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ARE WE ECONOMIC ENGINES TOO? PRECARITY, PRODUCTIVITY AND GENDER

Martha T. McCluskey*

INTRODUCTION

GENDER equity does not turn on whether men and women are different, but on whose differences are privileged and whose are penalized, in the workplace and beyond. Economic disadvantages for women workers are often explained as the result of differences in economic productivity, determined by a rational market rather than irrational bias. On closer examination, however, problematic gender ideology shapes judgments about whose work produces economic value deserving support and power, and whose work is an economic cost requiring sacrifice and submission.

Decades of rising inequality in the United States have left most workers struggling with economic insecurity and stagnant or declining wages. This general erosion of economic rewards for workers means that for many women, gains in pay relative to men in similar jobs and education levels will not be sufficient to provide meaningful economic well-being. Further, the loss of economic power for many working-age men undermines political support for further gender equity when gains for women appear to risk taking away security from male peers or family members. In this context, efforts to advance gender equity for women workers must go beyond comparisons of similarly situated men and women to consider economic inequality more broadly.

This essay links these conditions of insecurity and austerity to a shift in prevailing ideas about economic productivity. It begins by describing how a contemporary narrative of new "economic engines" relegates workers to the sidelines of economic and legal power. It then summarizes recent economic changes that have eroded security and opportunity from work for many Americans. The essay proceeds to consider this new precarity in light of older legal and economic constructions of work as a subordinate economic status linked to race and gender ideologies, and goes on to note how political and legal reform

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^{1.} See Nicole B. Porter & Jessica R. Vartanian, Debunking the Market Myth in Pay Discrimination Cases, 12 GEO. J. GENDER & L. 159, 162-65 (2011) (arguing that "market" evidence used to justify gender disparities tends to reflect gender bias not neutral measures of different productivity).

movements of the twentieth century challenged that vision and helped to expand economic power for many workers. Next, it explores how ideas about gender helped to erode those advances in workers' economic security by redefining the source and nature of economic productivity. Finally, the essay examines how gender inequity is implicated in the emerging vision and politics of an "innovation economy" dependent on new economic insecurity and inequality that disadvantages both men and women overall.

I. NEW POWER AND PRECARITY

An emerging twenty-first century vision identifies business innovators and entrepreneurs as the leading source of productivity, relegating workers to a status of dependency and incapacity. This vision builds on ideas about gender to advance policies that devalue the work of both women and men.

A. The New Economic Engine Narrative

A White House press release promoting Republicans' showcase 2017 tax reforms described the legislation as the key to "jumpstarting America's economic engine." The administration promised that reduced corporate taxes and tax write-offs for capital investment would entice multinational corporations to shift their offshore business investments to provide well-paying jobs for American workers. The White House press release did not mention any direct benefits for workers in the tax bill or in any other reforms, but instead suggested that workers' gains would follow indirectly from increasing corporate gains.

Similarly, a letter to Congress from some economists supporting the 2017 tax legislation advocated lower taxes for businesses as the source of new economic power that would trickle down to workers:

We firmly believe that a competitive corporate rate is the key to an economic engine driven by greater investment, capital stock, business formation, and productivity—all of which will yield more jobs and higher wages.⁵

Earlier in 2017, a Trump White House event titled "The Engine of the American Dream" honored small business, proclaiming business owners are the "dreamers and innovators who are powering us into the future." At this event, the

^{2.} Press Release, Office of the Press Sec'y, Tax Cuts and Tax Relief Will Put the American Economy in High-Gear (Oct. 27, 2017), https://www.whitehouse.gov/briefings-statements/tax-cuts-tax-relief-will-put-american-economy-high-gear/.

^{3.} Id.

^{4.} Id.

^{5.} An Open Letter to Congress from Over 100 Economists: Pass Tax Reform and Watch the Economy Roar, Bus. Insider (Nov. 29, 2017, 10:59 AM), http://www.businessinsider.com/trump-tax-reform-opinion-congress-pass-2017-11.

^{6.} Press Release, Office of the Press Sec'y, supra note 2.

President pledged to support their job-creating work by eliminating regulations, taxes, and energy industry restrictions.⁷

The idea that workers are the economy's passengers, not its drivers, has become firmly established in American politics and policy, reaching far beyond the current presidential administration. Speaking as a 2016 presidential candidate, Republican Senator Lindsay Graham argued that "America's entrepreneurs and innovators are revving their engines" ready to "shift into high gear" and have "the economy surge forward" once we "lift the brakes" on the economy saddled with workers' entitlements to retirement health care and income. This message suggests that American workers not only lag behind in economic productivity, but also hold others back. In that emerging narrative, workers must not merely wait for gains to trickle down, but also must sacrifice existing security to receive those future economic gains.

Consistent with this message, Republican congressional leaders acknowledged that they planned to follow the 2017 corporate tax reduction law with proposals to reduce government benefits for middle-class workers. For example, Senator Marco Rubio advocated targeting Medicare and Social Security for cuts on the theory that deficits from these earnings-based programs will threaten projected growth from the tax cuts. In doing so, he presents protections for workers as a source of economic insecurity and incapacity rather than a reward or incentive for productivity.

