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Inefficient Inequality

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Inefficient Inequality

Shi-Ling Hsu*

ABSTRACT

For the past several decades, much American lawmaking has been animated by a concern for economic efficiency. At the same time, broad concerns over wealth and income inequality have roiled American politics, and still loom over lawmakers. It can be reasonably argued that a tension exists between efficiency and equality, but that argument has had too much purchase over the past few decades of lawmaking. What has been overlooked is that inequality itself can be allocatively inefficient when it gives rise to collectively inefficient behavior. Worse still, some lawmaking only masquerades as being efficiency-promoting; upon closer inspection, some of this supposedly efficiency-driven legislation is only naked rent-seeking, enriching a small minority at the expense of social welfare. In pursuit of efficiency, injudicious lawmaking has created inefficient laws and institutions.

This Article lays out several ways in which inequality can be allocatively inefficient. This Article also lays out a simple normative principle, focusing on broad economic effects, by which efficiency rationales for lawmaking might be more rigorously considered. Importantly, while it is lawmaking and not economic policymaking that is the focus of this article, it is essential that lawmaking be adequately informed by serious economic analysis, and not the intellectually casual, ideologically-driven economics that has opened the door to rent-seeking over the past several decades. The resulting lawmaking creates inequality but does not even produce the promised efficiencies. Better lawmaking must be informed by better economics. After all, if inequality is objectionable because it is inefficient, then measures to reduce inequality should themselves be efficient.

INTRODUCTION

The problem of economic inequality in the United States has already roiled presidential politics, and still retains the potential to reshape, if not realign, both the Republican and Democratic parties. The temptation is to think of inequality as an economic problem with economic solutions. There is just enough truth in such a view to mask a more fundamental source: legal rules and institutions. After all, an economy is defined by the legal rules and institutions that allocate resources and govern transacting.

At the same time, American lawmaking has unmistakably taken on more of an emphasis on economic efficiency as a normative principle. Over the past fifty years or so, economic considerations have played an increasing role in lawmaking, helping to

* D'Alemberte Professor and Associate Dean of Environmental Programs, Florida State University College of Law. The author thanks and acknowledges the help and comments of Richard McAdams, Lee Fennell, June Carbone, Steve R. Johnson, workshop participants at Emory University School of Law, Loyola University Chicago School of Law, and at the Florida State University College of Law, and participants at the 2015 Midwestern Law and Economics Association meeting. The author would also like to thank Mary McCormick, Kat Klepfer, and the always outstanding library staff at the Florida State University College of Law for their assistance. Of course, the remaining shortcomings are the sole responsibility of the author.

establish the new field of Law and Economics.¹ It is difficult to overstate the influence of Richard Posner's *Economic Analysis of Law*,² the first (of nine and counting) edition published in 1973,³ and Robert Bork's *Antitrust Paradox*,⁴ both of which succeeded in dramatically reshaping the way that legal scholars and judges think about law. In *Reiter v. Sonotone*,⁵ the Court, citing Bork,⁶ brushed aside nearly seven decades of antitrust jurisprudence and policy that was oriented around the preservation of competition⁷ and substituted Bork's prescribed economic efficiency orientation.⁸ Judge Posner's textbook, in the meantime, is commonly thought to be one of the most influential works of the twentieth century, by one of the most influential scholars of his time.⁹

The influence on law and economics scholars such as Judges Posner and Bork is perhaps most obvious in written judicial opinions, in which the reasoning is expected to be explicit, at least more so than any foray into legislative history. The influence of economic considerations on legislators is thus less obvious but just as profound. Major legislative initiatives in welfare reform,¹⁰ tax reform,¹¹ financial

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- 1 For a brief survey of the influence of economics on law and policymaking, see NICHOLAS MERCURO & STEVEN G. MEDEMA, *ECONOMICS AND THE LAW: FROM POSNER TO POST-MODERNISM AND BEYOND* 4–5 (2d ed. 2006).
- 2 RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* (9th ed. 2014).
- 3 RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* (1st ed. 1973).
- 4 ROBERT BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* 61 (1978).
- 5 442 U.S. 330 (1979).
- 6 *Id.* at 343 (citing ROBERT BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* (1978)).
- 7 See Barak Orbach, *How Antitrust Lost Its Goal*, 81 *FORDHAM L. REV.* 2253, 2255 (2013); see also Eleanor M. Fox, *Against Goals*, 81 *FORDHAM L. REV.* 2157, 2159 (2013) (“The operational goal ... is to let business be free of antitrust unless its acts will decrease aggregate consumer surplus.... But this is not *the* goal of antitrust unless the concept of ‘goal’ reads ninety years out of antitrust history.”).
- 8 BORK, *supra* note 4, at 90 (“Consumer welfare is the greatest when society’s economic resources are allocated so that consumers are able to satisfy their wants as fully as technological constraints permit. Consumer welfare, in this sense, is merely another term for the wealth of the nation.”).
- 9 MERCURO & MEDEMA, *supra* note 1, at 102.
- 10 Personal Responsibility and Work Opportunity Reconciliation Act of 1996, PUB. L. NO. 104-93, 110 STAT. 2105 (1996) (ended the Aid to Families with Dependent Children program, commonly referred to as “welfare,” and substituted a package of programs to limit the amount of time that needy people can receive federal aid and provide job training benefits). For a review, see Jerry Watts & Nan Marie Astone, *The End of Work and the End of Welfare*, 26 *CONTEMP. SOC.* 409 (1997). The legislation was highly controversial (and has again become so recently), and was driven in part by an efficiency rationale: that aid dulled incentives to work. See, e.g., Stephen D. Sugarman, *Welfare Reform and the Cooperative Federalism of America’s Public Income Transfer Programs*, 14 *YALE L. & POL’Y REV.* 123, 128–30 (1996).
- 11 See, e.g., Joel Slemrod, *Introduction*, in *TAX PROGRESSIVITY AND INCOME INEQUALITY* 1, 6 (Joel Slemrod ed., 1996); Robert K. Triest, *The Efficiency Cost of Increased Progressivity*, in *TAX PROGRESSIVITY AND INCOME INEQUALITY* 137, 138–39 (Joel Slemrod ed., 1996).

institution regulation,¹² as well as deregulation of electric utilities,¹³ railroads,¹⁴ airlines,¹⁵ and even environmental law,¹⁶ have been justified as enhancing economic efficiency. At seemingly every turn, any legislative or regulatory proposal is touted as one that makes the American economy more efficient. To be sure, some of the economic claims made by lawmakers who lack even the most basic economic training lack credibility.¹⁷ But that has hardly stopped lawmakers from invoking economic efficiency, whether they know what it is or not.

Unfortunately, whether lawmakers are complicit or genuinely duped by rent-seeking industries,¹⁸ the result of efficiency-driven lawmaking is often *inefficiency*. If lawmakers do not have the tools or the training to strictly apply an efficiency standard espoused by economists,¹⁹ they have often used proxies, such as jobs, competitiveness, and cost-reduction for economic efficiency. But if these proxies are not a sleight of hand, they are an opening for rent-seeking. Jobs-counting is a numerical game, but it conveys no information about the value of jobs; job creation can be offered as justification for a subsidy to a dying industry. Helping domestic industries compete suggests greater domestic economic efficiency but fails to account for whether the domestic industry enjoys a comparative advantage over foreign

12 See, e.g., *infra* Part III.A.

13 Reed W. Cearley & Daniel H. Cole, *Stranded Benefits Versus Stranded Costs in Utility Deregulation*, in *THE ECONOMICS OF LEGAL RELATIONSHIPS: THE END OF A NATURAL MONOPOLY: DEREGULATION AND COMPETITION IN THE ELECTRIC POWER INDUSTRY* 169 (Peter Z. Grossman & Daniel H. Cole eds., 2003).

14 See, e.g., Jerry Ellig, *Railroad Deregulation and Consumer Welfare*, 21 J. REG. ECON. 143, 144–46 (2002).

15 Alfred E. Kahn, *Surprises of Airline Deregulation*, 78 AM. ECON. REV. 316, 321 (1988) (“The last ten years have fully vindicated our expectations that deregulation would bring lower fares, a structure of fares on average in closer conformity with the structure of costs . . . and great improvements in efficiency . . .”).

16 See, e.g., Shi-Ling Hsu, *Fairness Versus Efficiency in Environmental Law*, 31 ECOL. L.W. 303, 337–42 (2004).

17 To take just one example of the abysmal economic ignorance in certain quarters of the U.S. Congress, such as Florida Congressman Ted Yoho, a large animal veterinarian, and Arizona Congressman David Schweikert, a real estate developer, who led calls to reject an increase in the U.S. debt ceiling on the grounds of fiscal thrift, but which would have triggered an unprecedented default with globally catastrophic consequences. See, e.g., Carmel Lobello, *3 Crazy Arguments From Debt Ceiling Deniers*, THE WEEK (Oct. 10, 2013), <http://theweek.com/articles/458997/3-crazy-arguments-from-debt-ceiling-deniers>. For a scholarly discussion of the implications of a default, see, for example, Steven L. Schwarcz, *Rollover Risk: Ideating a U.S. Debt Default*, 55 B.C. L. REV. 1, 1–2 (2014).

18 Rent-seeking is the practice of seeking privately favorable government policy with negative social value. See, e.g., GORDON TULLOCK, ARTHUR SELDON & GORDON L. BRADY, *GOVERNMENT FAILURE: A PRIMER IN PUBLIC CHOICE* 43 (2002).

19 POSNER, *supra* note 2, at 24–25.

competitors.²⁰ Reducing production costs seems like it must be efficient, except when it does so by allowing an industry to externalize its costs.²¹

I hasten to emphasize that all of this Article is *not* a condemnation of economic efficiency as a public policy criteria. This Article is an effort to provide equal time for an under-appreciated counterweight to the prevailing views on efficiency and the law: that inequality itself is a source of inefficiency. Wealth or income inequality, if severe enough, gives rise to behavior which may be individually rational but collectively inefficient. This Article sets out several pathways in which this might be the case.

This Article is also an exposition of how an ill-informed invocation of economic efficiency can lead to bad lawmaking—unjust by any reasonable definition but, more prominently and ironically, inefficient lawmaking. The upshot of this exposition is that economics must play a *more* prominent role in lawmaking, not less. What is needed is a more exacting scrutiny of economic claims made in support of lawmaking initiatives invoking economic efficiency as one of its goals.

I emphasize that this Article does *not* argue that inequality is *per se* inefficient. Juxtaposed against the arguments raised in this Article are a countervailing set of arguments that inequality is not only something to be tolerated but even a necessary ingredient for prosperity.²² Circumstance and history dictate which arguments are more applicable, both sets of arguments playing a crucial role in ordering well-functioning societies but in different places and at different times. That said, I *do* argue that the debate over economic efficiency inequality has lost its balance, and that the suite of efficiency-maximizing, inequality-tolerating arguments have come to dominate public law and policymaking, and have become unhinged from sound economic theory. Part I of this Article describes the sometimes fraught relationship the economics profession has had with inequality. Part II sets out how, as a result of this ambivalence, a set of arguments for de-emphasizing or even ignoring inequality has held too much sway over public lawmaking and economic policymaking. Part III sets forth several reasons why inequality may be allocatively inefficient. In so doing, Part III draws upon economic research that examines the linkages between inequality and *economic growth* as a proxy for allocative efficiency. Part IV of this Article argues that the key to reducing inequality lies not in redistribution for its own sake but on policies that focus on economic growth. That is not to say that redistributions cannot spur economic growth; every law or policy affects a

20 An “absolute advantage” is the greater technological ability of one country over another to produce some good. Of more relevance for international trade purposes, a “comparative advantage” is the greater economic ability of one country, *given its factors of production*, to produce some good. In other words, a country at an absolute disadvantage but a comparative advantage enjoys lower factors of production that can compensate for its lesser technological ability to produce the good. *See, e.g.*, Shelby D. Hunt & Robert M. Morgan, *The Comparative Advantage Theory of Competition*, 59 J. MARKETING 1, 5 n.8 (1995).

21 *See, e.g.*, Robert Cooter, *Unity in Tort, Contract, and Property: The Model of Precaution*, 73 CALIF L. REV. 1, 3 (1985).

22 *See infra* text accompanying note 46.

redistribution to some degree. Effective legal responses to inequality, however, should be informed by sound economic analysis.

I. ECONOMISTS ON INEQUALITY

In attention to enabling rent-seeking, ignorance of basic economic principles has prevented lawmakers from appreciating the efficiency problems raised by inequality. It has not helped that most economists have, until recently, stayed out of the inequality discussion.²³ Nobel Laureate and University of Chicago economist, Robert Lucas, once opined in an essay, even while acknowledging that the world had become “a world of staggering and unprecedented income inequality,” that economists should nevertheless avoid trying to reverse inequality.²⁴ Lucas warned that “[o]f the tendencies that are harmful to sound economics, the most seductive, and in my opinion the most poisonous, is to focus on questions of distribution.”²⁵ On the subject of inequality *per se*, there would appear to be little for economists to say anyway. Without a principled way of aggregating individual preferences into a social welfare function that can serve as a maximand,²⁶ there is no obvious economic reason for choosing one distributional state of affairs over another.²⁷

Several prominent economists have ventured into the normative thickets of inequality work.²⁸ These scholars include Nobel Laureate Joseph Stiglitz;²⁹ Sir Tony Atkinson, the author of perhaps the most prominent and long-standing body of work on inequality and poverty;³⁰ and Thomas Piketty, the author of the sensationally

23 ANTHONY B. ATKINSON, *INEQUALITY: WHAT CAN BE DONE?* 14–15 (2015); Anthony B. Atkinson & Francois Bourguignon, *Introduction: Income Distribution and Economics* 1, 2–4, in *HANDBOOK OF INCOME DISTRIBUTION* (Anthony Atkinson & Francois Bourguignon eds., 2000).

24 Robert E. Lucas, Jr., *The Industrial Revolution, Past and Future*, 2003 Annual Report Essay, FEDERAL RESERVE BANK OF MINNEAPOLIS (May 1, 2004), <https://www.minneapolisfed.org/publications/the-region/the-industrial-revolution-past-and-future>.

25 *Id.*

26 Kenneth J. Arrow, *A Difficulty in the Concept of Social Welfare*, 58 *J. POLIT. ECON.* 328, 328–30 (1950).

27 *But see* Daniel Kahneman & Alan B. Krueger, *Developments in the Measurement of Subjective Well-Being*, 20 *J. ECON. PERSP.* 3, 4 (2006).

28 *See, e.g.*, ATKINSON & BOURGUIGNON, *supra* note 233; ANTHONY B. ATKINSON & FRANCOIS BOURGUIGNON, *HANDBOOK OF INCOME DISTRIBUTION, VOLUMES 2A–2B* (2014) (which included prominent economists such as Amartya K. Sen, Agnar Sandmo, Daron Acemoglu, and Thomas Piketty.).

29 JOSEPH E. STIGLITZ, *THE GREAT DIVIDE: UNEQUAL SOCIETIES AND WHAT WE CAN DO ABOUT THEM* (2015); JOSEPH E. STIGLITZ, *THE PRICE OF INEQUALITY* (2013).

30 *See, e.g.*, ATKINSON, *supra* note 23; Atkinson & Bourguignon, *supra* note 23; ANTHONY B. ATKINSON, *ECONOMIC AND INEQUALITY* (1975); ANTHONY BARNES ATKINSON AND ALLAN JAMES HARRISON, *THE DISTRIBUTION OF PERSONAL WEALTH IN BRITAIN* (1978). A very long list of Atkinson’s work can be found at <http://www.tony-atkinson.com/>.

successful book *Capital in the Twenty-First Century*.³¹ Piketty's *Capital* has forced inequality into public intellectual debate but has been broadly criticized,³² and most economists and economics-oriented legal scholars have still simply shrugged, "so what?"³³

So what, indeed? As many have pointed out, the lives of so many people in the world have improved vastly over the past several decades, even as inequality has increased,³⁴ so really, is there anything wrong with inequality *per se*? From a perspective that focuses on overall wealth rather than its distribution, it might seem a bit petty to begrudge the fact that while the poor are better off, the rich are *so much*

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- 31 THOMAS PIKETTY, CAPITAL IN THE TWENTY-FIRST CENTURY (Arthur Goldhammer trans., Harvard Univ. Press 2014) (originally published as *Le capital au XXI siècle* (2013)). Piketty's book itself represents the culmination of two decades of work by himself and a group of economists focusing on economic inequality. See generally, Facundo Alvarado, Anthony B. Atkinson, Thomas Piketty, & Emmanuel Saez, *The Top 1 Percent in International and Historical Perspective*, 27 J. ECON. PERSP. 3 (2013); Phillipe Aghion, Abhiji Banerjee, & Thomas Piketty, *Dualism and Macroeconomic Volatility*, 114 Q. J. ECON. 1359 (1999); A.B. ATKINSON & T. PIKETTY, TOP INCOMES: A GLOBAL PERSPECTIVE (2010); Thomas Piketty & Emmanuel Saez, *A Theory of Optimal Inheritance Taxation*, 81 ECONOMETRICA 1851 (2013); Emmanuel Saez & Gabriel Zucman, *Wealth Inequality in the United States Since 1913: Evidence from Capitalized Income Tax Data* (Nat'l Bureau of Econ. Research, Working Paper No. 20625, 2014), <http://gabriel-zucman.eu/files/SaezZucman2014.pdf>.
- 32 See, Univ. of Chi. Booth Sch. of Bus., *Piketty on Inequality*, IGM FORUM (Oct. 14, 2014, 11:12 AM), http://www.igmchicago.org/igm-economic-experts-panel/poll-results?SurveyID=SV_5v7Rxbk8Z3k3F2t. See also *infra* notes 204–06.
- 33 See, e.g., Saul Levmore, *Inequality in the Twenty-First Century*, 113 U. MICH. L. REV. 833, 836 (2015) ("Is there a problem? If $r > g$ were embedded in a larger pattern in which g was relatively impressive—or even perhaps where g increased with the inequality—then for many observers there would be no problem to solve."); N. Gregory Mankiw, *Yes, $r > g$. So What?* 105 AM. ECON. REV. 43 (2015); Richard Epstein, *The Piketty Fallacy*, REALCLEARPOLITICS (May 6, 2014), http://www.realclearpolitics.com/articles/2014/05/06/the_piketty_fallacy_122547.html ("One of the most striking defects of the Piketty analysis is its flawed understanding of the relationship between social wealth and income inequality. . . . [A]s an economic matter, the increase of the wealth of some without a decline of wealth in others counts as a Pareto improvement, which is in general to be welcomed, even if it increases overall levels of inequality."); Eric A. Posner & Glen Weyl, *Thomas Piketty is Wrong: America Will Never Look Like a Jane Austen Novel*, THE NEW REPUBLIC (July 31, 2014), <https://newrepublic.com/article/118925/pikettrys-capital-theory-misunderstands-inherited-wealth-today> ("The real danger is not inequality *per se* but bad policy that suppresses growth and thus the accumulation of wealth"); Kenneth Rogoff, *Where is the Inequality Problem?*, PROJECT SYNDICATE (May 8, 2014), <https://www.project-syndicate.org/commentary/kenneth-rogoff-says-that-thomas-piketty-is-right-about-rich-countries--but-wrong-about-the-world>.
- 34 See, e.g., ANGUS DEATON, THE GREAT ESCAPE: HEALTH, WEALTH, AND THE ORIGINS OF INEQUALITY 1 (2013) ("Life is better now than at almost any time in history. More people are richer and fewer people live in dire poverty. Lives are longer and parents no longer routinely watch a quarter of their children die."); Lucas, *supra* note 24 ("of the vast increase in the well-being of hundreds of millions of people that has occurred in the 200-year course of the industrial revolution to date, virtually none of it can be attributed to the direct redistribution of resources from rich to poor. The potential for improving the lives of poor people by finding different ways of distributing current production is *nothing* compared to the apparently limitless potential of increasing production."); Rogoff, *supra* note 33.

better off. A policy preference for allocative efficiency would seem to have at least played a large part in decades of global economic growth.

