Sallie as well as by non-government-sponsored financial institutions, was government guaranteeing of primary market debt. In the case of housing finance, this took the form of mortgage default insurance provided by the Federal Housing Administration (“FHA”) commencing in 1934. In the case of higher education finance, it took the form of express government guarantees of student loans commencing in the late 1950s. As we describe below in Part 5, these guarantees levered primary markets into secondary markets both via the guaranteeing itself, and via the standardization that the guaranteeing effectively wrought through the eligibility criteria on which it conditioned its benefits.⁸

4. MARKET-MOVING: PRICE-MAKING, NOT -TAKING, *PRO BONO PUBLICO*

The ideal of the “free,” competitive market ordinarily excludes anything that might go by the name of “market-moving.” At least this is so where the moving in question would be done by private market actors. Individual market participants are meant to *lack* “market power” and act as “price-takers,” not “-makers.” This is so whether the actors in question be viewed in their buying or selling capacities. Individuals are meant to pay “what the market requires” and sell “what the market will bear” at “the market price.”⁹ (The hand that governs the market is “invisible,” one might say, only to the extent that no private market actor or coalition thereof can single-handedly move it.)

The market per this ideal can be viewed as a distributively just, democratic form of value determination. At least assuming rough equality of bargaining power – hence of initial

⁸ *Id.*

⁹ For more on this ideal, see Robert Hockett, *Whose Ownership? Which Society?*, 27 CARDOZO L. REV. 1 (2005), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=926413. Also Robert Hockett, *The Deep Grammar of Distribution: A Meta-Theory of Justice*, 26 CARDOZO L. REV. 1 (2005), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2046060.

endowments – among participants, the price outputs of markets in which all are price-takers can jointly constitute a “social cost” metric derived by just, democratic means. The price of an apple in terms of oranges under conditions of market equality will reflect both (a) the comparative bounty of “objective” nature in respect of apples and oranges, and (b) the comparative valuing of apples and oranges by “subjective” individuals whose voluntary expenditure votes all count equally in determining relative prices.¹⁰

Actual markets of course depart from this picture – not least because initial endowments depart so scandalously from equitable. It is nevertheless easy to appreciate both the attraction of the picture as an ideal and the sense in which “market-moving” capacity held by an individual or coalition might offend it. If Mitt Soros unjustly holds half of the world’s wealth and harbors an eccentric taste for apples, his power in the apple market will “distort,” relative to the competitive market ideal, the price of apples for everyone else. Mitt Soros then warps the ethically proper order of things, per the competitive market ideal, by forcing us in effect to subsidize satisfaction of his eccentric taste via the higher price we all pay for apples.

Things look yet worse if Mitt Soros employs his market power not simply *per accidens* because he adores apples, but *per intentio* because he hopes to influence prices and the profits he takes in connection with other goods or services whose prices he can manipulate through apple market operations.¹¹ Market-moving actions of this sort appear wrongful, again, because they offend the democratic values from which we derive the “competitive” market ideal.

¹⁰ This is the ethical intuition behind so-called “Equal Division Walrasian Equilibria,” or “EDWEs,” as these figure into the work of some thoughtful egalitarian economists and justice theorists. See generally Robert Hockett, *Taking Distribution Seriously*, working paper, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1108217. Also Hockett, *Whose Ownership? Which Society?*, id.; Hockett, *The Deep Grammar of Distribution*, id.; and Robert Hockett & Mathias Risse, *Primary Goods Revisited: The “Political Problem” and Its Rawlsian Solution*, working paper, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=931048.

¹¹ An analogy can be drawn between this folksy hypothetical and an actual possibility traced by one of us in a recent paper. The possibility in question is that some financial institutions might trade physical commodities to

Things look quite different, however, when market-moving is done for public, not private purposes. Indeed, market-moving might actually be publicly undertaken to redress distributive injustice – for example, by short-selling commodities whose QE-inflated prices disproportionately harm the poor, as proposed below in Part 7.¹² Less controversially, the market-moving might aim at producing less narrowly targeted, more widely spread benefits.