This narrative of a new economic engine extends beyond Republican politics to policies with bipartisan support at the state and local level. For example, under New York's Democratic Governor Andrew Cuomo, the State University of New York (SUNY) system has promoted its role as the state's "economic engine" leading the way to the "Entrepreneurial Century" through a number of initiatives providing university-based support for private businesses. One of SUNY's new business subsidy programs aimed to promote entrepreneurialism by attracting private business to university campuses with generous tax breaks, including personal income tax exemptions. The tax breaks do not extend to students or

^{7.} *Id*.

^{8.} Sen. Lindsay Graham, *Economic Policy Must Let Entrepreneurs Rev the Economic Engine*, Fin. MGMT. Ass'n N.H. (Sept. 4, 2015), http://www.fmanh.org/economic-policy-must-let-entrepreneurs-innovators-rev-economic-engine/.

^{9.} Kate Zernike & Alan Rappeport, *Heading Toward Tax Victory, Republicans Eye Next Step: Cut Spending*, N.Y. TIMES (Dec. 2, 2012), https://www.nytimes.com/2017/12/02/us/politics/tax-cuts-republicans-entitlements-medicare-social-security.html? r=0.

^{10.} *Id*

^{11.} See Press Release, Office of the Governor, Governor Cuomo Unveils Major Economic Development Initiative to Transform University Communities into Magnets for New Businesses and Investments (May 22, 2013), https://www.governor.ny.gov/news/governor-cuomo-unveils-major-economic-development-initiative-transform-university-communities (quoting Chancellor Nancy Zimpher's description of the Governor's vision for SUNY).

^{12.} See SUNY and the Entrepreneurial Century, St. U. N.Y., https://www.suny.edu/powerof suny/entrepreneurial-century/ (last visited Apr. 8, 2018).

^{13.} See Press Release, Office of the Governor, Governor Cuomo Launches Start-Up NY Program at International Conference in New York City (Oct. 22, 2013), https://www.governor.

university employees themselves or to retail or food businesses serving the campus community, and they also exclude professional businesses such as law firms or health care providers. ¹⁴ Other initiatives in this "economic engine" agenda gave the president of SUNY's Polytechnic Institute authority to direct hundreds of millions of direct state subsidies to multinational technology corporations promising jobs in economically distressed areas of the state. ¹⁵

In contrast, the Governor has repeatedly vetoed legislative appropriations to cover increases in SUNY's basic operating costs, including contractual wages and benefits for state university employees. Those vetoes have resulted in an effective budget cut and an increase in students' share of the costs of state higher education from 41% in 2011 to 64% in 2017.¹⁶ In response to declining state academic funding, SUNY campuses have reduced non-tenure-track faculty positions in humanities and cut courses in other academic programs.¹⁷ Other cuts have targeted programs involving students at rural campuses in community service or public arts programs that boost local tourism.¹⁸ In addition, SUNY has failed to lift wages above poverty level for many adjunct faculty and graduate students teachers.¹⁹

- 14. See Start-Up NY Program: Eligibility, NY.GoV, https://esd.ny.gov/startup-ny-program (last visited Apr. 8, 2018); Section 443: Application and Approval Process, N.Y. STATE SENATE, https://www.nysenate.gov/legislation/laws/COM/443 (last visited Apr. 8, 2018).
- 15. See Jim Heaney, Secrecy, Politics Pervade Project, TIMES UNION (June 20, 2015, 8:53 PM), https://www.timesunion.com/tuplus-local/article/Secrecy-politics-pervade-project-6339837.php (reporting how the governor's economic development strategy used university-linked nonprofits for high-tech megadeals raising political corruption and unaccountability).
- 16. Editorial, SUNY's Starvation Diet, TIMES UNION (Dec. 26, 2017, 5:55 PM), https://www.timesunion.com/opinion/article/Editorial-SUNY-s-starvation-diet-12456127.php (criticizing the most recent veto of funding). See also Kellie Woodhouse, New York Governor Vetoes Maintenance of Effort Bill, INSIDE HIGHER ED (Dec. 15, 2015), https://www.insidehighered.com/quicktakes/2015/12/15/new-york-governor-vetoes-maintenance-effort-bill (reporting a previous veto).
- 17. See, e.g., Colleen Flaherty, Losing Tenure Bids to a Budget, INSIDE HIGHER ED (Sept. 21, 2017), https://www.insidehighered.com/news/2017/09/21/stony-brook-professors-worry-budget-being-balanced-backs-junior-faculty-humanities (reporting protests over cuts in humanities programs at Stony Brook, a flagship campus); Scott Waldman, Majors on the Block at SUNY Geneseo, TIMES UNION (Nov. 23, 2010, 12:00 AM), https://www.timesunion.com/local/article/Majors-on-block-at-SUNY-Geneseo-826539.php (discussing cuts in academic programs and faculty at the Geneseo and Albany campuses).
- 18. See, e.g., Matt Leader, SUNY Geneseo Cuts Funding for Finger Lakes Opera, LIVINGSTON COUNTY NEWS (Dec. 8, 2016), http://www.thelcn.com/lcn01/suny-geneseo-cuts-funding-for-finger-lakes-opera-20161208; Zach Hirsch, SUNY Plattsburgh Plans to Cut Seven Jobs, Including Community Engagement Coordinator, N. COUNTRY PUB. RADIO (Dec. 26, 2017), https://www.northcountrypublicradio.org/news/story/35323/20171226/suny-plattsburgh-plans-to-cut-seven-jobs-including-community-engagement-coordinator (linking the cuts to the governor's funding veto).
- 19. Catherine Wilde, SUNY Cortland Instructors Tell of Adjunct Challenges, CORTLAND STANDARD (Oct. 28, 2017), http://cortlandstandard.net/2017/10/28/suny-cortland-instructors-tell-of-adjunct-challenges/ (reporting that 261 out of 309 faculty at the campus are adjuncts and that the general pay rate is \$2,750 per course); Jessica Reynolds, SUNY Oneonta Adjuncts: We Need a Raise, DAILY STAR (Oct. 18, 2015), http://www.thedailystar.com/news/local_news/suny-oneonta-adjuncts-we-need-a-raise/article d2d885ea-ac26-5d46-b064-0938bf271b21.html (reporting faculty petition

ny.gov/news/governor-cuomo-launches-start-ny-program-international-conference-new-york-city (claiming the program would "accelerate entrepreneurialism").