But the so-what response clearly does not sit well,³⁵ even among the “One Percent”—the top percentile of wage-earners or wealth-holders.³⁶ Even if it could be said that the poor are better off in absolute terms in an unequal society, there is a nagging, growing unease that inequality *does* matter, and not just in a visceral sense of *unfairness*. Rather, the broad concern is that excessive inequality produces a society that in its totality is less well-off in some sense.³⁷ In other words, inequality might not only be unfair but inefficient as well. So to those who shrug “so what?” there is a retort: a blind devotion to allocative efficiency as a norm at the expense of distributional concerns may generate laws and policies that are, ironically, allocatively inefficient.³⁸

The reticence of the economic profession is exasperating because it is clearly within the economic mainstream to study the effects of inequality on indices such as economic growth,³⁹ crime,⁴⁰ and educational outcomes.⁴¹ What is missing is the short leap from a descriptive and empirical account of these linkages to the normative claim made in this Article: inequality, if extreme enough, can lead to outcomes that are societally undesirable and allocatively inefficient.

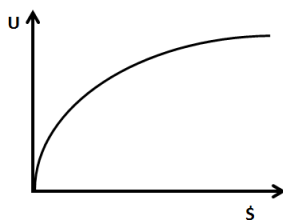
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- 35 See *Public Opinion on Income Inequality*, 11 AEI POLIT. REP. 1, 1–7 (May 2015), <https://www.aei.org/wp-content/uploads/2015/04/Political-Report-May-2015.pdf>; Pew Research Ctr., *Emerging and Developing Economies Much More Optimistic than Rich Countries About Future* (Oct. 9, 2014), <http://www.pewglobal.org/2014/10/09/emerging-and-developing-economies-much-more-optimistic-than-rich-countries-about-the-future/>.
- 36 See, e.g., Warren Buffett, *Stop Coddling the Super-Rich*, N.Y. TIMES (Aug. 15, 2011), <http://www.nytimes.com/2011/08/15/opinion/stop-coddling-the-super-rich.html>; Bill Gates, *Why Inequality Matters*, GATESNOTES: THE BLOG OF BILL GATES (Oct. 13, 2014), <http://www.gatesnotes.com/Books/Why-Inequality-Matters-Capital-in-21st-Century-Review>.
- 37 The thesis of this Article includes, but is not limited to, the claim that inequality can be inefficient from a purely neoclassical economic view. But this Article also makes the claim that inequality can make a society worse off in a way that is not captured by neoclassical economic models. For example, subjective well-being is increasingly considered a valid measure of societal welfare. See, e.g., Alberto Alesina, Rafael Di Tella, & Robert MacCulloch, *Inequality and Happiness: Are Europeans and Americans Different?*, 88 J. PUBL. ECON. 2009, 2011 (2004); MATTHEW D. ADLER, WELL-BEING AND FAIR DISTRIBUTION (2012) (setting out a theoretical framework for comparing distributions in a social welfare function).
- 38 Another article, and important precursor to this one, that has surveyed the literature is Paul L. Caron & James R. Repetti, *Occupy the Tax Code: Using the Estate Tax to Reduce Inequality and Spur Economic Growth*, 40 PEPP. L. REV. 1255 (2012). The current article seeks to further disaggregate the mechanisms by which inequality may be allocatively inefficient, and to add to the list compiled by Caron and Repetti.
- 39 See *infra* Part III.A.
- 40 See *infra* Part III.C.
- 41 See *infra* Parts III.A., III.B.

II. COMPETING NARRATIVES

To a great extent, differences in opinion over inequality stem from different ideologies. The ideologies derive from opposing economic theories, but with empirical evidence somewhat spotty, political partisans have been left to fill in the blanks with their own ideological, often specious interpretations of theory and evidence. Seemingly academic economic debates thus matter because economic theory has come to play an enormously influential role in public law and policymaking, which has in turn played a central role in alleviating or exacerbating inequality.⁴² Tax policy alone allocates trillions of dollars among Americans.

One set of competing narratives draws upon fairly simple microeconomic notions. Every undergraduate student in Economics learns of the law of declining marginal utility of money: the more money someone has, the less each additional increment of money adds to that person's happiness or utility.⁴³ The first one hundred dollars a person has will be spent on absolute essentials, such as food and shelter, while subsequent one hundred increments are spent on things that are less and less important. The familiar graph of the declining marginal utility of money is shown in Figure 1.

Figure 1



The implication of this truism is a very general proposition that all other things being equal, a more equal distribution of money will place more people on a steeper part of the utility curve, achieving a higher level of utility for a greater number of people, as opposed to concentrating the money in one individual. Money means more to poor people than it does for rich people.

There are equally simple, equally powerful competing narratives, however. For one thing, people have different preferences for wealth and trade wealth off differently against other tangible and intangible goods, such as material goods or

42 See, e.g., PAUL DAVIDSON, *POST KEYNESIAN THEORY AND POLICY: A REALISTIC ANALYSIS OF THE MARKET ORIENTED CAPITALIST ECONOMY* 9–14 (2015); Alan S. Blinder, *The Case Against the Case Against Discretionary Fiscal Policy*, (Ctr. for Econ. Policy Studies, Working Paper No. 100, 2004), <https://www.princeton.edu/~ceps/workingpapers/100blinder.pdf>.

43 See, e.g., Edward J. McCaffrey, *Why People Play Lotteries and Why It Matters*, 1994 WISC. L. REV. 71, 76–77 (1994).

leisure time,⁴⁴ so that not everyone has the *same* declining marginal utility of money. Another counterargument is that it is important to preserve incentives for hard work. Some inequality exists because individuals are rewarded for productive effort and individuals differ in their ability and willingness to produce, so unequal allocations are to some extent just a natural outcome in a world where productive effort is rewarded.⁴⁵ Nobel Laureate Simon Kuznets propounded a theory that inequality was a necessary incident of economic growth. Market factor prices would cause unequal factor prices to converge and equilibrate at a higher level of wealth.⁴⁶ By Kuznets' account, inequality is ultimately self-correcting and nothing to worry about.⁴⁷

Another pair of competing narratives draws from macroeconomic theory. John Maynard Keynes' *General Theory of Employment, Interest and Money*⁴⁸ ranks as one of the most influential writings of all time, having been vindicated (rightly or wrongly) by expansionary fiscal policy that pulled the world out of the Great Depression.⁴⁹ A core tenet of Keynesian economic theory is that in recessionary times, when spending is low, government spending can take the place of private spending, which would boost aggregate demand for goods, spur employment, and boost economic activity.⁵⁰ Keynesian economics has implications for inequality because government spending is likely to have the greatest effect on the poor. Because poor individuals generally have a higher *marginal propensity to consume* (i.e. spend), money in the hands of poor people have a greater stimulative economic effect than if it were in the hands of rich people.⁵¹

44 See, e.g., Richard Layard, Guy Mayraz & Stephen Nickell, *The Marginal Utility of Income*, 92 J. PUBL. ECON. 1846, 1846 (2008) (“[I]t is crucial to know how fast the marginal utility of income declines as income increases. . . . A natural way to do this is to weight each person’s changes in income by his or her marginal utility of income.”).

45 See, e.g., Gustavo A. Marrero & Juan G. Rodriguez, *Inequality of Opportunity and Growth*, 104 J. DEV. ECON. 107, 107–08 (2013); Martin Ravallion, *Inequality When Effort Matters* (Nat’l Bureau of Econ. Research Working Paper No. 21394, 2015), <http://www.nber.org/papers/w21394.pdf>.

46 Simon Kuznets, *Economic Growth and Income Inequality*, 45 AM. ECON. REV. 1 (1955).

47 *Id.*

48 JOHN MAYNARD KEYNES, *A GENERAL THEORY OF EMPLOYMENT, INTEREST AND MONEY* (1936).

49 President Roosevelt was not apparently convinced of Keynes’ theory, nor was his New Deal inspired by Keynes. However, the military spending that was necessitated by World War II was, in fact, the kind of stimulus that Keynes advocated. ROBERT S. McELVAINE, *THE GREAT DEPRESSION: AMERICA, 1929-1941* 329 (1993).

50 KEYNES, *supra* note 48, at 348–52; Alan S. Blinder, *Keynesian Economics*, THE CONCISE ENCYCLOPEDIA OF ECON. (2008), <http://www.econlib.org/library/Enc/KeynesianEconomics.html>.

51 Christopher Carroll, Jiri Slacalek, Kiichi Tokuoka & Matthew N. White, *The Distribution of Wealth and the Marginal Propensity to Consume* 1 (Mar. 6, 2015), <http://www.econ2.jhu.edu/people/ccarroll/cstwMPC.pdf>. Moreover, spent money becomes income to the seller, who in turn spends some of that same money on her own needs, and so on, resulting in the same money being counted as income several times, or creating a *multiplier effect* of money, an empirically-derived factor that is used to evaluate the

But government spending is not free. One of several responses to Keynesian was “supply side economics,” which posits that long-term economic growth is affected not only by demand but also supply.⁵² Governments running huge, unsustainable deficits are likely to crowd out private investment and retard future growth.⁵³ Supply side economics would argue for government policies to promote the formation of capital to produce goods that people supposedly demand.⁵⁴ After all, money not spent is *invested*, which is also a predicate for production and consequent economic productivity.⁵⁵

A sensible synthesis of these two sets of competing narratives would acknowledge that none are universal; some situations call for redistribution and some call for government austerity, but government fiscal policy must be dictated by circumstance, not ideology. No self-respecting, modern Keynesian economist would deny that supply is irrelevant, a topic not even covered by Keynes.⁵⁶ By the same token, during the depths of the 2008–09 global financial crisis, what has come to be known as simply the Financial Crisis, even prominent supply-side theorists advocated for strong fiscal action to stimulate aggregate demand.⁵⁷

Unfortunately, a sensible synthesis has not prevailed upon government fiscal policy. It has not even been true supply-side economics that has driven fiscal policy. Fiscal policy has been driven by a wayward faction of self-described supply-siders, ones that make much more aggressive and speculative claims than credible supply-side economists. Prominent among them is Arthur Laffer, who famously propounded on a cocktail napkin his “Laffer Curve,” a putative relationship between tax rates and

effectiveness of fiscal policy. WALLACE C. PETERSON & PAUL S. ESTENSON, *INCOME, EMPLOYMENT, AND ECONOMIC GROWTH* 172–76 (7th ed. 1992).

52 Martin Feldstein, *Supply Side Economics: Old Truths and New Claims*, 76 *AM. ECON. REV.* 26, 26 (1986).

53 See Carmen M. Reinhart, Vincent R. Reinhart & Kenneth S. Rogoff, *Public Debt Overhangs: Advanced-Economy Episodes Since 1800*, 26 *J. ECON. PERSP.* 69 (2012). This paper has been controversial, as a graduate student found an error in Reinhart et al.’s spreadsheet, which affected some of quantitative claims made in the paper. Reinhart and Rogoff argue that the errors did not change their conclusions. Peter Coy, *FAQ: Reinhart, Rogoff, and the Excel Error That Changed History*, *BLOOMBERG BUS.* (Apr. 18, 2013), <http://www.bloomberg.com/news/articles/2013-04-18/faq-reinhart-rogoff-and-the-excel-error-that-changed-history>.

54 Feldstein, *supra* note 5252, at 26.

55 Income is commonly defined by the accounting identity $Y \equiv C + I + G$ showing that for a closed economy without exports or imports, income is the sum of consumption, investment, and government expenditures. See, e.g., PETERSON & ESTENSON *supra* note 50, at 82. That is, by definition, money not spent is invested (excepting government expenditures). Investment in capital is a fundamental ingredient to economic growth. See, e.g., Robert M. Solow, *A Contribution to the Theory of Economic Growth*, 70 *Q. J. ECON.* 65, 69–70 (1956).

56 Blinder, *supra* note 50.

57 See, e.g., Martin Feldstein, *The Stimulus Plan We Need Now*, *WASH. POST*, (Oct. 30, 2008), <http://www.washingtonpost.com/wp-dyn/content/article/2008/10/29/AR2008102903198.html>.

revenues, and argued that tax cuts would actually increase tax revenues.⁵⁸ At some level this is true. But at current levels of income taxation in the United States, this idea is fantasy. Martin Feldstein, President Reagan’s Chief Economic Advisor and an architect of major federal income tax cuts of 1981 and 1984, has called the Laffer Curve the “height of supply-side hyperbole”⁵⁹ and Laffer himself “a supply-side extremist.”⁶⁰ Neither Laffer nor his supporters have marshalled any empirical evidence that high, personal income taxes reduce labor supply.⁶¹

And yet, Laffer and his ilk remain extremely influential on fiscal policy.⁶² Tax cuts introduced by President George W. Bush in 2001, the “Bush Tax Cuts,” have been justified on the grounds that they would boost growth by creating jobs,⁶³ a claim

58 The Laffer Ctr., *The Laffer Curve*, LAFFER CTR. (2014), <http://www.laffercenter.com/the-laffer-center-2/the-laffer-curve/>.

59 Feldstein, *supra* note 52, at 27. Feldstein continued: “I have no doubt that the loose talk of the supply-side extremists gave fundamentally good policies a bad name and led to quantitative mistakes that not only contributed to subsequent budget deficits, but also made it more difficult to modify policy when those deficits became apparent.” *Id.* at 27–28.

60 *Id.* at 29.

61 See, e.g., Austan Goolsbee, Robert E. Hall & Lawrence F. Katz, *Evidence on the High-Income Laffer Curve from Six Decades of Tax Reform*, BROOKINGS PAPERS ON ECON. ACTIVITY 1, 2 (1999) (“As a testable hypothesis, however, the Laffer curve has not fared well. . . . More careful econometric analysis has not been any more supportive. An extensive literature in labor economics has shown that there is very little impact of changes in tax rates on labor supply for most people, particular for prime-age working men. This would seem to indicate that the central tenet of the Laffer curve is demonstrably false—marginal rates seem to have little impact on the amount that people work.”). It is true that more sophisticated theories have emerged that have the same implications as the Laffer Curve: Feldstein himself argues that high personal income tax rates do not discourage labor so much as they encourage the shifting of income into non-taxable forms. Martin Feldstein, *The Effect of Marginal Tax Rates on Taxable Income: A Panel Study of the 1986 Tax Reform Act*, 103 J. POL. ECON. 551 (1995). This, however fares little better as an empirical matter than the original Laffer Curve. Austan Goolsbee, Robert E. Hall & Lawrence F. Katz, *Evidence on the High-Income Laffer Curve from Six Decades of Tax Reform*, BROOKINGS PAPERS ON ECON. ACTIVITY 1, 2 (1999).

62 Jim Tankersley, *Arthur Laffer Has a Never-Ending Supply of Supply-side Plans for GOP*, WASH. POST, (Apr. 9, 2015), https://www.washingtonpost.com/business/economy/arthur-laffer-has-a-never-ending-supply-of-supply-side-plans-for-gop/2015/04/09/04c61440-dec1-11e4-a1b8-2ed88bc190d2_story.html (“No one has influenced Republican candidates’ thinking on the economy for the past four decades as much as Laffer”); Rana Foroohar, *Growth is Still All About Supply Side for Republicans*, TIME (Nov. 11, 2015), <http://time.com/4107809/republican-debate-economics/>.

63 House Speaker John Boehner claimed on the *Today Show* on May 10, 2011, that the Bush Tax Cuts created 8 million jobs. Louis Jacobson, *John Boehner Says Bush Tax Cuts Created 8 Million Jobs Over 10 Years*, POLITIFACT.COM (May 11, 2011, 12:26 PM), <http://www.politifact.com/truth-o-meter/statements/2011/may/11/john-boehner/john-boehner-says-bush-tax-cuts-created-8-million-> GOP lawmakers still cling to this claim. The GOP continues to claim the Bush Tax Cuts have led to job creation, even recently, Jonathan Weisman, *Economy Up, G.O.P. Wants a Little Credit*, N.Y. TIMES, (Jan. 10, 2015), <http://www.nytimes.com/2015/01/10/business/economy/economy-up-gop-wants-a-little-credit.html> (“There’s a positive story to tell since Republican took over the House, 9.6 million jobs

that lawmakers have clung to despite it having been debunked by even conservative analysts.⁶⁴ Meanwhile, the Bush Tax Cuts have been highly regressive, boosting the incomes of the One Percent by 61.8% from 2002 to 2007, while boosting incomes of the bottom 99% by only 6.8%,⁶⁵ and then only to be wiped out by losses from the Financial Crisis.⁶⁶ Those continuing to advocate for tax cuts have argued that tax cuts are needed for “job creators,” who would use the extra money to employ workers.⁶⁷ Skepticism and calls for tax equity that have risen up alongside Piketty’s book sales⁶⁸ have been answered by catcalls of “class warfare.”⁶⁹

Even post-Financial Crisis, government fiscal policymakers seem to resist any Keynesian suggestions of infusing poor households with money. By any measure, the economic recovery following the Financial Crisis has been weak,⁷⁰ and the evidence seems to point to depressed aggregate demand⁷¹ due to weak spending by the poor—

created, the deficit cut in half, 98 percent of the Bush tax cuts locked in place.” (quoting David Winston, a Republican pollster).

64 See, e.g., Rick Ungar, *The Truth About the Bush Tax Cuts and Job Growth*, FORBES (July 17, 2012), <http://www.forbes.com/sites/rickungar/2012/07/17/the-truth-about-the-bush-tax-cuts-and-job-growth/>; David Boaz, *One Bad and Eight Good Reasons to Cut Taxes*, CATO INST. (Feb. 28, 2001), <http://www.cato.org/publications/commentary/one-bad-eight-good-reasons-cut-taxes>. This claim has also been debunked by the nonpartisan Congressional Budget Office: CONG. BUDGET OFFICE, PUB. NO. 4570, ECONOMIC EFFECTS OF POLICIES CONTRIBUTING TO FISCAL TIGHTENING IN 2013, at 2 (Nov. 2012) (stating that allowing the Bush Tax Cuts to expire for couples making more than \$250,000 and single individuals making more than \$200,000 would increase GDP by 1.25 percent).