The wages paid labor throughout an economy, for example, are an important determinant of everyone’s macroeconomic wellbeing in virtue of their effects upon aggregate demand. An economy faced with imminent slump might accordingly be revived by a general increase in wages. An economy facing imminent inflationary pressures might, symmetrically, do well to see wage levels stabilized or lowered.

A government under such circumstances might therefore act in the name of us all by hiring large numbers of laborers in the one case, and shedding labor or allowing attrition in the other case. The method would work by augmenting upward wage pressures in the first case, downward such pressures in the other. Insofar as it did, it would constitute successful labor-market-moving – in this case, moving done for a compelling public purpose.

The claim of public purpose in cases like this would be all the more compelling in virtue of the action’s addressing what would otherwise amount to a classic collective action problem, the solution to which constitutes a canonical public good. Firms render themselves less competitive than others, for example, when they act alone to raise wages or salaries during a general downturn. Yet the gain to aggregate demand wrought by doing so redounds not just to

manipulate prices in commodity derivative markets in which the same institutions also hold positions. See Saule T. Omarova, *The Merchants of Wall Street: Banking, Commerce, and Commodities*, working paper, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2180647 (provisionally assessing this and other possibilities raised by bank entry into the physical commodities business).

¹² See *infra*, Part 7, for more on this prospect. See also Robert Hockett, “How to Make QE More Helpful: By Fed Shorting of Commodities,” *Benzinga*, October 14, 2011, available at <http://www.benzinga.com/news/11/10/1988109/how-to-make-qe-more-helpful-by-fed-shorting-of-commodities>.

the wage-raising firm, but to all. Firms acting alone are thus rationally prone to under-provide wage rises of the sort that in aggregate boost consumer demand and aid all – just as they are apt to engage in individually rational but collectively self-defeating layoff-rounds during recessions.¹³

A collective agent, by contrast, can sidestep this collective action and under-provision problem by moving markets economy-wide. Here as with market-making, though, size of course matters. To move markets requires a “big” actor, and the bigger the market in question, the bigger must be the prospective mover. Hence it is once again unsurprising that the market-moving role, like the market-making one, often is played by public instrumentalities. As noted above, such instrumentalities are (a) well resourced, (b) instituted specifically to provide public goods such as aggregate demand increases, and (c) actuated by purposes other than profit-taking.

There are multiple examples of market-moving on the part of government instrumentalities. Probably the most familiar in ordinary times, though even this is not widely appreciated, is that of central bank open market operations (“OMO”) of the kind with which we introduced this essay, in which the central bank or monetary authority purchases or sells treasury securities. The idea in this case is to influence financial institutions’ money-holdings and, with them, the supply of credit-money in the broader economy – this in turn to stabilize consumer goods- and services- pricing and employment levels economy-wide.

A somewhat more familiar case in the present era amounts to a variation on garden variety OMO. This is the case of quantitative easing (“QE”), pursuant to which central banks deal in securities additional to Treasuries in hopes of (a) influencing credit conditions more

¹³ Bubbles, busts, and “runs,” as we presently argue, are of the same structure – a fact that figures importantly in the prescriptions we offer below. For more on the structure of phenomena of this sort, see Robert Hockett, *Recursive Collective Action Problems*, 5 J. APP. ECON. __ (2013) (forthcoming) available at __. Also Hockett, *A Fixer-Upper for Finance*, *supra* note 6.

forcefully, (b) shoring-up particularly vulnerable or important asset classes, or (c) both. As the foregoing in general and (b) in particular suggests, market-moving can overlap, operationally speaking, with market-making. And this in turn means that it also can overlap with market-preserving, in virtue of market-making's own overlap with the same as noted above in Part 3 and elaborated further below in Part 6.

5. MARKET-LEVERING: OPTIMIZING PREEXISTING INFRASTRUCTURES

Sometimes a particular market exists in an underdeveloped or incipient form, but remains less extensive than we might wish. In other cases the market in question might be quite well developed, but nevertheless capable of doing more public good than it already does if augmented, altered, commandeered or absorbed in particular ways for particular purposes. Finally, in yet other cases, there might be public goods that are not associated with particular institutions or markets as they are currently constituted, but that can be had through some subtle alteration made to those institutions or markets. In such cases, governments as market actors might act within these or neighboring markets to bring on the salutary effects in question.