B. Whose Power Has Productive Value?

No doubt the economy needs more and different power to overcome the problems of financial instability, austerity, and decades of growing inequality and stagnant or falling wages. But whose power drives the economy forward, and whose risks holding it back? Consider the energy and talents of lawyers and educators, nurses, social workers, child care providers, librarians, therapists or law enforcement officers. Are "we" economic engines too?

Is the economic engine gendered? The images we use to describe the economy evoke particular ideas and stories. By depicting the economy of the future as an "engine," we are likely to recall the mechanical power of an older industrial era—a power likely to associated with male workers and male industrial barons. Further, the term "engine" also can refer to a train, a familiar object that is popular as a children's toy, especially for boys. Train engines have also appeared as animated masculine characters in well-known children's stories. One widely viewed television series personifies train engines with gendered identities, featuring a masculine main character named Thomas the Tank Engine.²⁰ Thomas is described as a "cheeky little engine [who] works hard" and his friends include a feminine minor character named Daisy, "built especially for service on Thomas's branch line," who first was "high strung" and "felt she was too good to pull cargo ... [but who] now helps out whenever she can."²¹ These gendered messages may not be overtly intended in discussions of a new "economic engine," but the phrase nonetheless may invoke an implicit or unconscious link between productive power and masculine identity.

Beyond gender, the discourse of the new economic engine reflects an emerging neoliberal understanding of economic productivity that draws on and reinforces other inequalities from earlier eras. This neoliberal vision disrupts workers' status as *makers* rather than *takers*. Instead, it constructs economic productivity as a scarce quality largely reserved for elite entrepreneurs, business leaders, and private investors endowed with superior personal talent, luck, authority, and appetite for risk. In this story, prosperity depends on policies geared toward *attracting* these job-creators, not toward supporting those actually *doing* the work.

C. Evidence of Precarious Workers

One indication that workers have moved to the back of the economic bus is the gap between pay and productivity. Since 1979, the top 1% of income earners have received compensation gains far exceeding economic growth, while the vast

asking the state to raise pay to \$5,000 per course, up from typical pay rates of significantly less than \$3,000 per course).

^{20.} Thomas & Friends, THOMASANDFRIENDS.COM, https://play.thomasandfriends.com/en-us/engines (last visited Apr. 8, 2018) (describing the characters).

^{21.} See id. See also Shauna Wilton, A Very Useful Engine: The Politics of Thomas and Friends, in The Politics of Popular Culture: Negotiating Power, Identity, and Place (Tim Nieguth ed., 2015) (studying the gender stereotypes and other political messages in 23 episodes and finding that female trains were disproportionately passenger trains dependent on male engines).

majority of American workers have faced either stagnant or declining wages.²² The median hourly wage grew only 0.2% annually during that period, while hourly wages declined at the low end of the income scale.²³ Between 2000 and 2013, hourly wages fell for workers in the bottom 30% of the wage scale and were essentially flat for the next 40% of workers, and annual wage gains only reached 1% at the 95th wage percentile.²⁴ During the economic recovery from 2009 to 2015, the income of the top 1% of earners rose 37.4%, compared to an average income gain of 4.6% during that period for workers earning in the bottom 90%.²⁵ Workers' declining share of productivity gains includes non-wage compensation: benefits for health insurance and retirement have also been stagnant or declining for most workers since 1979.²⁶

From 2000 to 2013, even most workers with college degrees were left out of overall productivity gains, with a decline in average entry-level wages for college graduates for both men and women.²⁷ In 2015, recent college graduates had an average income 2.5% lower than in 2000.²⁸ Female graduates have suffered the greatest loss of earning power, with an average 6.7% decline in wages during this period.²⁹ Since 2000, both male and female college graduates are increasingly likely to work in relatively insecure low-wage jobs (like food service and cashier positions) that do not require a college degree.³⁰

This loss of economic power for workers in general undermines meaningful equity for women workers. Although the pay gap between men and women has continued to narrow slowly since 1979, women's pay gains relative to men's wages are largest toward the bottom of the wage scale,³¹ where workers are least likely to benefit from economic growth and most likely to struggle to meet basic living expenses. Although overall real median earnings for white women increased during the 2000–2016 period (especially in 2015–2016), this represents wage

^{22.} See JOSH BIVENS ET AL., RAISING AMERICA'S PAY 5 (Econ. Policy Inst., Briefing Paper No. 378, 2014), https://www.epi.org/publication/raising-americas-pay/ (select "Download PDF" hyperlink).

^{23.} Id.

^{24.} Id.