65 Emanuel Saez, *Striking it Richer: The Evolution of Top Incomes in the United States (Updated with 2012 Preliminary Estimates)* 6 (Sept. 3, 2013) (unpublished manuscript), <http://elsa.berkeley.edu/~saez/saez-UStopincomes-2012.pdf>); see also THOMAS L. HUNGERFORD, CONG. RESEARCH SERV., R42131, CHANGES IN THE DISTRIBUTION OF INCOME AMONG TAX FILERS BETWEEN 1996 AND 2006: THE ROLE OF LABOR INCOME, CAPITAL INCOME, AND TAX POLICY 4 (2011) (Table 1, showing large increases for high-income individuals and falling income for the bottom twenty percent).

66 See *infra* notes 219–20 and accompanying text.

67 A 2011 proposal by Republicans in the House of Representatives was entitled “Plan for America’s Job Creators,” REPUBLICAN POLICY COMM., 112TH CONG., PLAN FOR AMERICA’S JOB CREATORS (2011), <http://www.gop.gov/resources/library/documents/jobs/theplan.pdf>, and pledged to “help business owners create jobs without raising taxes.” Press Release, Office of Speaker of the House, Helping Americans Get Back to Work is Our Number One Priority (May 26, 2011), <http://www.speaker.gov/press-release/speaker-boehner-highlights-plan-america%E2%80%99s-job-creators>). See also Jeremy W. Peters, *G.O.P. Hopefuls Now Aiming to Woo the Middle Class*, N.Y. TIMES (May 4, 2015), <http://www.nytimes.com/2015/05/04/us/politics/gop-hopefuls-now-aiming-to-woo-the-middle-class.html>.

68 See, e.g., Drew DeSilver, *High-income Americans Pay Most Income Taxes, But Enough to be Fair?* PEW RES. CTR., FACTTANK (Mar. 24, 2015), <http://www.pewresearch.org/fact-tank/2015/03/24/high-income-americans-pay-most-income-taxes-but-enough-to-be-fair/>.

69 Gary Cameron, *Senior Senate Republican Accuses Obama of ‘Class Warfare’*, REUTERS (Jan. 20, 2015), <http://www.reuters.com/article/2015/01/20/us-taxes-hatch-idUSKBN0KT1KR20150120>.

70 See, e.g., BEN BERNANKE, THE FEDERAL RESERVE AND THE FINANCIAL CRISIS 109–10 (2013).

71 Atif Mian & Amir Sufi, *Consumers and the Economy, Part II: Household Debt and the Weak U.S. Recovery*, FED. RES. BANK OF S.F., (Jan. 18, 2011), <http://www.frbsf.org/economic-research/publications/economic-letter/2011/january/consumers-economy-household-debt-weak-us-recovery/>.

because they are still poor!⁷² This fact would call for a Keynesian injection of money,⁷³ but that notion has been completely supplanted by the rubbish that supply-side charlatans are peddling and conservative politicians are disseminating—that is, the idea that giving money and regulatory breaks to “job creators,” such as finance institutions, will produce economic growth.⁷⁴

As another example of faux economics driving law and policy, deregulation of the finance and banking industries had been justified on the grounds that liberalization was needed so that American banks and financial firms could compete in a global finance industry and continue to create wealth and jobs domestically.⁷⁵ A series of deregulations of the banking and finance sector, at the very least, played an important part in creating the worst financial crisis since the Great Depression.⁷⁶ At the same time, deregulation had the effect of amplifying compensation in the finance industry.⁷⁷ The top 0.1%—dominated by individuals in finance⁷⁸—now hold 22% of the nation’s wealth, which is about the same level as it did in 1929.⁷⁹ All this regressive mayhem occurred because the banking and finance industries were able

72 More precisely, actually, the Ninety-Five Percent. See Barry Z. Cynamon & Steven M. Fazzari, *Inequality, the Great Recession, and Slow Recovery*, (Inst. for New Econ. Thinking, Working Paper No. 9, 2015), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2205524.

73 See, e.g., Alan Auerbach & Yuriy Gorodnichenko, *Fiscal Multipliers in Recession and Expansion*, 1–27 in FISCAL POLY AFTER THE FIN. CRISIS (A. Alesina & F. Giavazzi eds., 2012); Olivier Blanchard & Daniel Leigh, *Growth Forecast Errors and Fiscal Multipliers*, (IMF Working Paper No. 13/1, 2013) <http://www.imf.org/external/pubs/ft/wp/2013/wp1301.pdf>.

74 See, e.g., THOMAS L. HUNGERFORD, CONG. RESEARCH SERV., R42729, TAXES AND THE ECONOMY: AN ECONOMIC ANALYSIS OF THE TOPS TAX RATES SINCE 1945, at 1 (2012) (“The plan advocated by House Budget Committee Chairman Paul Ryan that is embodied in the House Budget Resolution . . . the *Path to Prosperity*, also proposes to reduce income tax rates Advocates of lower tax rates argue that reduced rates would increase economic growth, increase saving and investment, and boost productivity.”); *TRANSCRIPT: Fox News-Google GOP Debate*, FOX NEWS (Sep. 22, 2011), <http://www.foxnews.com/politics/2011/09/22/fox-news-google-gop-2012-presidential-debate.html> (“Americans want a leader who’s got a proven record of job creation. Number one, we get rid of Obamacare. Secondly, we pull back all of those regulations that are job-killing today, whether it’s Dodd-Frank or whether it’s the EPA.”) (quoting Texas Governor and Republican Presidential candidate Rick Perry)).

75 See Arthur E. Wilmarth, Jr., *The Dark Side of Universal Banking: Financial Conglomerates and the Origins of the Subprime Financial Crisis*, 41 CONN. L. REV. 963, 973–75 (2009); Arthur E. Wilmarth, Jr., *Citigroup: A Case Study in Managerial and Regulatory Failures*, 47 IND. L. REV. 69, 73 (2014).

76 See, e.g., Lynn A. Stout, *Derivatives and the Legal Origin of the 2008 Credit Crisis*, 1 HARV. BUS. L. REV. 1, 3 (2011); Arthur E. Wilmarth, Jr., *Turning a Blind Eye: Why Washington Keeps Giving in to Wall Street*, 81 U. CIN. L. REV. 1283, 1328–40 (2013).

77 See Thomas Philippon & Ariel Reshef, *Wages and Human Capital in the U.S. Finance Industry: 1909–2006*, 127 Q.J. ECON. 1551, 1605 (2012).

78 Benjamin B. Lockwood, Charles G. Nathanson & E. Glen Weyl, *Taxation and the Allocation of Talent*, 124 J. POL. ECON. (forthcoming 2016), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1324424.

79 Emaneul Saez & Gabriel Zucman, *Wealth Inequality in the United States Since 1913: Evidence from Capitalized Income Tax Data*, 131 Q.J. ECON. 519, 519 (2016).

to argue that less regulation would preserve their competitiveness and that their greater profits would mean more jobs.⁸⁰

It is clear that a wide variety of legislative and administrative actions that have led to increased inequality have been justified by something quite beyond what is credibly considered supply-side economics. Current levels of inequality have come about in large part because of the rhetorical power of an ideology of low taxes and economic deregulation, which has increased inequality and failed to deliver promised economic growth.⁸¹ But it has been an ideology that has clearly placed its stamp on economic law and policy, dragging the political spectrum so far to the right as to completely separate political ideology from economic reality. This Article seeks to restore economic reasoning to economic law and policy and strike a new balance between competing theoretical narratives concerning the need (or lack of need) to address economic inequality.

III. HOW INEQUALITY CAN BE INEFFICIENT

Inequality may be allocatively inefficient (and therefore produces suboptimal welfare states) in a variety of ways that are completely consistent with a strictly welfare maximization viewpoint. Welfare maximization, correctly done, thus requires that *some* attention be paid to distribution so as to avoid some inefficiencies and pathologies that arise out of inequality itself. This section sets forth several such ways in which inequality might generate inefficiency.

This Article does not treat the related but separate problem of poverty. Poverty tends to be defined in absolute terms, such as an income level for a given number of dependent household members.⁸² This Article speaks to the need to address inequality, a relative state of affairs measuring differences among groups, not absolute levels of life quality. And again, this Article only seeks to present arguments

80 A central figure driving deregulation was former Senator Phil Gramm, co-sponsor of the Gramm-Leach-Bliley Act, which removed regulatory barriers between retail banking and finance. Gramm has said of the Dodd-Frank Act, which re-regulated some banking and finance activities, that it “has undermined a vital condition required to put money and America back to work — legal and regulatory certainty.” Michael J. de la Merced, *Deregulator of Banks Set to Testify Before House*, N.Y. TIMES (July 26, 2015), <http://www.nytimes.com/2015/07/27/business/dealbook/deregulator-of-banks-set-to-defend-his-actions.html>.

81 See, e.g., Hungerford, *supra* note 74, at 8–10 (“The statistical analysis . . . does not find that either top tax rate has a statistically significant association with the real GDP growth rate. . . . These results are generally consistent with previous research on tax cuts. Some studies find that a broad based tax rate reduction has a small to modest, positive effect on economic growth. Other studies have found that a broad based tax reduction, such as the Bush tax cuts, has no effect on economic growth. It would be reasonable to assume that a tax rate change limited to a small group of taxpayers at the top of the income distribution would have a negligible effect on economic growth.”).

82 See *How the Census Bureau Measures Poverty*, U.S. CENSUS BUREAU, <https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html> (last updated Apr. 19, 2016).

that inequality can produce inefficient outcomes. I acknowledge that economic theory is replete with accounts of how inequality can be a natural and efficient aspect of an effective free market.

A. Inequality Suppresses Capital Investment

Atkinson, Piketty, and a group of economists led a re-engagement with the economic implications of inequality in the 1990s after a period in which it was commonly accepted that income or wealth inequality was either irrelevant to economic growth or was a positive factor for economic growth.⁸³ Three arguments were offered in support of the view that inequality was associated with economic growth: (1) that the rich had a higher marginal propensity to save and therefore invest,⁸⁴ and that providing more wealth to the rich increased the supply of investment funds, spurring economic growth;⁸⁵ (2) some growth-enhancing investments tended to be large and indivisible so that some concentration of wealth was necessary for those investments to be made; and (3) the presence of inequality provided incentives for individuals to increase their effort and also to innovate.⁸⁶ These arguments rested on pivotal assumptions—for example, that a growth economy is limited by investment funds, not skilled labor—which seem not to have been seriously challenged.⁸⁷ Nor did economists seem to obsess much over the omission of other crucial growth determinants, such as education and infrastructure.⁸⁸ However, in the 1990s, with the rise of the study of human capital (education and informal

83 See Philippe Aghion, Eve Caroli & Cecilia García-Peñalosa, *Inequality and Economic Growth: The Perspective of the New Growth Theories*, 37 J. ECON. LIT. 1615, 1615 (1999).

84 A standard identity in macroeconomic theory is that savings, the difference between income and consumption, is necessarily investment. See JOHN MAYNARD KEYNES, *THE GENERAL THEORY OF EMPLOYMENT, INTEREST AND MONEY* 63 (1936). There is sometimes confusion whether this is an accounting identity (true by definition) or an assumption of equilibrium conditions. See, e.g., A. Asimakopulos, *Finance, Saving and Investment in Keynes' Economics: A Comment*, 9 CAMBRIDGE J. ECON. 405, 405 (1985). But almost any growth theory would posit that at least the vast majority of savings would be invested in some productive manner, contributing in some way to economic growth.

85 Very generally, a simple growth posits production as a function of labor and capital. See, e.g., Robert M. Solow, *A Contribution to the Theory of Economic Growth*, 70 Q. J. ECON. 65, 69–70 (1956). So unless production requires capital and labor in fixed proportions, increasing capital would increase production and therefore economic growth.

86 Aghion et al., *supra* note 83, at 1620.

87 Nicholas Stern, *The Determinants of Growth*, 101 ECON. J. 122, 124 (1991). But the interdependence of labor stock and capital stock was noted influentially by Solow's seminal *A Contribution to the Theory of Economic Growth*. See Solow, *supra* note 85.

88 *Id.* at 129.

learning)⁸⁹ and the emergence of development economics, a renewed interest in growth theory took root.⁹⁰ Recognition that growth could be modeled endogenously and could be strongly affected by government policy seemed to raise new research and modeling questions and force a re-examination of prevailing notions about inequality.⁹¹ As economists looked at the difference between developed countries and developing countries, they could not help but notice vast inequalities of wealth among the former and began to ask questions about whether inequality played some role in determining growth.⁹²

Growth theory has typically focused on production, and more particularly on the capital investment required for production.⁹³ It was thus natural to wonder, at some point, if inequality might impede economic growth because it meant that large swaths of a population might be too poor to invest in potentially productive capital. Lenders in an unequal society face borrowers that have sufficient collateral (rich people) and those who don't (poor people), and lenders would therefore loan at different interest rates.⁹⁴ An unequal society misses a huge opportunity by making it harder for the poor to borrow and invest.⁹⁵ This constraint might hinder ordinary productive investments, like opening a small business, but might be even more unfortunate (and more inefficient) if it discouraged, as economic scholars suspect it

89 See Theodore W. Schultz, *Capital Formation by Education*, 68 J. POLIT. ECON. 571 (1960); Theodore W. Schultz, *Investment in Human Capital*, 51 AM. ECON. REV. 1, 9 (1961); GARY S. BECKER, A THEORETICAL AND EMPIRICAL ANALYSIS, WITH SPECIAL REFERENCE TO EDUCATION 30–54 (3d ed. 1993).

90 See Ravi Kanbur & Nora Lustig, *Why is Inequality Back on the Agenda?* 1 (Cornell Univ. Dep't of Agric., Res., and Managerial Econ., Working Paper No. 99-14, 1999), <https://pdfs.semanticscholar.org/2645/b8f2cf81613e353d3dd0ef7abd0991ad9d49.pdf>.

91 Stern, *supra* note 87, at 122–23.

92 See, e.g., Torsten Persson & Guido Tabellini, *Is Inequality Harmful for Growth?*, 84 AM. ECON. REV. 600 (1994); Atkinson & Bourguignon, *supra* note 23, at 3–4.

93 Conventional economic theorizing and empirical analysis has tended to view capital as the limiting factor, since much of the under-developed world has so much inexpensive labor. See, e.g., Adrian Wood, *Openness and Wage Inequality in Developing Countries: The Latin American Challenge to East Asian Conventional Wisdom*, 11 WORLD BANK ECON. REV. 33, 34 (1997) (“The belief that increased openness reduces wage inequality in developing countries rests on an apparently indisputable fact—that the supply of unskilled labor, relative to the supply of skilled labor, is larger in developing than in developed countries.”); Michael P. Todaro, *A Model of Labor Migration and Urban Employment in Less Developed Countries*, 59 AM. ECON. REV. 138, 138 (1969) (“[E]ven the most casual observer of these countries cannot help but be overwhelmed by the proportion of the urban labor force which is apparently untouched by the ‘modern’ economy.”).

94 Thomas Piketty, *The Dynamics of the Wealth Distribution and the Interest Rate with Credit Rationing*, 64 REV. ECON. STUD. 173, 181–85 (1997). See also, Oded Galor & Joseph Zeira, *Income Distribution and Macroeconomics*, 60 REV. ECON. STUD. 35, 36 (1993); Abhijit V. Banerjee & Andrew F. Newman, *Occupational Choice and the Process of Development*, 101 J. POLIT. ECON. 274, 276 (1993).

95 Philippe Aghion & Patrick Bolton, *Distribution and Growth in Models of Imperfect Capital Markets*, 36 EUR. ECON. REV. 603, 603–04 (1992); Philippe Aghion & Patrick Bolton, *A Theory of Trickle-Down Growth and Development*, 64 REV. ECON. STUD. 151, 151 (1997); Banerjee & Newman, *supra* note 94, at 276 (1993); Piketty, *supra* note 94, at 173–74 (1997); Galor & Zeira, *supra* note 94, at 36 (1993).

does, investment in education.⁹⁶ Inequality thus has a dynastic effect in that poorly-educated families have little capacity to invest in education and improve their lot.⁹⁷ This dynastic effect is exacerbated because poorer families are more likely to be larger; to augment income and pool risks of family misfortune (such as illness), poorer families are likely to have more children, in turn making it more difficult for those children to invest in education.⁹⁸ Even without considering the cost of maintaining a safety net for unproductive individuals, the lack of productivity is an enormous opportunity cost for society.

Some economists with Keynesian inclinations also wonder if inequality reduces capital investment from the demand side. It is true that economic growth might be stunted by insufficient production caused by lack of investment. But it might also be true that economic growth might be stunted by insufficient demand. A person with 3,000 times the personal wealth of an average individual does not consume 3,000 times as much as the average individual.⁹⁹ Wealth inequality implies that fewer consumers can afford to purchase goods, which would suppress demand for goods and services, which would in turn suppress capital investment.¹⁰⁰ Why invest in producing goods if there aren't enough consumers out there with sufficient wealth to buy them? Moreover, an inefficiently small consumer base creates second-order inefficiencies: a smaller domestic goods market reduces product diversity and

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- 96 W. Henry Chiu, *Income Inequality, Human Capital Accumulation and Economic Performance*, 108 *ECON. J.* 44, 44–45 (1998); Galor & Zeira, *supra* note 94, at 36; José De Gregorio, *Borrowing Constraints, Human Capital Accumulation, and Growth*, 37 *J. MONETARY ECON.* 49, 50 (1996); Amparo Castelló & Rafael Doménech, *Human Capital Inequality and Economic Growth: Some New Evidence*, 112 *ECON. J.* C187, C187–89 (2002).
- 97 Oded Galor & Hyoungsoo Zang, *Fertility, Income Distribution, and Economic Growth: Theory and Cross-Country Evidence*, 9 *JAPAN & WORLD ECON.* 197, 198–99 (1997); see Momi Dahan & Daniel Tsiddon, *Demographic Transition, Income Distribution, and Economic Growth*, 3 *J. ECON. GROWTH* 29, 29–30 (1998).
- 98 Cf. Nancy Birdsall & Juan Luis Londoño, *Asset Inequality Matters: An Assessment of the World Bank's Approach to Poverty Reduction*, 87 *AM. ECON. REV.* 32, 36 (1997); Klaus Deininger & Lyn Squire, *New Ways of Looking at Old Issues: Inequality and Growth*, 57 *J. DEV. ECON.* 259, 273 (1998); See also Castelló & Doménech, *supra*, note 96, at C187–89; Roberto Perotti, *Growth, Income Distribution, and Democracy: What the Data Say*, 1 *J. ECON. GROWTH* 149, 177–82 (1996). *But see*, Stephen Knowles, *Inequality and Economic Growth: The Empirical Relationship Reconsidered in the Light of Comparable Data*, 41 *J. DEV. STUD.* 135, 154 (2005); Christophe Ehrhart, *The Effects of Inequality on Growth: a Survey of the Theoretical and Empirical Literature*, 27–39 (Soc. for the Stud. of Econ. Ineq. Working Paper No. ECINEQ WP 2009-107, 2009).
- 99 For a study showing that income inequality leads to consumption inequality, see Mark Aguiar & Mark Bilal, *Has Consumption Inequality Mirrored Income Inequality?*, 105 *AM. ECON. REV.* 2725 (2015).
- 100 Kevin M. Murphy, Andrei Shleifer & Robert Vishny, *Income Distribution, Market Size, and Industrialization*, 104 *Q.J. ECON.* 537, 538–39 (1989); Anandi Mani, *Income Distribution and the Demand Constraint*, 6 *J. ECON. GROWTH* 107, 108 (2001); Josef Zweimüller, *Inequality, Redistribution, and Economic Growth*, 27 *EMPIRICA* 1, 13–15 (2000).

competition in goods provision,¹⁰¹ and it consequently dampens the incentives to innovate and in turn dampens the economic growth that comes along with innovation.¹⁰²

It should not be surprising that inequality creates economic losses by suppressing consumption as well as production. If severe enough, inequality disenfranchises large parts of a population. To the extent that countries with high levels of inequality are leaving substantial groups of people behind, they are not just ill-serving those groups; they are ill-serving their entire populace by failing to capitalize on human resources.