It might, for example, be possible to obtain more or less affordable and reliable banking services, or (somewhat less) affordable and dependable deposit, flood, or loan default insurance, from private markets at a given stage of history. That will in turn allow for greater liquidity, activity, and consequent growth in particular sectors, ultimately improving the lot of us all. It might nevertheless be the case that the benefits in question could be enjoyed on a much larger scale, or at much lower expense, or both, if there were but some form of secondary market or higher-order risk-pooling arrangement augmenting the primary market. The augmenting market or arrangement in question, however, might lie beyond the scope of private parties' capacities to provide at a given stage of economic development. Or it might, for some time at least, be widely

believed to lie beyond those capacities. In such case *public* provision or facilitation of the arrangement in question might “lever” the primary market into something more beneficial than it can otherwise be.

American economic history seems to be rich with examples of this phenomenon. Home mortgage and student loan insurance, for example, appear to have been thought too costly or even impossible to provide by private parties. Then governments, with their greater risk-bearing capacities, began providing such services directly in the late 1930s and late 1950s, respectively, in the form of FHA mortgage default insurance and government guaranteed student loans (“GSLs”) as noted above in Part 3.¹⁴ Once they did so, risk was reduced in the primary markets, which lowered borrowing costs in the same and accordingly brought rapid growth.

In some of these cases the market-levering role resembles the market-making role in its risk-resolving, public-good-providing, capital-expanding characteristics. In other such cases, the levering role works a bit differently – as, for example, when government plays a standard-setting or related coordination-problem-solving role by favoring a particular standard in its own influential market acting. In all of these cases, government “levers” preexisting private infrastructures in manners that render public goods more forthcoming at lower cost than is otherwise possible.

The move from coal to petroleum as favored energy source early in the 20th century, for example, and from two-year to thirty-year mortgages as standard mortgage forms during the New Deal era, appear to constitute particularly fateful cases in point. The U.S. military set the standard in the first case, the new FHA established in 1934 in the other. The federal GSL program begun in the 1960s and renamed the “Stafford Loan” program in the 1990s played a similar role in setting student loan standards. In these latter two cases, in turn, standard-setting

¹⁴ See again Hockett, *A Jeffersonian Republic by Hamiltonian Means*, supra note 5.

also facilitated the development of the ultimately credit-cost-reducing secondary markets noted earlier.¹⁵ Much the same can be said of lending by the Small Business Administration (“SBA”).

There are many other examples of market-levering in the sense that we have in mind here. Government procurement and related policies are particularly conspicuous cases in point. The Medicare, Medicaid, and Social Security programs can significantly influence the standard forms that health insurance policies take over time. Public pensions and ERISA plans can, through their investing and contracting practices, similarly influence the investment and insurance practices of other firms. Military and other public contracting practices, as already suggested, likewise significantly influence common practices and prevailing standards throughout the broader economy – including standards that govern the contractual treatment of member of minority groups. So do, of course, the criteria employed by central banks like the U.S. Fed in determining what forms of private credit-extension by private banking institutions to monetize through discounting.

We hasten to note that none of this is to say that the various forms of levering in question need remain efficient indefinitely. There might, for example, have been compelling infrastructural reasons for the U.S. to employ market-levering in relation to pre-existing markets for health insurance, home lending and higher education lending when national action along these lines was in its infancy. By now, however, continued private involvement in these sectors seems at best a regrettably costly compromise with reactionary forces at large in the polity – forces who demand that government actions socialize only risk while providing bonanzas to sectional interests.¹⁶

¹⁵ *Id.*

¹⁶ The home and higher education lending cases also presents a curious twist in this instance. As noted above, here the systems operated well when government, through the GSEs, was the sole secondary market

“Medicare for all,” re-nationalized GSEs, and direct rather than merely federally guaranteed student loans, for example, would seem much more efficient than what we are living with now.¹⁷ But because what we’re living with now enables lending institutions to charge higher rates to borrowers while nevertheless transferring default risk to the public, such institutions demand that we keep what we have. Much the same might ultimately come to be said of many forms of credit-extension, including that to “small business” in particular.