^{25.} Karla Walter & Kate Bahn, *Raising Pay and Providing Benefits for Workers in a Disruptive Economy*, Ctr. for Am. Progress 2 (Oct. 13, 2017) (citing U.S. Gov't Accountability Office, Contingent Workforce: Size, Characteristics, Earnings, and Benefits, GAO-15-168R (Apr. 2015), http://www.gao.gov/assets/670/669766.pdf).

^{26.} Lawrence Mishel, *Professor Hubbard's Claim about Wage and Compensation Stagnation is Not True*, ECON. POLICY INST.: WORKING ECON. BLOG (July 4, 2015, 8:14 AM), http://www.epi.org/blog/professor-hubbards-claim-about-wage-and-compensation-stagnation-is-not-true/.

^{27.} See BIVENS ET AL., supra note 22, at 5.

^{28.} ALYSSA DAVIS ET AL., THE CLASS OF 2015: DESPITE AN IMPROVING ECONOMY, YOUNG GRADS STILL FACE AN UPHILL CLIMB 3 (Econ. Policy Inst., Briefing Paper No. 401, 2015), https://www.epi.org/publication/the-class-of-2015/ (select "Download PDF" hyperlink).

^{29.} Id. at 18.

^{30.} Id. at 10-11.

^{31.} See BIVENS ET AL., supra note 22, at 13.

growth of less than half the rate of increased economic productivity, and women of color generally have been left out of these gains.³²

Women workers are particularly disadvantaged by the eroding value of the federal minimum wage, an important part of the picture of declining gains from work. The minimum wage peaked in 1968 at \$9.68 an hour (in 2016 dollars), and it has remained at \$7.25 an hour since 2009, without adjustment for inflation.³³ In 2015, nearly two-thirds of minimum wage workers were women.³⁴ Women workers are further disadvantaged due to the much lower federal minimum wage of \$2.13 an hour for tipped workers, since women comprise two-thirds of this group.³⁵ Jobs at or slightly above the minimum wage are a significant and fast growing portion of the current U.S. economy,³⁶ so that proposals to raise the minimum wage to \$15 an hour would cover 29.2% of the U.S. workforce.³⁷

For new college graduates, the pay gap between women and men has been increasing, with women earning 86 cents per dollar of men's earnings right out of college in 2017, down from 92 cents per dollar in 1990 and 2000.³⁸ Although women graduates tend to work in jobs or sectors with disproportionately lower wages, this pay gap persists even among women and men within the same major and occupation.³⁹ For example, women graduating with business degrees earned an average of \$38,000 out of college compared to \$45,000 for men.⁴⁰ The pay gap also means women graduates typically spend a higher share of their earnings on student debt, which in turn affects their ability to invest in housing, cars or other economic opportunities.⁴¹

^{32.} Elise Gould & Valerie Wilson, *Little to No Gain in Median Annual Earnings in the 2000s, While Significant Wage Gaps Remain, Econ. Policy Inst.: Working Econ. Blog (Sept. 15, 2017, 2:11 PM)*, http://www.epi.org/blog/little-to-no-gain-in-median-annual-earnings-in-the-2000s-while-significant-wage-gaps-remain/.

^{33.} DAVID COOPER, ECON. POLICY INST., RAISING THE MINIMUM WAGE TO \$15 BY 2024 WOULD LIFT WAGES FOR 41 MILLION AMERICAN WORKERS 4-5 & fig.A (Apr. 26, 2017), https://www.epi.org/publication/15-by-2024-would-lift-wages-for-41-million/ (select "Download PDF" hyperlink).

^{34.} Jasmine Tucker & Julie Vogtman, Nat'l Women's L. Ctr., Higher State Minimum Wages Promote Equal Pay for Women 2 (2017) (citing *Characteristics of Minimum Wage Workers*, 2015, BLS Reports tbl.1 (Apr. 2016), https://www.bls.gov/opub/reports/minimum-wage/2015/home.htm#table1).

^{35.} Women and the Tipped Minimum Wage, State by State, NAT'L WOMEN'S L. CTR. (July 20, 2017), https://nwlc.org/resources/tipped-workers/.

^{36.} See Danielle Paquette, The Fastest-Growing Jobs in America Pay About \$22,000 per Year, WASH. POST (Nov. 13, 2017), https://www.washingtonpost.com/news/wonk/wp/2017/11/13/americas-fastest-growing-jobs-are-also-the-worst-paying/?utm_term=.cb0df9d9f8c6 (reporting predictions from the Bureau of Labor Statistics).

^{37.} See COOPER, supra note 33, at app. tbl.1.

^{38.} Elise Gould & Teresa Kroeger, Straight Out of College, Women Make About \$3 Less Per Hour Than Men, Econ. Policy Inst.: Econ. Snapshot (June 1, 2017), http://www.epi.org/publication/straight-out-of-college-women-make-about-3-less-per-hour-than-men/.

^{39.} CHRISTIANNE CORBETT & CATHERINE HILL, AAUW, GRADUATING TO A PAY GAP: THE EARNINGS OF WOMEN AND MEN ONE YEAR AFTER COLLEGE GRADUATION 14 (2012).

^{40.} Id. at 2.

^{41.} See id. at 3.