B. Loss of Positive Human Capital Externalities

Like other forms of capital, human capital—formal education or informal learning—is a factor of production and a key driver for economic growth.¹⁰³ But human capital confers benefits that other forms of capital do not. Human capital helps drive the adoption of new technologies, as higher-skilled workers with richer human capital generate better ideas and are more able to adapt to changes in technology.¹⁰⁴ Better still, human capital can produce knowledge spillovers as interactions among skilled individuals generate mutually beneficial enhancements to human capital.¹⁰⁵ This is especially true if one examines the stock of human capital in a specific locality, where interactions are likely to take place, such that one explicitly considers the returns of education to a local economy.¹⁰⁶

The empirical evidence strongly suggests that inequality is negatively correlated with investment in human capital and thereby dampens economic

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- 101 Josef Falkinger & Josef Zweimüller, *The Impact of Income Inequality on Product Diversity and Economic Growth*, 48 METROECONOMICA 211, 213 (1997).
- 102 Reto Foellmi & Josef Zweimüller, *Income Distribution and Demand-Induced Innovations*, 73 REV. ECON. STUD. 941, 941–42 (2006).
- 103 N. Gregory Mankiw, David Romer & David N. Weil, *A Contribution to the Empirics of Economic Growth*, 107 Q.J. ECON. 407, 408 (1992).
- 104 Paul M. Romer, *Endogenous Technological Change*, 98 J. POLIT. ECON. S71, S99 (1990); Andrew D. Foster & Mark R. Rosenzweig, *Technical Change and Human-Capital Returns and Investments: Evidence from the Green Revolution*, 86 AM. ECON. REV. 931, 951 (1996).
- 105 See, e.g., Romer, *supra* note 104; Richard R. Nelson & Edmund S. Phelps, *Investment in Humans, Technological Diffusion and Economic Growth*, 56 AM. ECON. REV. 69, 75 (1966); Robert E. Lucas, Jr., *On the Mechanics of Economic Development*, 22 J. MONETARY ECON. 3, 5–8 (1988); James J. Heckman, *Policies to Foster Human Capital*, 54 RES. ECON. 3, 7 (2000).
- 106 JANE JACOBS, *THE ECONOMY OF CITIES* 3 (1970); James E. Rauch, *Productivity Gains from Geographic Concentration of Human Capital: Evidence from the Cities*, 34 J. URBAN ECON. 380, 380 (1993); Enrico Moretti, *Estimating the Social Return to Higher Education: Evidence from Longitudinal and Repeated Cross-Sectional Data*, 121 J. ECON. 175, 208–09 (2004); Enrico Moretti & Per Thulin, *Local Multipliers and Human Capital in the United States and Sweden*, 22 IND. & CORP. CHANGE, 339, 356–67 (2013).

growth.¹⁰⁷ Economists have long intuited the importance of education to economic growth.¹⁰⁸ Claudia Goldin and Lawrence Katz, in their book *The Race Between Education and Technology*,¹⁰⁹ argue that the economic dominance of the United States for the latter half of the twentieth century was largely due to its broad public schooling system, which created an educated workforce able to adapt to technological changes and increase productivity.¹¹⁰ Young women,¹¹¹ as well as young African Americans,¹¹² benefited broadly and greatly. But more importantly for our purposes, the dissipation of inequalities in education did not place white males at a relative disadvantage; rather, the breadth of education in the American populace lifted up an entire populace, creating economic growth in excess of what could have been achieved without compulsory schooling.¹¹³ And by contrast, Goldin and Katz argue, the American failure to maintain that educational advantage after 1970 largely explains the country's economic underperformance over this same period.¹¹⁴ In the United States, inequality that stratifies schooling into one system for haves and another for have nots is not only unjust but grossly inefficient.¹¹⁵

C. Inequality and Crime

Crime has long been studied as a sociological problem.¹¹⁶ Nobel Laureate Gary Becker modeled crime as a purely economic problem, opening up a new and entirely

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- 107 Klaus Deininger & Lyn Squire, *New Ways of Looking at Old Issues: Inequality and Growth*, 57 J. DEV. ECON. 259, 272–74 (1998); Perotti, *supra* note 98, at 152–54; Castelló & Doménech, *supra* note 96, at C187–89; Moretti, *supra* note 106; Moretti and Thulin, *supra* note 106; Rauch, *supra* note 106. *But see* Daron Acemoglu & Joshua Angrist, *How Large are Human-Capital Externalities? Evidence from Compulsory Schooling Laws*, 15 NAT'L BUREAU OF ECON. RES. MACROECONOMICS ANN. 2000 9, 12–13 (2000), <http://www.nber.org/chapters/c11054.pdf>.
- 108 *See, e.g.*, Schultz, *Capital Formation by Education*, *supra* note 89; Schultz, *Investment in Human Capital*, *supra* note 89.
- 109 CLAUDIA GOLDIN & LAWRENCE F. KATZ, *THE RACE BETWEEN EDUCATION AND TECHNOLOGY* (2008).
- 110 *Id.* at 29.
- 111 *Id.* at 78 (Table 2.5 showing higher returns for education for women in college and business school, but not high school).
- 112 GOLDIN & KATZ, *supra* note 109, at 21–23.
- 113 *Id.* at 29.
- 114 *Id.* at 320–23.
- 115 Roland Bénabou, *Heterogeneity, Stratification, and Growth: Macroeconomic Implications of Community Structure and School Finance*, 86 AM. ECON. REV. 584, 603 (1996).
- 116 *See, e.g.*, Stuart Lottier, *Distribution of Criminal Offenses in Sectional Regions*, 29 J. CRIM. L. & CRIMINOLOGY 329 (1938); CLIFFORD R. SHAW & HENRY D. MCKAY, *JUVENILE DELINQUENCY AND URBAN AREAS* (1942). A strand of literature actually focused on the U.S. South on the theory that Southern culture had more violent roots than that of other regions. *See, e.g.*, HUNTINGTON C. BREARLEY, *HOMICIDE IN THE UNITED STATES* (1932); Sheldon Hackney, *Southern Violence*, 74 AM. HIST. REV. 906 (1969); Raymond D. Gastil, *Homicide and a Regional Culture of Violence*, 36 AM. SOCIOLOGICAL REV. 412 (1971);

different literature, one that tended to view criminals, law enforcement agents, and potential victims all as rational actors, in stark contrast to sociological models of culture and norms.¹¹⁷ Again, this Article does not address the effects of poverty on efficiency, and so does not address the effects of poverty on crime. If poverty is the result of a lack of legal economic opportunities, then illegal opportunities become an increasingly rational alternative even in the face of potential sanctions. Inequality, by contrast, is not concerned with the situation of the potential criminal herself but her position relative to others. A potential criminal may not even be particularly poor but may be moved to crime by her relative position to others.

Inequality may cause crime by breeding resentment, but for our purposes, it is more relevant that inequality can make crime, even violent crime, a *rational* course of action. Consider two individuals of equal age, size, and strength, but one is wealthier than the other. The wealthier individual, with more opportunities for wealth acquisition, would have more to lose from a violent encounter. The opportunity costs of violence are higher for the wealthier individual, and the poorer individual can exploit that asymmetry and threaten violence. In fact, the wealthier individual may even be larger, stronger, and quicker, and have an *absolute advantage* over the poorer one; but the poorer individual who has less to lose may still have a *comparative advantage* in violence.¹¹⁸

Extrapolating from this two-person example, it is not hard to imagine that inequality creates a dangerous situation because of the asymmetry of opportunity costs. In societies with vast inequalities, some individuals will have very small opportunity costs of crime, perhaps even violent crime, with the result that they will enjoy a comparative advantage in violence. The rich can of course purchase some security with their vast wealth, obtaining an *absolute* advantage in violence, but that will not be enough to prevent those with little left to lose from initiating violence.¹¹⁹ Even if the poor lose more in a violent clash, in the context of what can be gained and lost by violence, a clash will be more costly to the rich than the poor, which is exactly what the rich fear.

Empirical validation of this phenomenon does face some data challenges. For one thing, crime underreporting is not only commonplace in all jurisdictions but

Colin Loftin & Robert H. Hill, *Regional Subculture and Homicide: an Examination of the Gastil-Hackney Thesis*, 39 AM. SOCIOLOGICAL REV. 714 (1974).

117 Gary S. Becker, *Crime and Punishment: an Economic Approach*, 76 J. POLIT. ECON. 169–72 (1968).

118 See, e.g., Hunt & Morgan, *supra* note 20.

119 An illustration of the difference between an absolute advantage and comparative advantage in violence is provided in Terry L. Anderson & Fred S. McChesney, *Raid or Trade? An Economic Model of Indian-White Relations*, 37 J. LAW & ECON. 39 (1994), and in D. Bruce Johnsen, *The Formation and Protection of Property Rights Among the Southern Kwakiutl Indians*, 15 J. LEGAL STUD. 41 (1986). Professor Johnsen argues that property rights among aboriginal groups of the Pacific Northwest emerged which provided a substantial amount of customary sharing, in part to avoid the wealth imbalances that would give rise to a comparative advantage in violence.

varied in its extent, making cross-sectional analyses difficult.¹²⁰ For another, there is the question of what geographic unit of measurement is relevant: is it inequality within a country, state, county, city, or neighborhood?¹²¹ For yet another, measurement of inequality can be challenging. Measuring inequality by income elides the difficulty that individuals commonly have different incomes at different points in life that do not accurately represent lifetime earning potential.¹²² For example, graduate students may have low incomes but high future earnings potential and may consume more than the average low-income individual.¹²³ Most researchers have simply tried their best to address data problems and disclose shortcomings.¹²⁴

But while data issues merit an asterisk, it is accurate to assert that a positive link exists between inequality and crime, violent and non-violent. At the end of the day, most studies have found a statistically significant relationship between inequality and crime.¹²⁵ This relationship, where it is found, is usually distinguishable from the effect of poverty on crime.¹²⁶ For our purposes, it seems sufficient to say that the link between inequality and crime serves as another economic justification for reducing inequality.

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- 120 Pablo Fajnzylber, Daniel Lederman & Norman Loayza, *Inequality and Violent Crime*, 45 J. L. & ECON. 1, 4–5 (2002).
- 121 Steven Messner & Kenneth Tardiff, *Economic Inequality and Levels of Homicide: An Analysis of Urban Neighborhoods*, 24 CRIMINOLOGY 297 (1986).
- 122 Alan J. Auerbach & Kevin Hassett, *Capital Taxation in the 21st Century*, 16 (Nat'l Bureau of Econ. Research, Working Paper No. 20871, 2015), <http://www.nber.org/papers/w20871.pdf>.
- 123 The theory is that consumption patterns follow expectations of lifetime, or “permanent,” earnings, rather than current-year income. See, e.g., MILTON FRIEDMAN, A THEORY OF THE CONSUMPTION FUNCTION 20–21 (1957).
- 124 One study measured inequality and homicide within countries, reasoning that homicide is a crime that is *not* under-reported, and fleeing criminals are mostly likely to be constrained by national borders than any other. Pablo Fajnzylber, Daniel Lederman & Norman Loayza, *Inequality and Violent Crime*, 45 J. L. & ECON. 1, 7–9 (2002). Others focus on the neighborhood, on the theory that it is the proximity of inequality that matters, not the systemic advantages and disadvantages. See generally Steven Messner & Kenneth Tardiff, *Economic Inequality and Levels of Homicide: An Analysis of Urban Neighborhoods*, 24 CRIMINOLOGY 297 (1986).
- 125 Judith R. Blau & Peter M. Blau, *The Cost of Inequality: Metropolitan Structure and Violent Crime*, 47 AM. SOCIOLOGICAL REV. 114, 126 (1982); Morgan Kelly, *Inequality and Crime*, 82 REV. ECON. & STAT. 530, 537 (1999); Luiz Guilherme Scorzafave & Milena Karla Soares, *Income Inequality and Penuciary Crimes*, 104 ECON. LET. 40, 42 (2009); Jongmook Choe, *Income Inequality and Crime in the United States*, 101 ECON. LET. 31, 33 (2008); Jesse Brish, *Does Income Inequality Lead to More Crime? A Comparison of Cross-Sectional and Time-Series Analyses of United States Counties*, 96 ECON. LET. 264, 267–68 (2008); Martin Daly, Margo Wilson & Shawn Vasdev, *Income Inequality and Homicide Rates in Canada and the United States*, 43 CAN. J. CRIMINOLOGY & CRIM. JUST. 219, 231 (2001). But see, Joanne M. Doyle, Ehsan Ahmed, & Robert N. Horn, *The Effects of Labor Markets and Income Inequality on Crime: Evidence from Panel Data*, 65 SO. ECON. J. 717, 737 (1999); Messner & Tardiff, *supra* note 124, at 311.
- 126 Blau & Blau, *supra* note 125; Daly et al., *supra* note 125; Kelly, *supra* note 125.

D. Inequality and Political Instability

There is enough of Karl Marx in Thomas Piketty for him to drop some dark hints of a grand clash between classes if wealth gaps continue to expand.¹²⁷ Just a remote threat of violence or social unrest is enough to send investors fleeing for safer shores and thereby reducing economic growth.¹²⁸ Worse still, the threat of social unrest raises borrowing costs for the government, further reducing the resources available in that country for public spending.¹²⁹ Relatedly, the threat of violence or social unrest may induce executive action that infringes upon private property rights, again sending investors fleeing.¹³⁰ A strand of political economy research thus examines the effects of inequality on political stability and consequently on economic growth.

Using cross-country and time-series analyses, researchers have found that robust and statistically significant relationships exist between inequality and political instability¹³¹ and between political instability and economic growth over time.¹³² Political instability is operationalized by measuring the frequency of large political demonstrations and political assassinations, the number of fatalities stemming from incidents of mass violence, the number of serious attempts to overthrow a sitting government, and the frequency of actual changes in government.¹³³ High levels of inequality have even been shown to be correlated with higher levels of terrorist activity.¹³⁴

127 PIKETTY, *supra* note 31, at 263, 422.

128 Elizabeth Asiedu, *On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different?*, 30 *WORLD DEV.* 107 (2002); Robert Barro & Jong-Wha Lee, *Sources of Economic Growth*, 40 *CARNEGIE-ROCHESTER CONFERENCE SERIES ON PUBL. POL'Y* 1, 42–46 (1994); Friedrich Schneider & Bruno S. Frey, *Economic and Political Determinants of Foreign Direct Investment*, 13 *WORLD DEVELOPMENT* 161 (1985).

129 R. Gaston Gelos, Ratna Sahay & Guido Sandleris, *Sovereign Borrowing by Developing Countries: What Determines Market Access?*, 83 *J. INT. ECON.* 243 (2011).

130 Jonathan Thomas & Tim Worrall, *Foreign Direct Investment and the Risk of Expropriation*, 61 *REV. ECON. STUD.* 81, 81–82 (1994).

131 Alberto Alesina & Roberto Perotti, *The Political Economy of Growth: A Critical Survey of the Recent Literature*, 8 *WORLD BANK ECON. REV.* 351, 359–362 (1994). *See generally* Alex Cukierman, Sebastian Edwards & Guido Tabellini, *Seigniorage and Political Instability*, 82 *AM. ECON. REV.* 537 (1992); Barro & Lee, *supra* note 126; Frederick Z. Jaspersen, Anthony H. Aylward & A. David Knox, *Risk and Private Investment: Africa Compared With Other Developing Areas*, in *INVESTMENT AND RISK IN AFRICA* 71–95 (Paul Collier & Catherine Pattillo eds., 2000).

132 Alesina & Perotti, *supra* note 131, at 355–59; Barro & Lee, *supra* note 128, at 42–44.

133 Alesina & Perotti, *supra* note 131, at 355–59.

134 Tim Krieger & Daniel Meierreiks, *Does Income Inequality Lead to Terrorism? Evidence from the Post-9/11 Era*, 16 (Frieburg Univ., Working Paper No. 2015-04, 2015), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2617924.

The existence of legal rights and a strong foundation in the rule of law have always been recognized as essential to economic prosperity and growth.¹³⁵ But perhaps even more important is the existence of economic rights and opportunities to strive. What this research seems to highlight is the importance of the latter as a complement to the former.

E. The Erosion of Social Capital

Since the publication of Robert Putnam's book *Bowling Alone*,¹³⁶ the study and measurement of "social capital" has occupied a prominent place in social science research, even among economists.¹³⁷ Social capital is most commonly thought of as the variety of interpersonal and intra-organizational bonds that are formed for purposes of cooperation.¹³⁸ Putnam defines social capital as "features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit."¹³⁹

Putnam's normative focus, and that of most sociologists, has been civic or community well-being. Putnam's thesis was that social capital enhances political and civic life without consciously having these outcomes as objectives.¹⁴⁰ Membership in bowling leagues, churches, and a variety of groups apparently made people better citizens without their knowing it.¹⁴¹ Conversely, a breakdown in social capital brings

135 See, e.g., Robert J. Barro, *Human Capital and Growth*, 91 AM. ECON. REV. 12, 13–14 (2001).

136 ROBERT D. PUTNAM, *BOWLING ALONE: THE COLLAPSE AND REVIVAL OF AMERICAN COMMUNITY* (2000).

137 See, e.g., Kenneth Arrow, *Observations on Social Capital*, in *SOCIAL CAPITAL: A MULTIFACETED PERSPECTIVE* 3–5 (P. Dasgupta & I. Serageldin eds., 2000). Urban economist Edward Glaeser has also developed a body of work on social capital. See Edward L. Glaeser, David Laibson & Bruce Sacerdote, *An Economic Approach to Social Capital*, 112 ECON. J. F437, F454 (2002); Edward L. Glaeser, David Laibson, Jose A. Scheinkman & Christine L. Soutter, *What is Social Capital? The Determinants of Trust and Trustworthiness* (Nat'l Bureau of Econ. Research, Working Paper No. 7216, 1999), <http://scholar.harvard.edu/files/glaeser/files/w7216.pdf>; Edward L. Glaeser, David I. Laibson, Jose A. Scheinkman & Christine L. Soutter, *Measuring Trust*, 115 Q. J. ECON. 811 (2000).