6. MARKET-PRESERVING (A.K.A. “BACKSTOPPING”): RENDERING SELF-FULFILLING PROPHECIES LESS PROPHECIC

There are occasions, particularly in the realm of finance, during which markets can disappear altogether in response to “runs” on particular assets when asset price bubbles reach outer limits. Absent some breathing room offered by temporary liquidity-provision in these periods, liquidity crises can morph into full-on solvency crises. That in turn can result in long term credit contractions of protracted duration, the radial macroeconomic effects of which can destroy hard-won wealth and indeed lives.

The reason that temporary liquidity-provision or “breathing room,” as we’ve called it, can help forestall movement from liquidity crisis to solvency crisis stems from financial panics’ status as what one of us has elsewhere called “recursive collective action problems.”¹⁸ As implicitly suggested above, a collective action problem is a situation in which multiple individually rational decisions aggregate into collectively self-defeating outcomes. The problem is recursive when it bears “feedback” properties, such that movement in a particular direction

provider. Things came a cropper precisely when private securitizers got into the act. It might be well going forward for government to do all the primary and secondary lending where home and higher education loans are concerned.

¹⁷ For more on why, see, e.g., Robert Hockett, *Making (Some) Sense of the Health Care Reform Debate: Social Science, Social Insurance, Social- ‘ism,’ and So-On*, 53 CHALLENGE 1 (2010), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1484768.

¹⁸ Please see *supra*, note 13, for more on this phenomenon.

tends itself to induce further movement in the same direction, ending at no satisfactory equilibrium.

Asset price bubbles and busts are recursive collective action problems in this sense. When credit is abundant and borrowing costs correspondingly low, it can be individually rational to borrow in order to buy assets whose prices are rising. The spread between borrowing costs and capital gains appreciation rates is precisely what renders levered speculative asset purchases financially rational for each individual. Everyone's acting thus rationally, however, drives prices yet higher, inducing more borrowing, more buying, more price rises and so on, ultimately carrying leverage to perilous levels. The process continues until credit runs dry. Thereupon panic ensues and the process moves into reverse, the ensuing collective calamity being the product, paradoxically, of multiple individually rational actions just as the buildup was.¹⁹

Enter here the need of temporary liquidity-provision or "breathing room." Busts constitute "undershooting" just as booms constitute "overshooting" of "fundamental" – that is, longer term sustainable – asset value. If undershooting can somehow be arrested in its tracks during a panic or "run" until heads cool, then, value can be salvaged, harm can be minimized, and credit can be expected to flow again sooner. The problem is that no *individual* market participant typically can afford to wait to find out whether s/he is verging on undershooting. S/he must sell before others' sales drive her assets' values yet lower.

Enter here the market-preserving or "-backstopping" role, in this case a variation on the market-making role. If some agent can act as a lender or purchaser of last resort – and, as importantly, can credibly commit to prospective sellers that it will indeed act in this manner

¹⁹ See again sources cited supra, note 13. See also Robert Hockett, *Bubbles, Busts, and Blame*, 32 CORNELL L. FORUM 5 (2010), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1805930; and Robert Hockett, *Bail-Outs, Buy-Ins, and Ballyhoo*, 52 CHALLENGE 39 (2009), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1276285.

notwithstanding prevailing market sentiment – that agent can slow down the run and thereby minimize collective undershooting. In so doing it will be acting as a collective agent, solving a particularly poignant – because recursive, hence all the more destructive – collective action problem.

The agent in question might also solve a distinct but related collective action problem in some such cases: During a panic it often is tempting for individual actors to assume that they hold disproportionate shares of “toxic” assets – even when the total market share of such assets is quite small and known to be such.²⁰ In these cases the market portfolio will be effectively undervalued, because each party will assume that s/he holds more toxic assets than s/he does, with all parties accordingly overestimating market toxicity in aggregate.²¹ That overestimation is what underwrites so-called “credit crunch” and “liquidity hoarding.”²²

When this happens, the aggregate undervaluation is attributable decisively to the fragmented ownership of the market portfolio. Absent the fragmentation, the aggregate undervaluation would not occur. One way to restore accurate valuation of the market portfolio, then, is (at least temporarily) to concentrate ownership. That way the (single) holder and controller of the market portfolio can rest assured that “his” or “her” portfolio is not more toxic than it actually is.²³

To play this role, however, again requires considerable resources, as well as trust on the

²⁰ One of us, in the sources cited *id.*, refers to this as a “reverse Lake Wobegone” problem: All the holders hold portfolios that, by their own lights at any rate, are “below average.”