Work has also become more precarious due to the growth of alternative structures of labor that do not fit the standard model of a full-time, long-term employment relationship. A 2015 General Accounting Office (GAO) study estimated that contingent positions (broadly defined to include temporary agency work, independent contractors, and part-time workers) comprised over 40% of the U.S. workforce, up from 35% in 2006.⁴² Focusing more narrowly, the GAO estimated the "core contingent" workforce, defined as work with irregular schedules and no job security, comprised 7.9% of U.S. workers in 2010.⁴³

Service industries have increasingly turned to part-time employment as the norm. All Involuntary part-time employment rose substantially from 2007 to 2015, and this growth was particularly pronounced in retail and hospitality jobs characterized by low pay, lack of benefits, and irregular schedules likely to interfere with family care and educational opportunities. Some of the leading digital economy firms also rely on low-waged and part-time work for a substantial share of their workforce. In Ohio, a study found that Amazon, a major employer drawn to the state by \$81 million in public subsidies, had a significant proportion of its workers receiving food stamps to supplement their low incomes.

Another recent study found that almost all of the net job gains in the U.S. economy during from 2005 to 2015 occurred in alternative forms of work, such as temporary or contract agencies, freelancers, and on-call arrangements.⁴⁷ This study further found that women were increasingly working in these alternative structures.⁴⁸ Research shows that the rise of alternative work is not primarily due to new technology but rather involves new management strategies—particularly a

^{42.} U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-15-168R, CONTINGENT WORKFORCE: SIZE, CHARACTERISTICS, EARNINGS, AND BENEFITS 4 (2015). See also Lawrence F. Katz & Alan B. Krueger, The Rise and Nature of Alternative Work Arrangements in the United States, 1995-2015, at 2 (Nat'l Bureau Econ. Research, Working Paper No. 22667, 2016), http://www.nber.org/papers/w22667.pdf (separate research finding contingent arrangements increased from 10.7% in 2005 to 15.8% of the workforce in 2015).

^{43.} U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 42, at 4.

^{44.} See generally Lonnie Golden, Econ. Policy Inst., Still Falling Short on Hours and Pay: Part Time Work Becoming New Normal (Dec. 5, 2016), https://www.epi.org/files/pdf/114028.pdf.

^{45.} *Id.* (analyzing how these changes show a structural change rather than a temporary downturn); LEILA MORSY & RICHARD ROTHSTEIN, PARENTS' NONSTANDARD WORK SCHEDULES MAKE ADEQUATE CHILD REARING DIFFICULT (Econ. Policy Inst., Issue Brief No. 400, 2015), http://www.epi.org/publication/parents-non-standard-work-schedules-make-adequate-childrearing-difficult-reforming-labor-market-practices-can-improve-childrens-cognitive-and-behavioral-outco mes/ (discussing cognitive and behavioral effects on children from irregular parental work schedules).

^{46.} Mark Williams, Amazon Makes List of Large Employers with Workers Receiving Food Stamps, COLUMBUS DISPATCH (Jan. 5, 2018), http://www.dispatch.com/news/20180105/amazon-makes-list-of-large-companies-with-workers-receiving-food-stamps (also noting that Ohio had supported Amazon's local developments with over \$81 million in subsidies).

^{47.} See Katz & Krueger, supra note 42.

^{48.} Id.

shift to outsourcing and to increased use of illegal or debatable classifications of workers as contractors.⁴⁹

The change to the "gig economy" may allow some workers to join the ranks of entrepreneurs who can take advantage of new flexibility and freedom and perhaps reap high rewards from high-powered talents. ⁵⁰ But these alternative labor structures also leave many workers with new risks, including the loss of: steady paychecks, predictable schedules, legal protections, as well as benefits like health insurance, workers' compensation, unemployment insurance, and sick leave or retirement savings. Many, if not most, contingent workers will be unlikely to secure higher pay rates sufficient to make up for the costs of these lost protections. ⁵¹ Contingent workers, especially those transferred from direct employment to staffing agencies, often report lower wages and benefits as well as lower job satisfaction than traditional employees doing similar work. ⁵²

Even with high skills and innovative ideas, many small "independent" contractors will be pressured to auction off their profits and control to gain access to the markets controlled by large corporations, like supermarket chains who charge slotting fees to food suppliers⁵³ or digital platforms like Facebook, Amazon and Google who govern access to customers in much of the new economy.⁵⁴ New technology enables managers to increase control over labor through heightened surveillance and round the clock access, eroding flexibility and freedom for workers in part time and independent positions as well as in standard jobs.

^{49.} See Danny Vinik, The Real Future of Work, POLITICO MAG., https://www.politico.com/magazine/story/2018/01/04/future-work-independent-contractors-alternative-work-arrangements-21 6212 (last visited May 14, 2018) (reporting on examples and on research by former Obama administration official and management professor David Weil).

^{50.} See generally V.B. Dubal, Wage Slave or Entrepreneur: Contesting the Dualism of Legal Worker Identities, 105 CAL. L. Rev. 65 (2017) (studying taxi drivers as an example of how the legal construction of independent contracting contributes to precarity but also draws on cultural ideals of independence and dignity).

^{51.} See Karla Walter & Kate Bahn, Raising Pay and Providing Benefits for Workers in a Disruptive Economy, CTR. FOR AM. PROGRESS (Oct. 13, 2017), https://www.americanprogress.org/issues/economy/reports/2017/10/13/440483/raising-pay-providing-benefits-workers-disruptive-economy/.

^{52.} See U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 42, at 5-6 (summarizing evidence of lower wages and benefits); Vinik, supra note 49, at 1-3 (giving examples of outsourcing practices and effects).