138 Urban economist Jane Jacobs first used the term social capital, defining it as "a continuity of people who have forged neighborhood networks." JANE JACOBS, *THE DEATH AND LIFE OF GREAT AMERICAN CITIES* 138 (1961). James Coleman is later credited with developing it as a concept functionally similar to physical and human capital. James S. Coleman, *Social Capital in the Creation of Human Capital*, 94 AM. J. SOC. S95, S98 (1988).

139 Robert D. Putnam, *An Interview with Robert Putnam*, 6 J. DEMOCRACY 65, 67 (1995).

140 See PUTNAM, *supra* note 136, at 184–88.

141 See *id.* at 42–46.

on a variety of social ills, including poorer health,¹⁴² lower educational levels,¹⁴³ and increased violent crime.¹⁴⁴

But in addition to social benefits, social capital confers important economic benefits. Significant efficiencies can be realized by cooperation within a social group or community that has built up a reservoir of trust.¹⁴⁵ A well-known example is found in the Jewish diamond merchant business in New York City.¹⁴⁶ In order to obtain a second opinion on the value of diamonds, merchants will entrust competing merchants with bags of diamonds with enormous value—tens or hundreds of thousands of dollars. Amazingly, stealing in this community is virtually non-existent because the social capital resident in this community is even more valuable; stealing or substitution would result in ostracism.¹⁴⁷ But note the economic significance: the ability to obtain a reliable second opinion on diamonds worth thousands and tens of thousands of dollars is a huge benefit. Moreover, being able to do so without having to resort to formal enforcement mechanisms¹⁴⁸ is a cost savings. Of course, it is possible for social capital to be marshalled for unproductive, even immoral purposes, such as organized crime or the Ku Klux Klan,¹⁴⁹ or for rent-seeking;¹⁵⁰ but this is also true of physical or human capital. The economic perspective is analogous to Putnam's argument: social capital enhances economic productivity without consciously having economic productivity as its goal.¹⁵¹

142 See, e.g., Ichiro Kawachi, Bruce P. Kennedy, Kimberly Lochner & Deborah Prothrow-Stith, *Social Capital, Income Inequality, and Mortality*, 87 AM. J. PUB. HEALTH 1491, 1495 (1997); See John W. Lynch, George A. Kaplan, Elsie R. Pamuk, Richard D. Cohen, Katherine E. Heck, Jennifer L. Balfour & Irene H. Yen, *Income Inequality and Mortality in Metropolitan Areas of the United States*, 88 AM. J. PUB. HEALTH 1074 (1998).

143 Mark Gradstein & Moshe Justman, *Education, Social Cohesion, and Economic Growth*, 92 AM. ECON. REV. 1192 (2002). See Mark Gradstein, *The Political Economy of Public Spending on Education, Inequality, and Growth*, (World Bank Pol'y Res., Working Paper No. 3162, 2003), <http://documents.worldbank.org/curated/en/455691468761970993/pdf/wps3162.pdf>;

144 Fajnzylber et al., *supra* note 120, at 19; Sandro Galea, Adam Karpati & Bruce Kennedy, *Social Capital and Violence in the United States, 1974–1993*, 55 SOC. SCI. & MED. 1373, 1378 (2002).

145 Elinor Ostrom, *Collective Action and the Evolution of Social Norms*, 14 J. ECON. PERSP. 137, 142 (2000).

146 See generally Lisa Bernstein, *Opting Out of the Legal System: Extralegal Contractual Relations in the Diamond Industry*, 21 J. LEGAL STUD. 115 (1992); Coleman, *supra* note 138, at S99.

147 Coleman, *supra* note 138, at S99.

148 The New York Diamond Dealers Club has its own arbitration system for resolving disputes. See Bernstein, *supra* note 146, at 124–30.

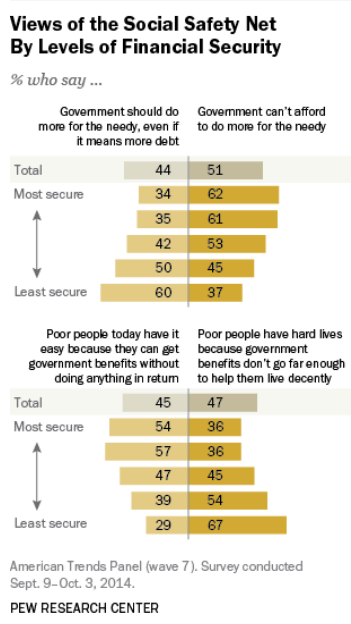
149 See, e.g., Francis Fukuyama, *Social Capital, Civil Society and Development*, 22 THIRD WORLD Q. 7, 8 (2001).

150 See MANCUR OLSON, THE RISE AND DECLINE OF NATIONS 44 (1982).

151 See, e.g., ARROW, *supra* note 137, at 3 (“There is considerable consensus also that much of the reward for social interactions is intrinsic—that is, the interaction is the reward—or at least that the motives for interaction are not economic. People may get jobs through networks of friendship or acquaintance, but they do not, in many cases, join the networks for that purpose.”).

Inequality imposes costs because it erodes trust and social capital.¹⁵² Trust and social capital are unfortunately likely to be low when parties are from different racial or ethnic groups.¹⁵³ Economic inequality creates a similar sociological distance so that the greater the inequality, the lesser the trust.¹⁵⁴ A Pew survey conducted in 2014 asked respondents about their views on whether government should help the poor and whether they thought the poor “have it easy.”¹⁵⁵ The results are reproduced in Figure 2 below.

Figure 2



152 Putnam, in later research, has argued that “the correlation between economic equality and social capital is virtually ubiquitous, both across space and across time, both in the United States and around the world.” Robert D. Putnam, *E Pluribus Unum: Diversity and Community in the Twenty-first Century: The 2006 Johan Skytte Prize Lecture*, 30 SCANDINAVIAN POL. STUD. 137, 156 (2007).

153 See Glaeser, et al., *supra* note 137, at 814; Erzo F.P. Luttmer, *Group Loyalty and the Taste for Redistribution*, 109 J. POL. ECON. 500 (2001); Alberto Alesina, Reza Baqir & William Easterly, *Public Goods Provision and Ethnic Divisions*, (Nat'l Bureau of Econ. Research, Working Paper No. 6009, 1997), <http://www.nber.org/papers/w6009.pdf>.

154 See Dora L. Costa & Matthew E. Kahn, *Civic Engagement and Community Heterogeneity: An Economist's Perspective*, 1 PERSP. POL. 103, 103–05 (2003); Avner Greif, *Contract Enforceability and Economic Institutions in Early Trade: The Maghribi Traders' Coalition*, 83 AM. ECON. REV. 525, 544 (1993) (analyzing development of social groups formed to reduce transaction costs among immigrant Jewish merchants).

155 Scott Keeter, Carroll Doherty & Rachel Weisel, *The Politics of Financial Insecurity*, PEW RESEARCH CTR., 8 (Jan. 8, 2015), <http://www.people-press.org/files/2015/01/1-8-15-Financial-security-release.pdf>.

The stark differences in attitude between the richest and the poorest are striking. It is shocking that more than half of people in the two richest quintiles actually believe that “poor people today have it easy,” when the average Supplemental Nutrition Assistance Program benefit (food stamp benefit) is about \$125 per month, or a little over \$4 per day.¹⁵⁶ In the United States, there is quite apparently a great sociological distance between rich and poor when it comes to how comfortably the poor live.

Lower levels of trust and social capital are unfortunately costly. Clearly, one implication of the Pew study is that greater inequality has the ironic effect of discouraging giving from rich to poor.¹⁵⁷ But it is not just that rich people are less charitable in their giving habits to help the poor, but that people of *all income levels* are less willing to contribute to civic engagement of all sorts.¹⁵⁸ A general erosion of trust and social capital affects people’s view of policy and causes people to withdraw from social transacting. Cross-sectional studies show that the erosion of social capital caused by inequality causes a policy to disfavor public spending on all kinds of government programs and services,¹⁵⁹ but most notably and most unfortunately, public education.¹⁶⁰ The quality of government services is poorer in states where there is less reported trust.¹⁶¹

For our purposes, it is most useful to consider how inequality erodes social capital and impinges on economic growth. Extrapolating from case studies, like that of the Jewish diamond merchant industry, up to a macro level, it is natural to hypothesize that economies with more social capital, and concomitantly more trust, were more economically productive.¹⁶² It is not difficult to imagine why: commercial

156 U.S. DEP’T OF AGRIC., SUPPLEMENTAL NUTRITION ASSISTANCE PROGRAM (SNAP), PARTICIPATION AND COSTS, 1969–2014 (2015), <http://www.fns.usda.gov/sites/default/files/pd/SNAPsummary.pdf> (showing the average for the entire program, which benefits over 45 million Americans and disburses benefits of about \$70 billion, and therefore masks wide variation in benefits. Recipients are not actually expected to survive on \$4 per day, as the program is meant to supplement other sources of aid).

157 There is some debate over whether charitable contribution rates are higher for people with higher incomes. See Paul G. Schervish & John J. Havens, *Money and Magnanimity: New Findings on the Distribution of Income, Wealth, and Philanthropy*, 8 NONPROFIT MGMT. & LEADERSHIP 421 (1998); Russell N. James & Deanna L. Sharpe, *The Nature and Causes of the U-Shaped Charitable Giving Profile*, 36 NONPROFIT & VOLUNTARY SECTOR Q. 218 (2007); Edward Buckley & Rachel Croson, *Income and Wealth Heterogeneity in the Voluntary Provision of Linear Public Goods*, 90 J. PUB. ECON. 935, 946 (2006).

158 See, e.g., Lisa R. Anderson, Jennifer M. Mellor & Jeffrey Milyo, *Inequality and Public Good Provision: An Experimental Analysis*, 37 J. SOCIO-ECON. 1010, 1011 (2008).

159 See Peter Lindert, *What Limits Social Spending?*, 33 EXPLORATIONS IN ECON. HIST. 1 (1996); Karl Ove Moene & Michael Wallerstein, *Inequality, Social Insurance, and Redistribution*, 95 AM. POL. SCI. REV. 859 (2001).

160 See Gradstein, *supra* note 143.

161 Stephen Knack, *Social Capital and the Quality of Government: Evidence from the States*, 46 AM. J. POL. SCI. 772, 778–81 (2002).

162 See Yuan K. Chou, *Three Simple Models of Social Capital and Economic Growth*, 35 J. SOCIO-ECON. 889, 910 (2006); Francis Fukuyama, *Social Capital and the Global Economy*, 74 FOREIGN AFF. 89, 90–93

transactions are the stuff of economic growth, and as Nobel Laureate Kenneth Arrow once said, “Virtually every commercial transaction has within itself an element of trust.”¹⁶³ Trust can displace the need for costly formal enforcement mechanisms, and the smaller the transaction costs, the more transactions.¹⁶⁴ More trust requires less litigation, fewer defensive expenditures, and more innovation because of the more trustworthy environment.¹⁶⁵ More trust leads to more accumulation of capital, especially human capital,¹⁶⁶ which is perhaps the most critical growth determinant.¹⁶⁷

Note that this thesis has two stages: (1) that inequality erodes social capital and (2) loss of social capital reduces economic growth. Empirically validating this thesis thus requires establishing linkages for both stages. There are two approaches to empirical research in this area: (1) cross-sectional studies and (2) laboratory experiments. While data limitations and definitional questions warrant some caution, the totality of the research offers reasonably robust support for the thesis that inequality reduces social capital, which consequently reduces economic growth.

Both cross-sectional studies and experiments offer support for the first stage of the thesis that inequality erodes social capital. There is the long-standing problem of how exactly to operationalize social capital: is it associational activity, such as belonging to clubs and civic organizations, or is it simply trust, as reported in general attitudinal surveys? Researchers examine both possibilities, mostly reporting both that inequality reduces associational activity¹⁶⁸ (although ethnic heterogeneity plays an unfortunately stronger role)¹⁶⁹ and reduces reported levels of trust.¹⁷⁰ Experimentally, as well, researchers have used inequality as a treatment effect and found that subjects placed in situations of inequality were less willing to contribute

(1995); Stephen Knack & Philip Keefer, *Does Social Capital Have an Economic Payoff?*, 112 Q. J. ECON. 1251, 1252 (1997); Bryan R. Routledge & Joachim von Amsberg, *Social Capital and Growth*, 50 J. MONETARY ECON. 167 (2003); Michael Woolcock, *Social Capital and Economic Development: Toward a Theoretical Synthesis and Policy Framework*, 27 THEORY & SOC’Y 151, 187–88 (1998); Paul J. Zak & Stephen Knack, *Trust and Growth*, 111 ECON. J. 295, 296 (2001).

163 Kenneth J. Arrow, *Gifts and Exchanges*, 1 PHIL. & PUB. AFF. 343, 357 (1972).

164 See Knack & Keefer, *supra* note 162, at 1252.

165 *Id.* at 1252–53.

166 *Id.* at 1253.

167 See, e.g., Robert E. Lucas, *On the Mechanics of Economic Development*, 22 J. MONETARY ECON. 3, 5–8 (1988).

168 See, e.g., Alberto Alesina & Eliana La Ferrara, *Participation in Heterogeneous Communities*, 115 Q. J. ECON. 847, 875–76 (2000); Dora L. Costa & Matthew E. Kahn, *Understanding the Decline in American Social Capital*, 56 KYKLOS 17 (2003).

169 See Alberto Alesina, Reza Baqir & William Easterly, *Public Goods and Ethnic Divisions*, 114 Q. J. ECON. 1243, 1273–74 (1999).

170 See Zak & Knack, *supra* note 162, at 312.

to public good provisions, indicating a lower level of trust.¹⁷¹ Most troubling, inequality caused “richer” subjects to undercontribute, confounding a previously prevalent expectation that the rich contribute more so as to achieve a more equal allocation.¹⁷²

Validating the second stage—that erosion of social capital reduces economic growth—can only be accomplished with cross-sectional analysis, as no experiment can realistically model economic growth in a lab (though some researchers experimentally ask subjects to contribute to a public good that will lead to a higher future payoff, thus simulating economic growth).¹⁷³ On this score, as well, more researchers have found a link than not. Working from well-established economic growth models,¹⁷⁴ cross-sectional studies attempt to control for other growth determinants (most notably education) and then attempt to find a statistical relationship with some measure of social capital—most commonly associational activity or trust—and economic growth.¹⁷⁵ A variety of reasons could exist for social capital being a determinant of growth. Some researchers have identified a specific pathway: social capital as a stimulant of innovative activity by facilitating productive collaborations and by instilling some faith and trust in institutions through associational activity.¹⁷⁶

On the whole, researchers have linked the loss of social capital to losses in economic growth. In retrospect, this thesis should have been obvious. Widening wealth gaps reduce the commonalities of experience between rich and poor, increasing alienation. Under such circumstances, it would be natural to expect less trust, less generosity, more suspicion, and a generally less collaborative and productive society. Similarity within a population in wealth, education, and

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- 171 Anderson et al., *supra* note 158, at 1023–24; Arrow, *supra*, note 137, at 3–5; Juan-Camilo Cardenas, *Real Wealth and Experimental Cooperation: Experiments in the Field Lab*, 70 J. DEV. ECON. 263, 279 (2003); Gleaser, et al., *Measuring Trust*, 115 Q. J. ECON. 811, 814 (2000); Amnon Rapoport & Ramzi Suleiman, *Incremental Contribution in Step-Level Public Goods Games with Asymmetric Players*, 55 ORG. BEHAV. & HUM. DECISION PROCESSES 171, 191 (1993).
- 172 See Anderson et al., *supra* note 158.
- 173 See Abdolkarim Sadrieh & Harrie A.A. Verbon, *Inequality, Cooperation, and Growth: An Experimental Study*, 50 EUR. ECON. REV. 1197 (2006).
- 174 See Robert J. Barro, *Economic Growth in a Cross-section of Countries*, 106 Q. J. ECON. 407 (1991); ROBERT J. BARRO & XAVIER SALA-I-MARTIN, *ECONOMIC GROWTH* (1995); Mankiw et al., *supra* note 103.
- 175 Sjoerd Beugelsdijk & Ton van Schaik, *Social Capital and Growth in European Regions: An Empirical Test*, 21 EUR. J. POL. ECON. 301, 321 (2005); Soumyananda Dinda, *Social Capital in the Creation of Human Capital and Economic Growth: A Productive Consumption Approach*, 37 J. SOCIO-ECON. 2020, 2028–29 (2008); Knack & Keefer, *supra* note 162, at 1252; Paul F. Whiteley, *Economic Growth and Social Capital*, 48 POL. STUD. 443, 444 (2000); Zak & Knack, *supra* note 162, at 296; Luigi Guiso, Paola Sapienza & Luigi Zingales, *The Role of Social Capital in Financial Development* 33 (Nat'l Bureau of Econ. Research, Working Paper No. 7563, 2000), <http://www.nber.org/papers/w7563.pdf>.
- 176 Semih Akçomak, Bas ter Weel, *Social Capital, Innovation and Growth: Evidence from Europe*, 53 EUR. ECON. REV. 544, 562 (2009); Anneli Kaasa, *Effects of Different Dimensions of Social Capital on Innovative Activity: Evidence from Europe at the Regional Level*, 29 TECHNOVATION 218, 228–29 (2009).

employment, help to create some assurance that certain social norms are shared and that transactions are likely to be undertaken with these social norms serving at least as a coordinating principle. All of this is frittered away with increasing inequality.

F. Inequality Increases Incentives for Rent-Seeking

Why do nations fail? That is the very big question asked by Daron Acemoglu and James Robinson in their book of the same title.¹⁷⁷ In their book, Acemoglu and Robinson document the economic and political histories of a variety of countries and societies, and show how the rise of exploitive, economically “extractive” institutions simultaneously thwart economic growth and enrich a small elite group (or even an individual).¹⁷⁸ The book does not offer a fundamental explanation of why the extractive institutions arise in the first place, nor does it truly define “extractive institution.” The reader is asked to recognize an extractive institution when she sees it. Slavery,¹⁷⁹ monopoly,¹⁸⁰ and suppression of free speech¹⁸¹ are examples.