²¹ Assume that 10% of the assets in a market are toxic and all investors know this. Some investors hold less than 10% toxic assets, others more, but on average it all washes out to 10% - and again, all investors know this. Now if everyone nevertheless (mistakenly) believes s/he in particular holds 20% toxic assets, with others putatively holding smaller percentages of such assets, then the market as a whole will be undervalued by its participants. It will be treated and valued, in effect, as a market in which 20%, not 10%, of assets are toxic. See sources cited *supra*, notes 19 and 20.

²² Cf. J. M. KEYNES, *THE GENERAL THEORY OF CREDIT, INTEREST, AND MONEY* (1936), Chapter 12 in particular.

²³ It was on this ground that one of us urged the federal government temporarily to purchase MBS in 2008 during the worst of the crisis, until veritably toxic assets could be sorted out from sound ones. See, e.g., Hockett, *Bailouts, Buy-Ins, and Ballyhoo*, *supra* note 19.

part of the principals for whom the agent purports to be acting. As with the market-making and market-moving roles, then, so here a government agent is best situated to play the critical role of collective agent. For, once again, such instrumentalities are generally (a) well resourced, (b) instituted specifically to provide public goods of the sort that solutions to collective action problems constitute, and (c) actuated by purposes other than private profit-taking.

We have already noted, in effect, some examples of this market-preserving role in action above. Both TARP and Federal Reserve's ABS market-making operations in 2008-09, as we observed earlier, were cases in point. But there are others, not all of them operating through market-making of the kind elaborated in Part 3. Fannie Mae, for example, with some help from FHA and the other mortgage finance GSEs, is presently the sole secondary purchaser of (qualifying) new home mortgage loans. The virtual disappearance of the private secondary market since our most recent crisis means that Fannie is the primary underwriter of the continued existence of the primary mortgage market itself. Another, partial example is the latest rendition of Fed QE policy – the so-called “QE3” plans announced in the autumn of 2012. Here we have a case of more Fed market-moving of the Part 4 variety, to be conducted with a view partly to (a) providing further stimulus to macroeconomic growth and employment, per the traditional market-moving role, but also to (b) assisting the GSEs in their mortgage-market *preservation* effort.

A final point worth noting here for purposes of Part 7 below is that, in light of the foregoing, “macroprudential” financial regulation can be viewed as a symmetrical complement to the “market-preserving” role we have just singled out for attention. “Leaning,” in other words, is of the same form as “cleaning.”²⁴

²⁴ The allusion here is to a tired debate, primarily between American “cleaners” and Basel “leaners,” over whether bubbles can be anticipated and preempted, or whether instead the sole role of a central bank is to “clean up” by mass lending after a crash. See, e.g., Hockett, *A Fixer-Upper for Finance*, supra note 6; and Robert Hockett, *The*

The reason is that macroprudential regulation is in principal measure a matter of bubble-preemption,²⁵ and bubble-preemption is structurally identical to liquidity-provision of the sort just countenanced, only operating in reverse. The aim in both cases is for a collective agent to minimize over- or under-shooting by disaggregated market actors whose collectively over- or under-shooting behavior is individually rational. In its essence, the collective agent's means of doing this in both cases is through credit-modulation. During a bust the agent supplies credit which is too rapidly contracting. During a boom the same agent – as macroprudential regulator – mops up credit which is too rapidly expanding.

To grasp this a bit more intuitively and appreciate its potential relation to the government as market actor role, recall again the story with which we opened this essay. There we were simply describing Fed open market operations (again, “OMO”), conducted from the Trading Desk of the Federal Reserve Bank of New York. Now as noted in Part 3 above, these are market-moving operations meant to determine lending rates. That is done, in turn, principally to maintain “price stability,” as this term came (needlessly narrowly) to be interpreted by American regulators from the 1980s until recently. The aim is to keep consumer goods and services prices from rising or falling inordinately. A good macroprudential regulator and crisis liquidity-provider, it now should be emphasized, is doing the same thing in respect of *financial asset* prices. (A bubble is a hyperinflation, a bust a hyperdeflation.)