^{53.} See, e.g., Gary Rivlin, Rigged: Supermarket Shelves for Sale, CTR. FOR SCI. IN THE PUB. INT. 42-43 (Sept. 2016) (discussing how "slotting fees" impede small food businesses and new food products and instead enforce market dominance by large established firms).

^{54.} See Lina M. Khan, Amazon's Antitrust Paradox, 126 YALE L.J. 710, 780-89 (2017) (explaining how Amazon's control of the retail market increasingly disadvantages smaller businesses dependent on it for sales); Frank Pasquale, Bosses Rule, 19 Hedgehog Rev., Fall 2017, at 2 (noting downward pressures on earnings for independent gig economy workers in a review of Elizabeth Anderson's 2017 book, Private Government: How Employers Rule Our Lives and Why We Don't Talk About It).

II. HISTORICAL POWER AND PRECARITY

A historical view shows that economic productivity is not a straightforward fact. Instead, the value of particular work and workers depends on changing, contested societal contexts and ideologies.

A. Workers as Dependents

In the prevailing innovation economy narrative, this new precarity of work results from a shift in economic conditions that must be accommodated to move the economy forward. The idea that most workers must sacrifice to enhance naturally unequal productive power echoes an older pre-industrial understanding of work as economic and legal dependency.⁵⁵

Anglo-American law's traditional master-servant paradigm constructed labor as a hierarchical family relationship, rather than market contract between equals, under a general structure modified but not fully displaced by modern labor and employment law.⁵⁶ This paradigm overtly linked economic rewards to gender, race, class and other status markers. As heads of households, white male property owners were entitled to demand and to force varying degrees of unequal gain from the productive and reproductive labor of others deemed to be naturally obligated to serve and sacrifice—whether as slaves, servants, wives, children, or livestock.

This legal paradigm was a political economic strategy rather than simply the result of irrational bias or traditional culture. The master-servant hierarchy constructed and rationalized a market that made gender and racial inequality, violence, and insecurity the basis of economic production that was highly successful for some but costly for many. In nineteenth-century United States, a global cotton empire was powered with the forced field labor and reproductive labor of enslaved Black women, driven by new forms of torture and terror, as historian Edward Baptist analyzes in his book *The Half Has Never Been Told*.⁵⁷

The master-servant paradigm also constructed women's household labor as economic and political dependency. This discounted productive domestic labor included: cooking, cleaning, personal care, along with home-based agriculture, crafts, and business. Nineteenth-century law operated to deny married white women rights to earnings and property ownership, in an ideology that linked female productivity to male intimacy and male power to wield private domestic control without public accountability. Male workers laboring in the mines,

^{55.} See Nancy Fraser & Linda Gordon, Genealogy of Dependency: Tracing a Keyword of the Welfare State, 19 SIGNS 309, 312 (1994) (explaining "dependency" as an ideological concept with changing meanings).

^{56.} See generally Karen Orren, Belated Feudalism: Labor, Law and Liberal Development in the United States (1991) (analyzing feudal ideas of labor embedded in twentieth century U.S. labor law).

^{57.} See generally EDWARD E. BAPTIST, THE HALF HAS NEVER BEEN TOLD: SLAVERY AND THE MAKING OF AMERICAN CAPITALISM (2014) (analyzing how U.S. slavery developed as a brutally unequal engine of U.S. economy, not an outdated impediment to economic modernization).

^{58.} See Reva B. Siegel, The Modernization of Marital Status Law: Adjudicating Wives' Right to Earnings, 1860-1930, 82 GEO. L.J. 2127, 2130-31 (1995) (explaining how statutory reforms were

factories, forests, fields, and transportation infrastructure fueling the powerfully growing U.S. economy were also likely to labor under conditions of pervasive control, poverty, and bodily harm imposed by legal regimes giving employers substantial legal protection from accountability for injury.

B. Workers as Political Economic Producers

Twentieth-century changes transformed work for many Americans into a vehicle for significant political economic independence, but these changes did not come about through technological progress, market pressures, or social consensus. New systems and ideologies of labor dependency developed to accommodate the twentieth century industrial economy. For example, newly industrializing cities of the former Southern confederacy designed their criminal justice systems to power growing factories with forced African American labor. The ideology of the family wage privileged some white male factory workers but also helped devalue women's work as "dependency." Supreme Court rulings constructed the industrial workplace as a sphere of private unequal control justifying limits on employers' public accountability and workers' freedoms.

Nonetheless, political and social movements and legal reforms following the Civil War gradually pushed back against the master-servant paradigm with laws expanding the range of work and workers deemed to deserve economic power and political rights. Progressive-Era laws protected child labor and workers' health and safety. The New Deal established protections for unions and rights to collective bargaining, 62 and the New Deal Supreme Court overturned the *Lochner* era restrictions on democratic legislative power to regulate labor and employment. 63 This New Deal transformation of work also established federal

interpreted to update rather than reject many aspects of coverture); Reva B. Siegel, *Home as Work: The First Women's Rights Claims Concerning Wives' Household Labor*, 1850-1880, 103 YALE L.J. 1073, 1081-85 (1994) (discussing how women challenged husbands' traditional property right in wives' labor).

^{59.} See generally DOUGLAS A. BLACKMON, SLAVERY BY ANOTHER NAME: THE RE-ENSLAVEMENT OF BLACK AMERICANS FROM THE CIVIL WAR TO WORLD WAR II (2008) (describing how southern states created a neo-slave system using the criminal justice system to conscript black forced labor in the industrial economy).