It is true that extractive institutions produce unequal societies. But a critical lesson from *Why Nations Fail* has to do with the self-perpetuation of inequalities brought on by extractive institutions. As it turns out, once “inclusive” institutions—ones that foster economic growth, acting as the opposite of extractive institutions—are ruined and replaced by extractive institutions, they are extremely hard to reconstruct. Once extractive institutions have succeeded in enriching the few and imposing misery on the many, the quest for power becomes all-important and rent-seeking becomes a default option. As opposed to creating a “virtuous circle” constructed from inclusive institutions and the rule of law, a “vicious circle” of poverty, misery, and concentration of wealth and power becomes entrenched.¹⁸² With so much at stake and with an inevitable weakening of the rule of law, rent-seeking becomes an indispensable option.

The frightening upshot of *Why Nations Fail* is that it is dangerously easy for a country to slip down the greasy slope of rent-seeking down to the black hole of autocracy. The story, as told by Acemoglu and Robinson, of how so many nations failed in the past is the story of how some critical level of inequality raised the stakes for government policy, and ushered in a new political equilibrium that was predicated on the naked pursuit of power. Even after an autocratic, kleptocratic government is

177 DARON ACEMOGLU & JAMES A. ROBINSON, *WHY NATIONS FAIL: THE ORIGINS OF POWER, PROSPERITY AND POVERTY* (2012).

178 *Id.* at 112–13.

179 *Id.* at 225.

180 *Id.* at 171.

181 *Id.* at 332–33.

182 *Id.* at 364–65.

toppled, the inequality remains, and the incentives for rent-seeking and disincentives for the rule of law remain. While rent-seeking is costly and harmful, the real danger may be that it creates inequalities that are extremely difficult to reverse.

G. Inequality Reduces Subjective Well-Being

Economists concede that indices such as Gross Domestic Product (GDP) are very crude approximations for social welfare.¹⁸³ The most compelling case for continued reliance on measures such as GDP for social welfare and on income and wealth for individual welfare seems to be that we can measure it.¹⁸⁴ Those arguments have been influential as far as they go, but a growing unease about some critical shortcomings have intensified doubts about the accuracy of these metrics.¹⁸⁵

Rising concerns about inequality have cast a particularly dark cloud over traditional, aggregate economic indices, fueling skepticism. United States GDP rose from 1999 through 2008 (up to the Financial Crisis), even while most Americans experienced a decline in real income.¹⁸⁶ Over the past forty years, mean household income in real dollars has risen by thirty-three percent while real *median* household income has been stagnant, rising only twelve percent.¹⁸⁷ Over the same period, the share of income by the top one percent has risen from below ten percent to over twenty percent.¹⁸⁸ By breaking down aggregate measures of statistics like income, economists such as Piketty and Saez have helped to erode the misplaced faith in

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- 183 EDWARD D. KLEINBARD, WE ARE BETTER THAN THIS: HOW GOVERNMENT SHOULD SPEND OUR MONEY 19 (2014) (“To summarize, GDP and similar metrics are poor surrogate measures of welfare.”); Daniel Kahneman, Peter P. Wakker & Rakesh Sarin, *Back to Bentham? Explorations of Experiences Utility*, 112 Q. J. ECON. 375, 375 (1997); See, e.g., Andrew J. Oswald, *Happiness and Economic Performance*, 107 ECON. J. 1815, 1815 (1977) (“Economic performance is not intrinsically interesting. No one is concerned in a genuine sense about the level of gross national product last year or about next year’s exchange rate The relevance of economic performance is . . . not the consumption of beefburgers, nor the accumulation of television sets, nor the vanquishing of some high level of interest rates, but rather the enrichment of mankind’s feeling of well-being. Economic things matter only in so far as they make people happier.”); Peter H. Huang, *Happiness 101 for Legal Scholars: Applying Happiness Research to Legal Policy, Ethics, Mindfulness, Negotiations, Legal Education, and Legal Practice*, in 2 RESEARCH HANDBOOK OF BEHAVIORAL LAW AND ECONOMICS (K. Zeiler & J.C. Teitlebaum eds., 2015, forthcoming), http://ssrn.com/abstract_id=2562746 (“Economists have long known that GDP is a crude, imperfect, and incomplete proxy for social welfare.”).
- 184 See, e.g., JOSEPH E. STIGLITZ, AMARTYA SEN & JEAN-PAUL FITOUSSI, MIS-MEASURING OUR LIVES: WHY GDP DOESN’T ADD UP 23 (2010); KLEINBARD, *supra* note 183, at 20 (“Because [GDP] is ubiquitous, easily described in news reports, comparable across different countries and relatively uncontroversial in its measurement, GDP tends to frame our sense of progress.”).
- 185 STIGLITZ ET AL., *supra* note 184, at 3–5.
- 186 *Id.* at xix.
- 187 U.S. DEP’T. OF LABOR, HISTORICAL INCOME TABLES: HOUSEHOLDS, TABLE H- <https://www.census.gov/hhes/www/income/data/historical/household/> (last visited Sept. 13, 2015).
- 188 Fernando Alvarado, Anthony B. Atkinson, Thomas Piketty & Emmanuel Saez, *The Top 1 Percent in International and Historical Perspective*, 27 J. ECON. PERSP. 3, 4 fig.1 (2013).

aggregate indices, giving a data-driven voice to those straining against the misplaced satisfaction in seeing gains in aggregate statistics. Inequality is in large part driving re-examination of faith in GDP and economically-based welfare analysis.

At the same time, notable advances in alternative measurements have reinvigorated calls to at least include some alternative measurements to go alongside the traditional economic indices as supplemental indicators.¹⁸⁹ Happiness, or subjective well-being (SWB), has emerged as a serious alternative to traditional economic indices. Happiness, or SWB indices, are constructed using self-reported data, typically collected through very broad surveys,¹⁹⁰ such as the Behavioral Risk Factor Surveillance System administered by the U.S. Centers for Disease Control and Prevention¹⁹¹ or the General Social Survey administered by the National Opinion Research Center.¹⁹²

Indices constructed from SWB data suffer from some of the same problems as economic indicators. Are measures of individual SWB additive, cardinal, or interpersonally comparable?¹⁹³ How does one actually construct a social measure from individual responses?¹⁹⁴ Is happiness all that matters? Maybe “meaningfulness” is more important to people than pure hedonic happiness or anything measured by reported measures of SWB.¹⁹⁵ But even if alternatives are imperfect, rising concerns with inequality seem to provide an especially strong case for diversifying away from indicators such as GDP. GDP captures none of what is compelling about inequality: the mere volume of economic transactions says nothing about the parties to transactions, and what is troubling about inequality is the fact that many are being left out. In light of such glaring omissions, even an imperfect measure of the discontent brought on by inequality is likely to provide some information.

189 See, e.g., KLEINBARD, *supra* note 183, at 19–21; Daniel Kahneman & Alan B. Krueger, *Developments in the Measurement of Subjective Well-Being*, 20 J. ECON. PERSP. 3, 4 (2006) (proposing use of a misery index); Huang, *supra* note 183, at 6.

190 Ed Diener, Ronald Inglehart & Louis Tay, *Theory and Validity of Life Satisfaction Scales*, 112 SOC. INDICATORS RES. 497, 498 (2013).

191 See *Behavioral Risk Factor Surveillance System*, CDC, <http://www.cdc.gov/brfss/> (last updated Aug. 26, 2016).

192 See *General Social Survey*, NAT'L OPINION RES. CTR. AT THE UNIV. OF CHI., <http://www.norc.org/Research/Projects/Pages/general-social-survey.aspx> (last visited Sept. 23, 2016).

193 See Bruno S. Frey & Alois Stutzer, *Happiness and Public Choice*, 144 PUBL. CHOICE 557, 569 (2010); Ingeborg Kristofferson, *The Metrics of Subjective Wellbeing: Cardinality, Neutrality and Additivity*, 86 ECON. REC. 98 (2010).

194 Jeffrey L. Harrison, *Regulation, Deregulation, and Happiness*, 32 CARDOZO L. REV. 2369, 2372 (2011) (“It is ironic that the first problem happiness proponents confront is whether happiness is any different from utilitarianism and its problems. For example, if maximum experienced happiness (or utility) is the goal, is success measured by assessing the average or the total amount of happiness?”).

195 See MIKE W. MARTIN, *HAPPINESS AND THE GOOD LIFE* 183 (2012) (“The pursuit of any of those values, including moral values, contributed to happiness by sustaining a (subjective) sense of meaning . . .”).

SWB research using data on a national level generally finds that over time, increases in income (which might be measured by GDP) have failed to generate increases in SWB.¹⁹⁶ Getting at the discontent caused by inequality requires that data be analyzed using the individual as the unit of analysis: Are individual people more likely to report unhappiness if they live in a situation of greater income or wealth inequality? SWB research suggests a negative correlation between SWB and inequality.¹⁹⁷

In thinking about *why* inequality might lead to unhappiness, one strong hypothesis rooted in a long line of psychological research is that individual happiness depends significantly on an individual's comparison with local peers. Thus, if one lives in a city with large inequalities, then one might be more envious if one is poor, or one might be more suspicious if one is rich.¹⁹⁸ Or, inequality might give rise to a perception of lack of fairness and a lack of trust.¹⁹⁹ Overall, while the results are not unambiguous, the predominance of the research shows a negative link between SWB and income inequality.²⁰⁰ Having more money makes most people happier,²⁰¹ as does marriage.²⁰² Involuntary unemployment makes almost everyone *very* unhappy.²⁰³ But all other things being equal, living in a situation with inequality makes an individual less likely to be happy than otherwise.

This line of research comports well with intuitions about inequality and general happiness. In a sense, the propensity of inequality to generate unhappiness ties together all of the subsections preceding this one. Each of the subsections in this part describe how a divergence in wealth or income creates some social or economic problem. Individually, these deviations from some innate expectation might be unnoticeable. But inequality has become not only noticeable, it has become a source

196 David G. Blanchflower & Andrew J. Oswald, *Well-Being Over Time in Britain and the USA*, 88 J. PUBL. ECON. 1359, 1366 (2004); Richard A. Easterlin, *Does Economic Growth Improve the Human Lot? Some Empirical Evidence*, in NATIONS AND HOUSEHOLDS IN ECONOMIC GROWTH: ESSAYS IN HONOR OF MOSES ABRAMOWITZ 89–125 (P. David & M. Reder eds., 1974).

197 See *infra* notes 198–99.

198 See Michael R. Hagerty, *Social Comparisons of Income in One's Community: Evidence From National Surveys of Income and Happiness*, 78 J. PERSONALITY & SOC. PSYCH. 764, 767 tbl.2 (2000).

199 See Shigehiro Oishi, Selin Kesebir & Ed Diener, *Income Inequality and Happiness*, 22 PSYCH. SCI. 1095, 1098 tbl.1 (2011).

200 Only income inequality is investigated. Because of the difficulties of measuring wealth, researchers have avoided using it as an independent variable. See Alberto Alesina, Rafael Di Tella & Robert MacCulloch, *Inequality and Happiness: Are Europeans and Americans Different?*, 88 J. PUBL. ECON. 2009, 2035–36 (2004); Ed Diener, Marissa Diener & Carol Diener, *Factors Predicting the Subjective Well-Being of Nations*, 69 J. PERSONALITY & SOC. PSYCH. 851, 859 tbl.4 (1995); Hagerty, *supra* note 198; Oishi et al., *supra* note 199. But see Maarten C. Berg & Ruut Veenhoven, *Income Inequality and Happiness in 119 Nations*, in SOCIAL POLICY AND HAPPINESS IN EUROPE (B. Greve, ed. 2010).

201 Diener et al., *supra* note 200, at 859 tbl.4.

202 Alesina et al., *supra* note 200, at 2032 tbl.3.

203 *Id.*

of widespread concern. It is as if the accumulation of these small deviations have suddenly welled up and been brought into public consciousness.

IV. TOWARDS REVERSING INEQUALITY: THE ROLE OF LAW, AND OF ECONOMICS

A second objective of this Article is to press the case for reversing inequality, but to do it in a way that is consistent with economic growth. If inequality is objectionable in part because it is allocatively inefficient, then measures to cure inequality should not themselves be inefficient. Piketty's thesis that inequality is increasing because the returns to private capital exceed the rate of economic growth—expressed in his now-famous relation $r > g$ —has been criticized for its universality,²⁰⁴ its relevance,²⁰⁵ and its underlying data, faultily handled by Piketty (according to his critics).²⁰⁶ But the relation usefully reframes inequality as at least partly a problem of economic growth, which meets no disagreements from any economist. If inequality increases because $r > g$,²⁰⁷ then at least one answer is to find ways to increase economic growth.

However, not all measures to stimulate economic growth are created equal. Enough harm has been wrought by, borrowing from Martin Feldstein's words, "supply side extremists."²⁰⁸ Economic growth policies have to be grounded in sound economics, not the snake oil economics that has insinuated itself into partisan politics and lawmaking. Unfortunately, snake oil economics often presents itself as a formula for job creation and economic growth. How can one tell the difference?

There is no magic spell that can distinguish between sound economics and snake oil economics, much less a way of holding legislatures accountable for economic belief systems that border on astrology. But it is possible to do some informal sorting of laws and policies that purport to contribute to economic growth but seem to produce outsized rents to particular industries or groups. The most useful way to attack inequality is to focus on specific laws and policies that seem to contribute *much* more to private returns to capital (r) than they do to economic growth (g). In other words, laws or policies in which $\Delta r \gg \Delta g$ should be carefully scrutinized and re-evaluated for its impacts on economic growth. First, when it can be said of a law or policy that $\Delta r \gg \Delta g$, there is a heightened possibility that it contributes to economic inequality,

204 See, e.g., Per Krusell & Anthony A. Smith, Jr., *Is Piketty's 'Second Law of Capitalism' Fundamental?*, J. POL. ECON. 725, 726 (2015).

205 N. Gregory Mankiw, *Yes, $r > g$. So What?*, 105 AM. ECON. REV. 43 (2015).

206 Martin Feldstein, *Piketty's Numbers Don't Add Up*, WALL ST. J. (May 14, 2014, 7:31 PM), <http://www.wsj.com/articles/SB10001424052702304081804579557664176917086>.

207 PIKETTY, *supra* note 31, at 25.

208 Feldstein, *supra* note 52, at 27–28.

since it is bringing about or exacerbating Piketty's $r > g$ condition. Second, when there is a connection between a law or policy and a spectacularly high return on private capital, there is the distinct possibility that the law or policy in question is wealth-reducing, naked rent-seeking.²⁰⁹ In fact, the larger the returns to private capital, the more it is worth spending to obtain those rents. Few and far between are those economic laws and policies that miraculously create spectacular wealth in one sector or group that also redounds to the benefit of the larger polity. A third and related point is that when a law or policy dramatically and suddenly boosts returns to private capital in one sector or industry, it is potentially inducing a misallocation of resources, especially investment capital. As Eric Posner and Glen Weyl have argued, the finance sector has been shockingly well-paid, five times that of all academic research, a subset of which—medical research—has produced the equivalent of \$3.2 trillion of benefit every year since 1970.²¹⁰ It is a fair bet that the finance sector has not produced \$16 trillion annually in wealth over that time period.

Granted, saying of a law or policy that $\Delta r \gg \Delta g$ is necessarily an informal observation, as there is never a counterfactual against which to measure economic growth or returns to private capital. Could we ever say such a thing? The answer is, in fact, yes: judgments about rent-seeking are made quite frequently and routinely, without necessarily resorting to empirical analysis.²¹¹

To canvass the law and find all instances in which $\Delta r \gg 0$ and Δg is either negative or very small is a task beyond the scope of this Article. Rather, in keeping with the general theme of this Article—that inequality in extreme forms can be allocatively inefficient—I discuss two cases to outline a growth-increasing approach to reducing inequality. First, I discuss one case in which $\Delta r \gg 0$ and $\Delta g < 0$, the deregulation of over-the-counter (OTC) derivatives. The systemic risk of catastrophic loss created by unregulated trading of derivatives is a boon to traders and a clear case of government failure. As such, the re-regulation of OTC derivatives is exactly the kind of growth-improving measure that should be implemented to reduce inequality.

209 See, e.g., David R. Henderson, *Rent Seeking*, THE CONCISE ENCYCLOPEDIA OF ECONOMICS (2008), <http://www.econlib.org/library/Enc/RentSeeking.html> (“It has been known for centuries that people lobby the government for privileges. Tullock’s insight was that expenditures on lobbying for privileges are costly and that these expenditures, therefore, dissipate some of the gains to the beneficiaries and cause inefficiency Although such an expenditure [on lobbying] is rational from the narrow viewpoint of the firm that spends it, it represents a use of real resources to get a transfer from others and is therefore a pure loss to the economy as a whole.”).

210 See Posner & Weyl, *supra* note 33 (citing Kevin M. Murphy & Robert H. Topel, *The Value of Health and Longevity*, 114 J. POL. ECON. 871, 872 (2006)). Financial workers, meanwhile, contributing quite less than that, were paid five times that amount. *Id.* (citing Benjamin B. Lockwood, Charles G. Nathanson & E. Glen Weyl, *Taxation and the Allocation of Talent*, J. POL. ECON. (forthcoming 2016)).

211 See, e.g., GORDON TULLOCK, THE RENT-SEEKING SOCIETY 5 (2005) (“The problem here is one of definition. Should we regard the competitive research, competitive sales effort, and so on, as equivalent to rent seeking?”).

Second, I discuss a case in which $\Delta r < 0$ but it is likely that $\Delta g < 0$: an increase in the minimum wage. The economic analysis of minimum wage increases is surprisingly deep, but still inconclusive.²¹² But even if we were to accept that a minimum wage hike reduces inequality, it is potentially counterproductive in that it may impinge upon economic growth.²¹³ Such a legal response might just be inadvisably blunt, given the plethora of alternative measures to raise economic growth more broadly.

A. *The Re-Regulation of Over-the-Counter Derivatives*

Banking and finance, previously separate industries, have undergone deregulatory changes through a series of legislative and administrative moves over two decades.²¹⁴ The total effect of all of the moves has been spectacularly lucrative for the banking and finance sector as a whole, even if there have been individual casualties. Never mind the most notorious instances of banditry, such as Lehman Brothers CEO Richard Fuld's \$480 million payout for navigating Lehman into the largest bankruptcy in history (while seeking a government bailout);²¹⁵ the banking and finance sector as a whole has done extremely well throughout the Financial Crisis and the recovery since. Thomas Philippon and Ariel Reshef estimate that the educational wage premium for those in the finance industry, vis-à-vis other industries, adjusting for skill intensity and job complexity, to be 250 percent that of comparable professions.²¹⁶ Banking and finance have been, and have become even more so, extraordinarily over-compensated sectors.²¹⁷ The private returns to capital have been spectacular. And while the Financial Crisis obviously visited enormous losses upon the finance industry, the recovery has been uneven, to say the least. The One Percent lost so much, just because they held so much of the lost wealth—thirty percent²¹⁸—but those on the lower rungs of the wealth ladder lost a larger portion of their wealth and had a much smaller household buffer (if they had one at all) to absorb losses.²¹⁹ Perhaps most stunning, ninety-five percent of total income gains in

212 See *infra* notes 268–72 and accompanying text.

213 See *infra* notes 273–73 and accompanying text.

214 See, e.g., Lynn A. Stout, *Derivatives and the Legal Origin of the 2008 Credit Crisis*, 1 HARV. BUS. L. REV. 1, 3 (2011); Wilmarth, *supra* note 74, at 1328–40.