That more authorities on financial regulation in recent decades have not appreciated this kinship is something of a mystery. Prior regulators – the likes of Fed Chairmen Martin and Volcker – seem to have understood it quite well. Had the Greenspan Fed seen things likewise, we might have fared better by 2008, though this is not certain.²⁶ In any event, as we suggest in Part 7 below, central banks might, then,

Macroprudential Turn: From Institutional “Safety and Soundness” to Systemic “Financial Stability” in Financial Supervision, 32 REV. BANK. & FIN. 1 (2013) (forthcoming), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2206189.

²⁵ See sources cited *id.*

²⁶ Not that there is any guarantee here, in light of the constraints imposed both (a) by the dollar's role globally and (b) the strains that income and wealth inequality place upon financial stability. See, respectively, Robert Hockett, *Bretton Woods 1.0: An Essay in Constructive Retrieval*, 27 N.Y.U. J. LEGIS. 1 (2013) (forthcoming), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1805962; Robert Hockett & Daniel Dillon, *Income Inequality and Market Fragility: Some Empirics in the Political Economy of Finance*, working paper, available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2204710; and Daniel Alpert, Robert Hockett & Nouriel Roubini, *The Way Forward: Moving Past the Post-Bubble, Post-Bust Economy to Renewed Growth and Competitiveness*,

employ their market actor roles in the cause of macroprudential regulation itself. That is a use of the role whose possibilities do not seem as yet to have been fully appreciated, notwithstanding its structural identity with the familiar “lender of last resort” role just explicated under the aspect of market-preservation.

7. EXTENSIONS: SOME SUGGESTIVE EXAMPLES

We turn now to envisaging a number of extensions of the government actor role into spheres in which it does not appear yet to have been utilized. Our aim here is to be suggestive and illustrative rather than exhaustive. We also limit ourselves to straightforward, incremental extensions from market activities that are already undertaken. In later work we shall be more ambitious.

Several quite simple examples, then, are actions that might be taken by central banks along lines that are already more or less familiar in light of the discussion above. As suggested in passing in Part 4 on market-moving, for instance, the U.S. Fed could fine-tune its QE policies, rendering them less harmful to lower income Americans, by short-selling commodities, the prices of which QE as presently conducted tends to inflate.²⁷ This would be a straightforward extension of the market-moving role already played by the Fed.

So would, were the Fed to adopt it, express employment rate targeting as an analog to the inflation targeting advocated by many central bank observers.²⁸ Here the idea would be both to seek, and to announce the intention to seek, an employment rate within some stipulated range, then to employ OMO specifically to maintain employment within that range. A variation on this

white paper, The New America Foundation (2011), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1987139.

²⁷ See again Hockett, “How to Make QE More Helpful: By Fed Shorting of Commodities,” supra note 13, and accompanying text.

²⁸ See, e.g., BEN S. BERNANKE ET AL., INFLATION TARGETING: LESSONS FROM THE INTERNATIONAL EXPERIENCE (2001).

form of monetary policy, more on the fiscal than traditional monetary side of government operations, would be direct, countercyclical government employment and attrition activity of the sort countenanced above in Part 3.

Finally and yet more generally here, as noted above in Part 6, the Fed, along with other nations' central banks or counterpart macroprudential regulators, could readily employ OMO in sundry financial asset markets as a means of securing price stability in these markets akin to the price stability it already seeks in consumer goods and services markets. This it could readily do both by (a) going long certain undervalued assets as it already has done and still does in its market-preserving role *vis a vis* certain ABS, and (b) going short certain overvalued assets such as many RMBS assuredly were during the housing price bubble years.²⁹

Of course, certain exponents of asset markets' informational efficiency will doubt Fed capacity to outguess the markets in hopes of pricking bubbles. But as noted above in Part 6 and works cited therein, these people have lost the old "lean versus clean" debate, which on the merits they never actually "won."³⁰ The fact is that asset-overvaluation is little if any more difficult to detect and to measure than is consumer price inflation, and the same kinds of operation – viz., open market operation – as we employ to trim back the latter can be employed to trim back the former.³¹

Other examples of possible further governmental use of private means for public ends move beyond central banks and monetary authorities.