^{60.} Nancy Fraser & Linda Gordon, Dependency Demystified: Inscriptions of Power in a Keyword of the Welfare State, 1 Soc. Pol. 4, 10-12 (1994).

^{61.} See, e.g., Kenneth M. Casebeer, The Empty State and Nobody's Market, 54 U. MIAMI L. REV. 247, 253-57 (2000) (explaining how the U.S. constitutional division between public and private undermines democracy and equality); Moshe Marvit & Shaun Richman, American Workers Need Better Job Protections, N.Y. TIMES, Dec. 28, 2017, at 1-3 (discussing how judges have helped construct an at-will employment system in the U.S. that impedes enforcement of workers' legal rights).

^{62.} Labor Unions During the Great Depression & New Deal, LIBR. OF CONG., http://www.loc.gov/teachers/classroommaterials/presentationsandactivities/presentations/timeline/depwwii/unions/ (last visited Jan. 28, 2018).

^{63.} Planned Parenthood of Se. Pa. v. Casey, 505 U.S. 833, 836 (1992) ("line [of cases] identified with *Lochner* ... were overruled -- by, respectively, *West Coast Hotel Co. v. Parrish*") (internal citations omitted)).

wage and hour regulations⁶⁴ and programs for income security in retirement and unemployment.⁶⁵ These were particularly designed to support white male industrial workers, though later expanded to include a broader range of workers.

Through the mid-twentieth century, workers also gained power through direct government investment in public education and public-sector jobs. The expansion of free or low-cost public higher education, along with expanded antidiscrimination law, helped break down traditional gender, class, and racial barriers to professional and technical careers. Government's role as an employer expanded at state, local, and federal levels, creating more economic opportunities for workers to gain middle class incomes and job security. This expanded public employment often offered particularly important opportunities for women and for workers of color. The recent book and movie *Hidden Figures* featured one example, the African American women hired as mathematicians by NASA. 66

C. Cheapening Work

These twentieth-century changes enhancing workers' security were challenged by competing ideologies and practices, mobilized in part by updated ideas about work as a gendered relationship of dependency. Sociologist Erin Hatton's book *The Temp Economy* traces the development of the temporary work business in the 1960s.⁶⁷ Hatton shows how these businesses promoted temporary work with feminized images such as the "Kelly Girl" that set the stage for the erosion of both male and female workers' status in subsequent decades.⁶⁸

The temporary industry used gender stereotypes, like the image of bored middle-class white housewives seeking pin money, to encourage, rationalize, and update the practice of carving out a portion of the workforce for low pay, insecurity, and more employer unaccountability. The industry advertised the Kelly Girl as a worker who "[n]ever takes a vacation or holiday. Never asks for a raise. Never costs you a dime for slack time. (When the workload drops, you drop her.) Never has a cold, slipped disc or loose tooth. (Not on your time anyway!)" The Kelly Girl model of employment evokes an informal and unequal intimate

^{64.} Jonathan Grossman, Fair Lab. Standards Act of 1938: Maximum Struggle for a Minimum Wage, U.S. DEP'T OF LABOR, https://www.dol.gov/oasam/programs/history/flsa1938.htm (last visited Jan. 28, 2018).

^{65.} John E. Hansan, *The New Deal: Part II*, VCU LIBR. Soc. WELFARE HIST. PROJECT, https://socialwelfare.library.vcu.edu/eras/great-depression/the-new-deal-part-ii/ (last visited Jan. 28, 2018).

^{66.} See generally MARGOT LEE SHETTERLY, HIDDEN FIGURES: THE AMERICAN DREAM AND THE UNTOLD STORY OF THE BLACK WOMEN MATHEMATICIANS WHO HELPED WIN THE SPACE RACE (2016); HIDDEN FIGURES (20th Century Fox 2016) (recounting the race and gender discrimination the women faced and the successes they achieved).

^{67.} See generally Erin Hatton, The Temp Economy: From Kelly Girls to Permatemps in Postwar America (2011) (exploring how gender was used as a strategy to promote the temporary work industry).

^{68.} Neil Lichtenstein, Foreward to id. at ix-xi.

^{69.} Id. at 7.

^{70.} Id. at 49-50.

domestic relationship. The Kelly Girl—marketed as a young, attractive, and compliant woman—is a worker who "never fails to please." 71

The feminized office temp was not the only form in which the older master-servant paradigm has reemerged to limit security and pay, especially for women and for men of color. In 1966, Congress formalized the substandard minimum wage for tipped workers, having gratuities the primary basis of pay for many workers in the hospitality and restaurant industry—a substantial engine of job growth in the twenty-first century economy. For a large share of the workforce, tips do not bring the hourly wage up to the standard minimum. He United States stands apart from other nations in treating tips as legal wages, despite a long history of prominent criticism of tipped work as an undemocratic relic of feudal European servitude.

Like the Kelly Girl model, this system of tipped work departs from the idea of labor as a formal contractual exchange consisting of mutually agreed upon terms, to instead construct the work relationship as a more informal and intimate relationship with rewards subject to unilateral discretion based on personal favors. One recent study found that 78% of restaurant servers report being sexually harassed on the job by customers, with tipped workers subject to substandard minimum wages reporting the highest rates of harassment. In her study of the recent "breastaurant" industry, legal scholar Dianne Avery compares tipped work to older master-servant ideas, explaining that this unequal legal wage standard enables businesses to unequally profit from requiring women food servers to provide erotic and subservient emotional labor as a basic part of the job. To

Initially, the tipped waitress, like the feminized Kelly Girl, stood in contrast to the white male industrial worker, who was the model of the productive worker deserving of a family wage and a range of other benefits. But over time, as Hatton traces, the temp industry normalized the economic strategy of increasing profits through reductions in wages and benefits and by restructuring work to enhance employers' flexibility and workers' precarity.⁷⁸ The use of temporary workers employed by third-party staffing agencies has expanded to include not just

^{71.} *Id*.