215 Aaron Smith, *Fuld Blames 'Crisis of Confidence'*, CNN MONEY (Oct. 6, 2008, 6:22 p.m.), http://money.cnn.com/2008/10/06/news/companies/lehman_hearing/index.htm?postversion=2008100616.

216 Thomas Philippon & Ariel Reshef, *Wages and Human Capital in the U.S. Finance Industry: 1909–2006*, 127 Q. J. ECON. 1551, 1605 (2012).

217 Posner & Weyl, *supra* note 33.

218 Piketty, *supra* note 31, at 348.

219 Whereas the net worth of the 95th percentile household lost over \$200,000 but suffered only a 13% drop in net worth, the median household in the United States fell over \$27,000 to \$68,365—a 28% drop. Fabian T. Pfeffer, Sheldon Danziger & Robert F. Schoeni, *Wealth Disparities Before and After the Great*

the United States from 2009 to 2012 accrued to the top one percent of income earners.²²⁰

And what of the effects of deregulation and consolidation for economic growth? Without a counterfactual, it is impossible to say, but even before the Financial Crisis laid bare the sharp contrast between compensation in the finance industry and its contribution to economic prosperity, studies suggested that the finance industry imposes shockingly large negative externalities.²²¹ Certainly, in the wake of the Financial Crisis, in which \$15 to \$30 trillion of wealth was lost,²²² no serious contention is made that the package of banking and finance deregulations over the past two decades have been *positive* for economic growth. Given the staggering wealth lost, if the contested assertions²²³ that the package of banking and finance deregulations caused the Financial Crisis are even *partially* correct, it would be implausible to argue that deregulation of the sector was economically beneficial.

One reason this crisis was particularly brutal on the less wealthy is because it produced a widespread withdrawal of credit. The Financial Crisis was an old-fashioned bank run,²²⁴ only on a new “securitized banking” system made possible by the combination of deregulations undertaken in the decades prior.²²⁵ Credit

Recession, 650 ANNALS AM. ACAD. POL. & SOC. SCI. 98, 104 tbl.1 (2013). Moreover, so much of this loss resulted from the losses in housing equity, which accounted for a much larger fraction of household wealth of those not in the One Percent. *Id.* at 104 tbl.1 (showing that in 2007, the median household had \$95,472 in wealth, only \$22,240 of which was non-housing wealth; by contrast, a household at the 95th percentile held \$1.57 million in wealth, with more than \$935,000 in non-housing wealth).

220 Emmanuel Saez, *Striking it Richer: The Evolution of Top Incomes in the United States* (updated with 2012 Preliminary Estimates) at 6 tbl.1 (Sept. 3, 2013) (unpublished manuscript), http://currydemocrats.org/in_perspective/saez-UStopincomes-2012.pdf.

221 See, e.g., Kenneth R. French, *The Cost of Active Investing*, 63 J. FIN. 1537, 1538 (2008).

222 See, e.g., Tyler Atkinson, David Luttrell & Harvey Rosenblum, *How Bad Was It? The Costs and Consequences of the 2007-09 Financial Crisis*, 20 FED. RES. BANK OF DALLAS STAFF PAPER 3 tbl.1 (July 2013), <http://dallasfed.org/assets/documents/research/staff/staff1301.pdf>. The authors’ \$15–30 trillion estimate actually does not account for the costs of trauma and the opportunity costs of extraordinary government support offered in reviving economic activity.

223 A majority (six out of ten) of the Congressionally-commissioned body charged with analyzing the causes of the crisis, the Financial Crisis Inquiry Commission, found that banking and finance deregulation was a substantial cause of the Financial Crisis. FIN. CRISIS INQUIRY COMMISSION, FINAL REP. OF THE NAT’L COMMISSION ON THE CAUSES OF THE FIN. AND ECON. CRISIS IN THE UNITED STATES, at xvii–xxviii (2011), <http://cybercemetery.unt.edu/archive/fcic/20110310173617/http://www.fcic.gov/about>. The four dissenting members of the Commission pointedly disagreed with the parts of the report that emphasized deregulation, and propounded their own view that global capital flows bore significant blame for the crisis. *Id.* at 417–19.

224 See, e.g., Victoria Ivashina & David Scharfstein, *Bank Lending During the Financial Crisis of 2008*, 97 J. FIN. ECON. 319, 319–20 (2010).

225 Gary Gorton & Andrew Metrick, *Securitized Banking and the Run on the Repo*, 104 J. FIN. ECON. 425, 425 (2012). Conservative scholars have laid the blame on government intervention in the form of Fannie Mae and Freddie Mac, which they claim were encouraged to inflate the housing market by expanding homeownership and supporting the risky mortgage-backed securities. See, e.g., John B. Taylor, *The Financial Crisis and the Policy Responses: An Empirical Analysis of What Went Wrong* 12, (Nat’l Bureau

disappeared for a wide swath of businesses, causing many to fail or contract and to lay off workers, which compounded itself as the newly unemployed (and even those hanging onto their jobs) dramatically cut back on spending.²²⁶ In 2008 and 2009, nearly nine million Americans lost jobs—eight hundred thousand in the single month of January 2009.²²⁷ The job losses were wide and deep enough to deposit nine million Americans into poverty from 2007 to 2010.²²⁸

This catastrophic credit crisis, with its regressive effects on employment, can be traced in large part to the deregulation of OTC derivatives,²²⁹ the product of a decades-long lobbying effort.²³⁰ In 1989, the Commodities Futures Trading Commission (CFTC) was headed up by Wendy Gramm, the wife of Senator Phil Gramm, a central architect of banking and finance deregulation. The banking and finance industries sought and secured from Gramm’s Commission a safe harbor for one type of derivative, a “swap transaction,” used by banks to hedge risk from interest rates.²³¹ Other liberalizations followed. The Futures Trading Practices Act of 1992 authorized the CFTC to exempt some derivatives in addition to swaps and also preempted any state laws purporting to regulate OTC derivatives.²³² After a series of spectacular derivative-driven failures, including the bankruptcy of Orange County’s pension fund and a \$4 billion bailout of the hedge fund Long Term Capital

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- of Econ. Research, Working Paper No. 14361, 2009), [http://www.nber.org/papers/w14631 .pdf](http://www.nber.org/papers/w14631.pdf). But even if Fannie and Freddie created this initial risk, this explanation fails to address the amplification of the risk brought on by risky practices made legal by deregulation.
- 226 See, e.g., Gabriel Chodorow-Reich, *The Employment Effects of Credit Market Disruptions: Firm-Level Evidence From the 2008-9 Financial Crisis*, 129 Q. J. ECON. 1 (2013); NANCY GREEN LEIGH & EDWARD J. BLAKELY, *PLANNING LOCAL ECONOMIC DEVELOPMENT: THEORY AND PRACTICE 2* (2013). Firms that borrowed from one of the failed firms were only able to borrow, if at all in the credit freeze up, at less favorable rates.
- 227 U.S. DEPT. OF LABOR, BUREAU OF LABOR STAT., *DATABASES, TABLES & CALCULATORS BY SUBJECT, EMP., HOURS, AND EARNINGS FROM THE CURRENT EMP. STAT. SURVEY, 1-MONTH NET CHANGE, 2004–2014* (2014), <http://data.bls.gov/pdq/SurveyOutputServlet> (last visited June 29, 2014).
- 228 U.S. CENSUS BUREAU, *POVERTY, HISTORICAL POVERTY TABLES – PEOPLE AND FAMILIES – 1959 TO 2015* (Table 24) (2016), <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-people.html> (last visited October 26, 2016).
- 229 See, e.g., Lynn A. Stout, *Derivatives and the Legal Origin of the 2008 Credit Crisis*, 1 HARV. BUS. L. REV. 1, 3 (2011); Wilmarth, *supra* note 74. This was certainly the majority view of The Financial Crisis Inquiry Commission, a Congressionally-created panel charged with investigating the causes of the Financial Crisis. FIN. CRISIS INQUIRY COMMISSION, *supra* note 223. The four dissenting members of the Commission pointedly disagreed with the parts of the report that emphasized deregulation, and propounded their own view that global capital flows bore significant blame for the crisis. *Id.* at 417–19.
- 230 A historical summary is provided by Stout, *supra* note 229, at 11–20.
- 231 Policy Statement Concerning Swap Transactions, 54 Fed. Reg. 30,694 (July 21, 1989).
- 232 See, Futures Trading Practices Act of 1992, Pub. L. No. 102-546, 106 Stat. 3590 §§ 502(a) & (c).

Management, talk of reigning in derivative trading resurfaced.²³³ CFTC Chair Brooksley Born sought to re-regulate OTC derivatives trading, but was shouted down by a “stampede” of lobbyists, Federal Reserve Chairman Alan Greenspan, and Treasury Secretary Robert Rubin.²³⁴ The culmination of this deregulatory effort was passage of the Commodity Futures Modernization Act of 2000,²³⁵ which completed deregulation of speculative financial products, including credit default swaps.²³⁶

Following the CFMA, trade in derivatives increased more than sixfold, from \$94 trillion in the first half of 2000²³⁷ to almost \$600 trillion during the second half of 2007.²³⁸ The result can be (and was, in the case of the Financial Crisis) the development of a derivatives market much larger than the value of the underlying collateral asset itself. Speculation using OTC derivatives ran rampant because unregulated derivatives were so much easier to obtain for hedging than actually purchasing a countervailing position.²³⁹ Critically, OTC derivatives could be issued on the same event multiple times,²⁴⁰ allowing a \$1.3 trillion market on subprime mortgages to wipe out \$11 trillion of wealth.²⁴¹

It is not hard to understand why banking and finance companies lobbied so hard for so long to deregulate the trading of OTC derivatives. The zero-sum *gambling*²⁴² introduced by derivatives is not zero-sum for banks at all. Derivatives are a subsidy. Trading in derivatives increases risk, but much of the downside risk is insured in case of default.²⁴³ Also, for finance firms trading on behalf of clients, OTC derivatives are lucrative business: reporting of OTC-derived income is not mandated,

233 FRANK PARTNOY, *INFECTIOUS GREED: HOW DECEIT AND RISK CORRUPTED THE FINANCIAL MARKETS* 229 (2010); Lynn A. Stout, *Betting the Bank: How Derivatives Trading Under Conditions of Uncertainty Can Increase Risks and Erode Returns in Financial Markets*, 21 J. CORP. L. 53, 78–83 (1995).

234 PARTNOY, *supra* note 233, at 229–30; Stout, *supra* note 229, at 20–21.

235 See, Act of Dec. 21, 2000, Pub. L. No. 106-554, app. E, 114 Stat. 2763, 2763A-365.

236 Stout, *supra* note 229, at 3–4.

237 Press Release, Bank for Int'l Settlements, *The Global OTC Derivatives Market Continues to Grow*, at 1 (Nov. 13, 2000), http://www.bis.org/publ/otc_hy0011.pdf.

238 Press Release, Bank for Int'l Settlements, *OTC Derivatives Market Activity in the Second Half of 2007*, at 1 (May 2008), http://www.bis.org/publ/otc_hy0805.pdf.

239 Stout, *supra* note 229, at 7–8.

240 Gary Gorton & Andrew Metrick, *Regulating the Shadow Banking System*, 2010 BROOKINGS PAPERS ON ECON. ACTIVITY 261, 277 (2010).

241 Stout, *supra* note 229, at 28–29 (explaining how a market in subprime mortgages worth a total of \$1.3 trillion necessitated government infusions of over \$3 trillion, and wiped out wealth in excess of \$11 trillion).

242 This is the term used by Eric Posner and Glen Weyl to describe derivatives, as well as Lynn Stout, to describe the zero-sum nature of derivatives trading. No risk hedging is accomplished by most derivatives, only speculation with no net gains, and lots of commissions for derivatives trading companies. Eric A. Posner & E. Glen Weyl, *An FDA for Financial Innovation: Applying the Insurable Interest Doctrine to Twenty-First-Century Financial Markets*, 107 NW. U. L. REV. 1307, 1316 (2012); Lynn A. Stout, *Why the Law Hates Speculators: Regulation and Private Ordering in the Market for OTC Derivatives*, 48 DUKE L.J. 701, 712 (1999).

243 Posner & Weyl, *supra* note 242, at 1316.

but Goldman Sachs estimated that from 2006 to 2009, twenty-five percent to thirty-five percent of its revenues were generated from derivatives trading.²⁴⁴ Goldman Sachs net revenue for 2007 was about \$46 billion dollars,²⁴⁵ so twenty-five percent to thirty-five percent of that is a lot of money.

Worst of all, the nature of the risk created by speculation using OTC derivatives was *systemic*.²⁴⁶ Even the fractious Financial Crisis Inquiry Commission agreed that among those speculators that failed, there was “appallingly bad risk management.”²⁴⁷ While some of those guilty of speculating recklessly were, in some sense, punished (such as Lehman Brothers), the breadth of the risk created enveloped nearly the entire American economy. Credit drying up for speculators was also credit drying up for the vast majority of American businesses that depended on credit for cash flow to conduct their business and employ workers. So the risk happened to be much more widespread than that assumed (unwittingly) by wealthy managers taking risks on behalf of their wealthy clientele.²⁴⁸ The breadth of that risk, affecting all debtors, is an externality.²⁴⁹

Finally, risk itself is a source of wealth inequality. The wealthier can better afford to take risks, and over the long run, a portfolio with more risk generates higher returns. Enabling risk-taking is the law’s way of inflating the returns to capital—Piketty’s *r*. Seen in that light, all of the deregulations sought and obtained by the financial industry appeared desirable to wealthy investors. Risk is good for those that can afford to take it, and OTC derivatives create risk.

The Financial Crisis was horrifying enough to result in passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act (“Dodd Frank”)²⁵⁰ which, among other things, required banks to transfer their derivatives holdings to non-bank

244 FINANCIAL CRISIS INQUIRY COMMISSION, *supra* note 223, at 50–51. Banking and finance giants say they do not formally track revenues and profits from derivatives trading generally. *Id.*

245 GOLDMAN SACHS, ANNUAL REPORT ON FORM 10K FOR THE FISCAL YEAR ENDED NOVEMBER 30, 2007 3 (2008), <http://www.goldmansachs.com/investor-relations/financials/archived/10k/docs/2007-form-10-k-file.pdf>.

246 Stephen L. Schwarcz, *Systemic Risk*, 97 GEO. L.J. 193, 203 (2008).

247 Even the dissenters of the Financial Crisis Inquiry Commission wrote that “[a]n essential cause of the financial and economic crisis was appallingly bad risk management by the leaders of some of the largest financial institutions in the United States and Europe. Each failed firm that the Commission examined failed in part because its leaders poorly managed risk.” FINANCIAL CRISIS INQUIRY COMMISSION, *supra* note 223, at 428. See also John C. Coffee, Jr., *Systemic Risk After Dodd-Frank: Contingent Capital and the Need for Regulatory Strategies Beyond Oversight*, 111 COLUM. L. REV. 795, 822–23 (2011).

248 Steven L. Schwarcz, *Misalignment: Corporate Risk-Taking and Public Duty*, 92 NOTRE DAME L. REV. 1 (forthcoming Nov. 2016).

249 *Id.*

250 Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111–203, 124 Stat. 1376 (2010) [hereinafter “Dodd-Frank”].

affiliates.²⁵¹ It is not as if Dodd-Frank re-regulated OTC derivatives, as Lynn Stout has called for.²⁵² But by forcing federally-insured banks to transfer derivatives to non-banks, Dodd-Frank at least took the American taxpayer off the hook for speculating losses. Even this was too much for the finance industry, which used the occasion of a threatened government shutdown to insert a provision amending section 716 of Dodd-Frank,²⁵³ putting the American taxpayer back on the hook and allowing, once again, federally insured banks to trade in OTC derivatives.

Some of the risk associated with OTC derivatives has been alleviated by the mandate under Dodd-Frank for a “swaps clearinghouse,” so that most non-commodity swaps must be carried out through a “derivatives clearing organization that is registered under this Act.”²⁵⁴ The idea is that the regulated clearinghouses can—and are required to—better ascertain the robustness of the proffered collateral than the likes of AIG.²⁵⁵ However, as Mark Roe and others have argued, clearinghouses do not actually reduce the kinds of systemic risk that befell markets during the Financial Crisis and do not actually alleviate the risk;²⁵⁶ there is no reason to believe that the “derivatives clearing organizations” will have the incentives or the tools to spot poorly priced assets any better than the failed institutions.²⁵⁷ At the end of the day, with section 716 effectively repealed, trading in OTC derivatives is still legalized gambling with the downside risk implicitly assumed by the American taxpayer, and the fruits of such risk-taking accruing to those that have the means to take it.

Obviously, if Congress is willing to do Wall Street’s bidding to amend section 716 of the Dodd-Frank Act—which was not even a regulation of derivatives—then a push to re-regulate OTC derivatives would face considerable political headwinds in the near-term. The purpose of this Article, however, is to re-engage efficiency arguments for reducing inequality and to identify opportunities to reduce inequality in a manner that is consistent with economic growth, laying the groundwork for a longer-term initiative. Along those lines, the idea of re-regulating OTC derivatives,

251 *Id.* § 716.

252 Lynn A. Stout, *How Deregulating Derivatives Led to Disaster, and Why Re-Regulating Them Can Prevent Another*, 1 LOMBARD STREET 4, 4 (2009).

253 Consolidated and Further Continuing Appropriations Act, 2015, Publ. L. 113-235, 128 Stat. 2130, § 630, amended by 15 U.S.C. § 8305 (2015).

254 Dodd-Frank § 723.

255 Mark J. Roe, *Clearinghouse Overconfidence*, 101 CALIF. L. REV. 1641, 1654–57 (2013).

256 Adam J. Levitin, *Response: The Tenuous Case for Derivatives Clearinghouses*, 101 GEO. L.J. 445, 447–48 (2013); Craig Pirrong, *The Clearinghouse Cure*, 31 REG. 44, 45–46 (Winter 2008–2009). Roe, *supra* note 255, at 1644–45; Yesha Yadav, *The Problematic Case of Clearinghouses in Complex Markets*, 101 GEO. L.J. 387, 392–95 (2013). *But see* Darrell Duffie & Haoxiang Zhu, *Does a Central Clearing Counterparty Reduce Counterparty Risk?* 1 REV. ASSET PRICING STUD. 74, 75 (2011).