One such example would be that of public-private loan refinance partnerships to unclog mortgage loan markets through use of public eminent domain authority, as advocated by one of

²⁹ See sources cited *supra*, note 24, for more on such prospects and their need.

³⁰ See again sources cited *supra*, note 24.

³¹ *Id.*

us elsewhere.³² Here, federal, state, and/or local government instrumentalities, partly financed by current MBS holders, would effectively “make” mortgage refinance markets via compulsory purchases of underwater mortgage loans currently locked in private label securitization (“PLS”) trusts by dysfunctional pooling and servicing agreements (“PSAs”) – agreements that, in thus locking up loans, block even mutually beneficial transactions, hence markets.³³

In thus acting, these public-private partnerships would be addressing a classic market-failure induced by contract-rigidities that continue to impose avoidable deadweight loss upon bondholders, homeowners, neighborhoods, and the broader economy alike. They would also be acting, in effect, to restore markets and mortgage credit flows – variations on the market-preserving and -levering roles, respectively. Finally, the criteria employed in selecting PLS loans for compulsory purchase might even be viewed, in effect, as “inverse” industry standards, in the sense that targeted loans are precisely those that should never have been extended under the conditions that they were during the bubble years. This would make for a particularly interesting, not to say ironical, twist on the standard-setting form of the market-levering role.³⁴

Another potential extension of the governmental market actor role would be the case of public-private infrastructure banks. Banks of this sort are initially capitalized by a limited government appropriation, then supplemented by private subscriptions. Returns on completed projects then go in part toward compensating the private investors. The market-levering role of

³² See Robert Hockett, *It Takes a Village: Municipal Condemnation Proceedings and Public/Private Partnerships for Mortgage Loan Modification, Value Preservation, and Local Economic Recovery*, 17 STANFORD J. L., BUS. & FIN. __ (2013) (forthcoming), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2038029; and Robert Hockett, *Paying Paul and Robbing No One: An Eminent Domain Solution for Underwater Mortgage Debt That Can Benefit Literally Everyone*, 18 CURRENT ISSUES IN ECON. & FIN. 1 (Federal Reserve Bank of New York, 2013) (forthcoming), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2173358. Also Saule T. Omarova, “An Unexpected Remedy: Eminent Domain as a Potential Solution to the Mortgage Crisis,” *Jotwell*, Dec. 12, 2012, available at <http://corp.jotwell.com/an-unexpected-remedy-eminent-domain-as-a-potential-solution-to-the-mortgage-crisis/>.

³³ *Id.*

³⁴ See again sources cited supra, note 31.

such banks is obvious: private capital markets are levered to finance public- goods-yielding projects that currently are not privately financeable, yielding more privately financed “bang” for the publicly invested “buck.” The flipside of this market-levering function is a variation on the market-making function: private investors in search of reliable “yield” beyond that afforded by effectively near-zero yield Treasury securities now have an outlet.³⁵

A final example of governmental market action thus far untried – at least in the U.S. – brings us full circle, to an observation with which we introduced this essay. There we noted that many Americans view the direct stakeholder role taken by the U.S. Treasury in certain financial firms that it rescued in 2008-09 through capital infusions ought to have warranted some say in the governance of those firms. This intuition can be generalized. One possible result would be a variation on the “golden shares” idea familiar in some non-U.S. jurisdictions, pursuant to which governments take partial ownership stakes in firms in order to exercise “voice” in the deliberations that ultimately issue in firms’ decisions.³⁶

“Voice” in this sense can be viewed as a form of influence standing a bit short of “command” or “control.” Recognition that private suppliers of equity capital ought not in all circumstances be the sole exercisers of voice is not altogether unheard of. It underlies, for example, the system of “codetermination” that operates among certain classes of German firm, pursuant to which labor is represented on corporate boards just as is capital. But codetermination need not be limited to labor alone as sole codeterminer with capital. The public at large might well play the role too, ensuring that public interests are considered in corporate deliberations

³⁵ See, e.g., Robert Hockett & Robert Frank, *Public Infrastructure Investment, Renewed Growth, and the U.S. Fiscal Position*, white paper under revision for The New America Foundation, 2013, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1987656.

³⁶ An analog to this role has recently been envisaged by one of us for regulatory bodies themselves. See again Omarova, *Bankers, Bureaucrats, and Guardians: Towards Tripartism in Financial Services Regulation*, supra note 2.

even when not categorically imposed via traditional regulation. In return, of course, firms would receive partly public capitalization – rendering the public at large an additional capital supplier rather as individuals are now.

These are just some of many possible avenues for extension of the government as market actor role. Consider, for example, the role public health insurers can play in providing competition in health insurance markets otherwise cursed with “natural monopoly” properties – a role that some extolled in connection with the so-called “public option” that nearly made its way into the U.S. Affordable Care Act of 2010.³⁷ Or consider the similar role – in addition to other salutary roles – that “public banks” like the German *Sparkassen*, or the recently celebrated Bank of North Dakota can play in local and regional banking markets by lending directly to students and small businesses whose successes yield widely spread positive externalities.³⁸

Or, finally for now, consider the public good that some “state-owned enterprises,” public pensions, and sovereign wealth funds might do – and in some cases might already be doing – by way of publicly beneficial market-moving and market-levering. And consider how these might be likewise employed for publicly beneficial market-making and market-preserving purposes. The more one thinks along these lines, the wider the roads ahead seem to look.

8. CONCLUSION: THE ROAD(S) AHEAD

We have covered a good bit of ground here in at least cursory and suggestive fashion. Much more, however, both remains to be done and, we believe, ought to be done. Contemporary

³⁷ See, e.g., Hockett, *Making (Some) Sense of the Health Care Reform Debate*, supra, note 17, for more along these lines.

³⁸ See, e.g., Yolanda Kodrzycki & Tal Elmatad, *The Bank of North Dakota: A Model for Massachusetts and Other States?*, Federal Reserve Bank of Boston Briefing, May 26, 2011, available at <http://www.bos.frb.org/economic/neppc/researchreports/2011/rr1102.htm>. See also Prairie Public Television, *Bank of North Dakota*, documentary, 2005, available at <http://www.prairiepublic.org/television/prairie-public-on-demand/bank-of-north-dakota>. See also the Public Banking Law Institute summer conference website, “Funding the New Economy,” at which the authors will be presenting: <http://www.publicbankinginstitute.org/>.

economic and political life are just too complex and too nuanced to lend themselves readily to crude “public”/“private” distinctions, or to permit leaving broad regulatory avenues out of account and unexplored.

As we noted in introducing this paper, the “public”/“private” divide captures some things, but misses others. It is quite flummoxed, for example, by the operations of state-communist hedge funds in “private” global capital markets.³⁹ The fact that theories suffused by this distinction are rendered speechless in the face of such fateful phenomena suggests that we need much more, much better, more nuanced theorizing.

Traditional “command and control” regulation, for its part, whether in “smart” or in “dumb” varieties, can do immeasurable good.⁴⁰ But so can market-making, market-moving, market-levering and market-preserving of the kinds we’ve elaborated. These are all roles per which government instrumentalities act *on* markets by acting *in* them. They are roles, in other words, per which public actors do public good by acting rather as private actors do – save with publicly warranted market power.

We believe that the surface of these roles’ potential, much like their theoretic significance, has thus far been barely scratched. Hence we hope that this work, as well as the larger project of which it is part, might help to jumpstart a very “big” research agenda with big public payoff. Government instrumentalities already are groping along these lines in quite salutary ways. More careful attention paid the phenomenon, and attendant theorization, “creative visualization,” and experimentation, should lever these developments up to their fuller potentials.

³⁹ See, e.g., Donald Straszheim, “China Buys Wall Street,” *Forbes*, Dec. 27, 2007, available at http://www.forbes.com/2008/12/26/straszheim-china-cic-oped-cx_dhs_1227straszheim.html.

⁴⁰ One of us explores the virtues of simplicity – “dumbness” – in various components of the finance-regulatory regime in a new working paper. See Saule T. Omarova, *Dumb Regulation for Boring Banks: A Smart Cure for Systemic Fragility?*, working paper (on file with the authors).