257 *See, e.g.*, Levitin, *supra* note 256, at 448.

which serve no purpose other than to further enrich wealthy financiers at a huge net cost to the economy and to the non-wealthy, is low-hanging fruit.

B. *An Increase in the Minimum Wage*

With the rise in concern over inequality, one obvious solution is to raise the minimum wage, automatically raising the income of some of the lowest-wage workers. The current federal minimum wage is \$7.25 per hour, which is where it has been since 2009.²⁵⁸ Some cities in which protest over inequality has been noisiest—Seattle, Los Angeles, Washington, and Chicago—have passed minimum wage laws, with Seattle and Los Angeles mandating a minimum wage of fifteen dollars per hour, and Washington and Chicago lower amounts.²⁵⁹ Voters in San Francisco and Oakland have approved similar measures, and proposals are underway in New York and San Diego.²⁶⁰ The minimum wage hike idea is simple and has been gaining popularity in recent years, as concerns of inequality intensify.²⁶¹

Apart from a handful of scholars that have grappled with the nuances of a minimum wage increase,²⁶² the debate over minimum wage hikes has been driven by two competing, simplistic, and ideological ways of thinking about the minimum wage: (1) that inequality can be reduced by lifting up poor wage workers by blunt legal force²⁶³ and (2) that raising the minimum wage increases labor costs and causes

258 Fair Labor Standards Act of 1938, 29 U.S.C. § 206(a)(1)(C) (2007).

259 RAISE THE MINIMUM WAGE, *Minimum Wage Laws and Proposals for Major U.S. Cities* (April 27, 2015), <http://www.raisetheminimumwage.com/pages/minimum-wage-laws-and-proposals-for-major-u.s.-cities>.

260 *Id.*

261 Patrick McGeehan, *Push to Lift Minimum Wage is Now Serious Business*, N.Y. TIMES (July 24, 2015), <http://www.nytimes.com/2015/07/24/nyregion/push-to-lift-hourly-pay-is-now-serious-business.html>.

Polls are generally conducted by organizations supporting minimum wage increases. Their results are nevertheless difficult to dismiss out of hand. The National Employment Law Project found that 75% of Americans, including 53% of Republicans, support increasing the federal minimum wage to \$12.50 per hour. NAT'L EMP. L. PROJECT, NEW POLL SHOWS OVERWHELMING SUPPORT FOR MAJOR MINIMUM WAGE INCREASE (2015), <http://nelp.org/content/uploads/2015/03/PR-Federal-Minimum-Wage-Poll-Jan-2015.pdf>; more muted results were obtained by the Pew Research Center, which found that 71% of all Americans favored an increase from \$7.25 to \$9.00, including 50% of Republicans. PEW RES. CTR, IF NO DEAL IS STRUCK, FOUR-IN-TEN SAY LET THE SEQUESTER HAPPEN (2013), <http://www.people-press.org/files/press.org/files/legacy-pdf/02-21-13%20Political%20Release.pdf>.

262 See, e.g., Anne L. Alstott, *Work vs. Freedom: A Liberal Challenge to Employment Subsidies*, 108 YALE L.J. 967 (1999); Matthew Dimick, *Should the Law Do Anything About Economic Inequality?*, SUNY BUFF. LEGAL STUD. RES. PAPER NO. 2016-011, Jan. 27, 2016; Daniel Shaviro, *The Minimum Wage, the Earned Income Tax Credit, and Optimal Subsidy Policy*, 64 U. CHI. L. REV. 405 (1997).

263 BERNIE SANDERS UNITED STATES SENATOR FOR VERMONT, *Sanders Introduces Bill for \$15-an-Hour Minimum Wage* (July 22, 2015), <http://www.sanders.senate.gov/newsroom/press-releases/sanders-introduces-bill-for-15-an-hour-minimum-wage>.

employers to reduce the number of jobs available.²⁶⁴ Both of these ideological assertions contain just enough truth to be plausible. But the economic truth is, as it always inconveniently seems to be, dependent on unknowable specifics. On the one hand, it is not clear that a minimum wage hike would help those that one would consider “needy.” The minimum wage work force is small to begin with—3.8 million in 2011, representing only 5.2% of all hourly-wage workers.²⁶⁵ Of those, half are under the age of twenty-five, indicating that the lower end of the pay scale is crowded by younger workers, as we might expect, but not necessarily the most needy.²⁶⁶ It is true that significant increases in the minimum wage would boost the wages of not only those working at or below the minimum wage, but also those making slightly more; among those might be people that are targeted for relief: the working poor that are struggling to stay above the poverty level, including those with dependent children.²⁶⁷ But low-wage employment situations are so heterogeneous that it is difficult to say definitively who would benefit from a minimum wage hike. The effect of a minimum wage hike on poverty remains uncertain.²⁶⁸

On the other hand, the opposition to a minimum wage hike is based on unclear empirical support as well. In a seminal and still-controversial 1994 article, David Card and Alan Krueger studied the effect of a minimum wage increase in New Jersey, comparing employment dynamics in New Jersey with that of neighboring Pennsylvania.²⁶⁹ Card and Krueger failed to find the predicted contraction of employment in New Jersey,²⁷⁰ confounding what had been strong conventional economic theory at the time.²⁷¹ Moreover, Card and Krueger found a small *positive* effect on employment in New Jersey, which they attributed to lower turnover and

264 See, e.g., Rex Huppke, *The Argument Against Raising the Minimum Wage*, CHI. TRIB. (Mar. 10, 2014), http://articles.chicagotribune.com/2014-03-10/business/ct-biz-0310-work-advice-huppke-20140310_1_minimum-wage-william-wascher-david-neumark; CATO INST., *Four Reasons Not to Raise the Minimum Wage*, http://object.cato.org/sites/cato.org/files/four_reasons_not_to_raise_the_minimum_wage.pdf.

265 *Id.*

266 U.S. BUREAU OF LABOR STATISTICS, *Labor Force Statistics from the Current Population Survey, Characteristics of Minimum Wage Workers: 2011*, Table 1 (2012), <http://www.bls.gov/cps/minwage2011tbls.htm> - content.

267 See, e.g., Oren M. Levin-Waldman, *Do Institutions Affect the Wage Structure?*, LEVY ECON. INST., Public Policy Brief (Dec. 1999), <http://www.levyinstitute.org/pubs/hili57a.pdf>.

268 See, e.g., Joseph J. Sabia & Richard V. Burkhauser, *Minimum Wages and Poverty: Will a \$9.50 Federal Minimum Wage Really Help the Working Poor?*, 76 S. ECON. J. 592, 611–12 (2010); Richard Vedder & Lowell Gallaway, *The Minimum Wage and Poverty Among Full-Time Workers*, 23 J. LABOR RES. 41, 48 (2002).

269 David Card & Alan B. Krueger, *Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania*, 84 AM. ECON. REV. 772 (1994).

270 *Id.* at 792.

271 *Id.* at 772 (“The prediction from conventional economic theory is unambiguous, a rise in the minimum wage leads perfectly competitive employers to cut employment.”).

savings in retraining new employees and to possible monopsonist behavior by employers.²⁷²

Many critiques and a few affirmations of this landmark study followed,²⁷³ but over time, most economists seem to have accepted that a minimum wage hike *might* reduce employment but that the effects are small.²⁷⁴ It is also more widely accepted among economists that a minimum wage hike would have only modest effects on inequality, only helping some of those at the lowest income levels.²⁷⁵

A 2013 survey of top American economists at Harvard, Stanford, MIT, Berkeley, Yale, Stanford, and Chicago was mixed in terms of their support for a raising of the federal minimum wage to nine dollars per hour.²⁷⁶ When asked whether they agreed with the statement “[r]aising the federal minimum wage to nine dollars per hour would make it noticeably harder for low-skilled workers to find employment,” thirty-four percent agreed, thirty-two percent disagreed, and twenty-four percent were uncertain. Some of the world’s top labor economists, such as David Cutler of Harvard and Austan Goolsbee of Chicago (once President Obama’s Chief

272 *Id.* at 792.

273 See David Neumark & William Wascher, *Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania: Comment*, 90 AM. ECON. REV. 1362, 1393 (2000) (Following the Card and Krueger paper, David Neumark and William Wascher argued that Card and Krueger’s data were flawed, and re-ran their analysis with a data set from the U.S. Bureau of Labor Statistics, reaching a different result). *But see*, *Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania: Reply*, 90 AM. ECON. REV. 1397, 1419 (2000). (Card and Krueger responded by re-analyzing the Neumark and Wascher data, and confirmed their original result); For other critiques, see for example Donald Deere, Kevin Murphy & Finis Welch, *Sense and Nonsense on the Minimum Wage*, 1995 Regulation 47 (1995) (works offering alternative critiques); Robert Valletta, *The Minimum Wage*, FRBSF ECONOMIC LETTER (Oct. 11, 1996), <http://www.frbsf.org/economic-research/publications/economic-letter/1996/october/the-minimum-wage/> David Neumark, J.M. Ian Salas & William Wascher, *More Recent Evidence on the Effects of Minimum Wages in the United States*, 3 IZA J. LABOR POL’Y 1 (2014); *see also* Sylvia A. Allegretto, Arindrajit Dube & Michael Reich, *Do Minimum Wages Really Reduce Teen Employment? Accounting for Heterogeneity and Selectivity in State Panel Data*, 50 Ind. Rel. 205, 238 (2011) (Studies expressing agreement with the Card and Krueger results); Arindrajit Dube, T. William Lester & Michael Reich, *Minimum Wage Effects Across State Borders: Estimate Using Contiguous Counties*, 92 Rev. Econ. Stat. 945, 961-62 (2010); Thomas R. Michl, *Reviewed Work: Myth and Measurement: The New Economics of the Minimum Wage*, by David Card and Alan B. Krueger, 22 EASTERN ECON. J. 237 (1996).

274 Scott Adams & David Neumark, *Living Wage Effects: New and Improved Evidence*, 19 ECON. DEVELOPMENT Q. 80 (2005); *see, e.g.*, David Neumark, *Who Really Gets the Minimum Wage*, WALL ST. J. (July 6, 2014, 5:49 PM), <http://www.wsj.com/articles/who-really-gets-the-minimum-wage-1404683348> (It is noteworthy that David Neumark is perhaps the leading critic of the Card and Krueger study, and a prominent opponent of minimum wage increases).

275 David H. Autor, Alan Manning & Christopher L. Smith, *The Contribution of the Minimum Wage to US Wage Inequality over Three Decades: A Reassessment*, 8 AM. ECON. J.: APPL. ECON. 58, 88–89 (2015).

276 University of Chicago Booth School of Business IGM Forum, *Minimum Wage* (Feb. 26, 2013, 10:56 AM), http://www.igmchicago.org/igm-economic-experts-panel/poll-results?SurveyID=SV_br0IEq5a9E77NMV.

Economic Advisor) replied “[u]ncertain.”²⁷⁷ Proposals at the state level, even in liberal states, have been greeted with unease, even by those who advocate for greater economic equality.²⁷⁸ In light of the prevalence of fifteen dollars-per-hour proposals, however, the same economists were surveyed about the minimum wage hike up to that higher amount; that seemed to garner some more negative reactions, with more expressing the belief that unemployment would increase and aggregate output would contract.²⁷⁹

So it turns out that in addition to providing top-notch political theater, minimum wage hikes make for lively and animated academic debate as well. But at the end of the day, even economists who support a minimum wage seem unenthusiastic. Neither Stiglitz nor Piketty have had much to say recently about a minimum wage hike.²⁸⁰ In *Inequality: What is to be Done?*, Atkinson compiled a list of fifteen proposals for reducing inequality; a “statutory minimum wage set at a living wage” is one,²⁸¹ but he devotes little text to this proposal and expresses doubt:

Does the Minimum Income Standard provide a foundation for defining a low-pay standards? Doubts must arise. If we examine the details of the wage requirement derived from the Minimum Income Standard, we see that it varies across family types. . . . The minimum wage cannot do all the work on its own.”²⁸²

The verdict on a minimum wage increase as a legal tool to address inequality seems to be that it is blunt and probably not very effective. A Congressional Budget Office study found that raising the federal minimum wage to \$9 would lift 300,000 out of poverty but would cost 100,000 jobs, with larger figures for a hike to \$10.10.²⁸³ These numbers are not trivial, nor are they worth the inordinate attention and political posturing surrounding this idea. The problem with a minimum wage hike is that, while it may reduce the returns to private capital, there is some risk that it would

277 Autor, *supra* note 275.

278 Noam Scheiber & Ian Lovett, *\$15-an-Hour Minimum Wage in California? Plan Has Some Worried*, N.Y. TIMES (Mar. 28, 2016), <http://www.nytimes.com/2016/03/29/business/economy/15-hour-minimum-wage-in-california-plan-has-some-worried.html> (citing Ben Zipperer of the Washington Center for Equitable Growth).

279 UNIVERSITY OF CHICAGO BOOTH SCHOOL OF BUSINESS IGM FORUM, *\$15 Minimum Wage* (Sept. 22, 2015, 11:01 AM), http://www.igmchicago.org/igm-economic-experts-panel/poll-results?SurveyID=SV_e9vyBJWi3mNpwzj.

280 Kaushik Basu, Garance Genicot & Joseph E. Stiglitz, *Household Labor Supply, Unemployment and Minimum Wage Legislation* (1999), http://documents.worldbank.org/curated/en/748251468766809938/113513322_20041117142534/additional/multi-page.pdf (Stiglitz has written about minimum wage legislation, but has not discussed it in his recent work on inequality). *Cf.* Piketty, *supra* note 31 (Piketty does not discuss minimum wage legislation at all).

281 Atkinson, *supra* note 23, at 303.

282 *Id.* at 150.

283 CONGRESSIONAL BUDGET OFFICE, *The Effects of a Minimum-Wage Increase on Employment and Family Income* (Feb. 2014), <https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/reports/44995-MinimumWage.pdf>.

also reduce economic growth. In Piketty's parlance, it does no good to implement a policy for which $\Delta r < 0$ if it also imposes $\Delta g < 0$. If the problem of inequality is that it is inefficient, then the answer cannot be to impose more inefficiencies, however modest they may be.

CONCLUSION

Distributional issues have efficiency implications. To be sure, the relationship between distribution and efficiency is complicated, but it is no longer tenable to take Robert Lucas' position that economics should *never* concern itself with inequality. At certain levels of inequality and under certain circumstances, an increase in inequality in either wealth or income will reduce social welfare. That reduction may or may not be measurable by traditional economic metrics, but it is widely accepted that welfare changes can occur without being reflected in such metrics.

Not only should economists concern themselves with inequality, but the cautionary tale stemming from the bogus supply-side economics still taking up residence on Capitol Hill and the equally speculative claims about the benefits of a minimum wage hike is that economists also have a crucial role to play in setting legal policy that implicates inequality. If Piketty is just heuristically correct—that $r > g$ characterizes the dynamics of inequality, then much work is to be done, and sound economic analysis must be a crucial component of any legal policymaking that implicates inequality. Given the multitude and complexity of factors that affect returns to private capital and that affect economic growth, there is no quick and easy way to undo decades of inequality-producing law and policy. The $r > g$ formula suggests structural changes are required.

Some care must be taken to find ways to narrow the gap between r and g . There are certainly ways to reduce returns to private capital, but many of them would run against the grain of a legal system that instinctively protects legal expectations.²⁸⁴ The most egregious enrichments of wealth should eventually be susceptible of reform—compensation in the banking and finance industry, the re-regulation of OTC derivatives, and an increase in the estate tax²⁸⁵—but others might be undertaken more gingerly. The complexity is that measures promoted as growth enhancing are rarely so.

284 For example, the ubiquitous legislative and administrative practice of grandfathering is a product of a reluctance to reduce expectations of a return on capital. See, e.g., Shi-Ling Hsu, *The Rise and Rise of the One Percent: Considering the Legal Causes of Wealth Inequality*, 64 EMORY L.J. ONLINE 2043, 2058–62 (2015).

285 See Caron & Repetti, *supra* note 38.

The harder, but surer path to reducing inequality is to focus on laws and policies which more broadly and clearly stimulate economic growth *and* which redound to the benefit of the non-wealthy. There are certain fundamental widely accepted drivers to economic growth—quality education accessible to the entire populace,²⁸⁶ a physical and electronic infrastructure that is sufficient to support trade,²⁸⁷ a reasonable investment environment free of confiscatory regulation or policy,²⁸⁸ and the minimization of environmental and health hazards that threaten human development.²⁸⁹ As between knocking down r or boosting g , it is most constructive to find ways to increase g , the rate of economic growth, with an emphasis on how to ensure that the non-wealthy participate meaningfully in economic growth and receive the benefits of doing so. So, for example, focusing on broadly accessible education as a “force of convergence” in Piketty’s parlance is one way to address both economic growth and reducing inequality.²⁹⁰ That educational reform has proven to be so vexing, speaks to the magnitude of the challenge, not its desirability, as no economist disputes the importance of education in fostering economic growth.²⁹¹

Reducing inequality is likely to require a long, sustained effort. In large part, current levels of inequality have come about because of rent-seeking, enabled by specious claims of economic benefits generated by some pet industry. There are no magic bullets. If reducing inequality were simple, the world would be nearly free of it.

286 For a widely praised book on the role of education in economic growth, see CLAUDIA GOLDIN & LAWRENCE KATZ, *THE RACE BETWEEN EDUCATION AND TECHNOLOGY* (2008); *see also* Lionel Artige & Laurent Cavenaile, *Public Education Expenditures, Growth and Income Inequality* (May 12, 2016).

287 University of Chicago Booth School of Business IGM Forum, *Infrastructure (revisited)*, (Sept. 9, 2014, 7:48 AM), http://www.igmchicago.org/igm-economic-experts-panel/poll-results?SurveyID=SV_9yTmaqlHpp1JzH7.

288 ACEMOGLU & ROBINSON, *supra* note 177.

289 *See, e.g.*, Alok Bhargava, Dean T. Hamison, Lawrence J. Lau & Christopher J.L. Murray, *Modeling the Effects of Health on Economic Growth*, 20 J. HEALTH ECON. 423, 438 (2001); David E. Bloom, David Canning & Jaypee Sevilla, *The Effect of Health on Economic Growth: a Production Function Approach*, 32 WORLD DEV. 1, 11 (2004); Murphy & Topel, *supra* note 217; Claudia Persico, David Figlio & Jeffrey Roth, *Inequality Before Birth: The Developmental Consequences of Environmental Toxicants*, NBER Working Paper No. 22263, May 2016.

290 *See* Hsu, *supra* note 294, at 2068–71.

291 For a widely praised book on the role of education in economic growth, see CLAUDIA GOLDIN & LAWRENCE KATZ, *THE RACE BETWEEN EDUCATION AND TECHNOLOGY* (2008).