^{72.} SYLVIA A. ALLEGRETTO & DAVID COOPER, ECON. POLICY INST., TWENTY-THREE YEARS AND STILL WAITING FOR CHANGE: WHY IT'S TIME TO GIVE TIPPED WORKERS THE REGULAR MINIMUM WAGE 4 (CWED Briefing Paper No. 379, 2014) (summarizing history of subminimum wage for tipped workers).

^{73.} Id. at 2.

^{74.} See id. at 17-18 (explaining the lack of compliance and difficulties of enforcing the federal requirement that tips bring workers up to the minimum wage).

^{75.} For a historical analysis of opposition to U.S. tipping, see generally KERRY SEGRAVE, TIPPING: AN AMERICAN SOCIAL HISTORY OF GRATUITIES (1998).

^{76.} Rest. Opportunities Ctr. United, The Glass Floor: Sexual Harassment in the Restaurant Industry $2 \ (2014)$.

^{77.} See Dianne Avery, The Female Breast as Brand: The Aesthetic Labor of Breastaurant Servers, Invisible Labor: Hidden Work in the Contemporary World 171, 179-82 (Marion Crain, Winifred Poster, & Miriam Cherry eds., 2016) (analyzing the inequalities in corporate restaurant brands like Hooters).

^{78.} See generally HATTON, supra note 67.

manufacturing but also highly skilled positions, ⁷⁹ and not simply as a supplement to permanent workforce but as part of core production.

The rise of independent contractors in the "gig economy" further builds on this Kelly Girl model of expendable workers dependent on pleasing and serving with minimal demands for employer support or accountability. Like the Kelly Girl, many of the new "entrepreneurs" provide their labor on a "just in time" basis, removed from public law and institutional protections. Gig economy work sold through online platforms as individualized short-term tasks in private and informal settings often leave workers vulnerable to the discretion and impulses of relatively anonymous customers, fueling risks of sexual harassment and deterring complaints by workers whose income depends on currying favorable ratings.⁸⁰

Several studies suggest that race and sex bias can proliferate in gig work platforms' individualized, often anonymous ratings and unregulated secret algorithms. An analysis of over 4600 online task exchanges in a major global gig platform found that women's average hourly requested rates were 37% less than men's, with the gap persisting even after controlling for differences in education, occupational category, feedback scores, experience, and hours of work. The gender pay gaps were largest in legal services. The authors did not have access to the final rates negotiated but suspected that women may be especially likely to lose business when requesting higher pay. Between the second seco

Further, like traditional servants in aristocratic households, gig workers are encouraged to sacrifice family, weekends and personal needs to demonstrate their value. In an ad campaign idealizing the hyper-productive gig worker, the freelance platform Fiverr pictured a young, attractive white woman with the caption, "You eat a coffee for lunch. You follow through on your follow through. Sleep deprivation is your drug of choice. You might be a doer." Similarly glorifying extreme service, the ride platform Lyft promoted a story about one of its drivers

^{79.} See, e.g., Brigid Schulte, From the Ranks of Microsoft's Permatemps, WASH. POST (Mar. 28, 2015), https://www.washingtonpost.com/local/from-the-ranks-of-microsofts-permatemps/2015/03/27/64f5c922-cb5d-11e4-8c54-ffb5ba6f2f69_story.html?utm_term=.7f2adc18b592 (reporting on highly skilled long term temporary and contract workers who are unionizing to challenge lack of benefits and low wages).

^{80.} Sam Levin, Sexual Harassment and the Sharing Economy: The Dark Side of Working for Strangers, THE GUARDIAN (Aug. 23, 2017), https://www.theguardian.com/business/2017/aug/23/sexual-harassment-sharing-economy-uber-doordash-airbnb-twitter (reporting on lack of protections from assault or harassment for gig workers in jobs like delivery and ride services).

^{81.} Will Knight, *Is the Gig Economy Rigged*?, MIT TECH. Rev. (Nov. 17, 2016), https://www.technologyreview.com/s/602832/is-the-gig-economy-rigged/ (reporting research showing that white and male freelancers were more likely to receive good customer ratings and that algorithms for recommendations incorporated gender and race bias; research showing that algorithms steered men toward higher paying jobs; and evidence of unequal treatment of black customers by Uber drivers).

^{82.} Arianne Renan Barzilay & Anat Ben-David, *Platform Inequality: Gender in the Gig Economy*, 47 SETON HALL L. REV. 393, 398 (2017).

^{83.} Id.

^{84.} Id. at 421.

^{85.} Jia Tolentino, *The Gig Economy Celebrates Working Yourself to Death*, THE NEW YORKER (Mar. 22, 2017), https://www.newyorker.com/culture/jia-tolentino/the-gig-economy-celebrates-working-yourself-to-death.

who picked up a customer (and a few extra dollars) while driving herself to the hospital to give birth.⁸⁶

III. NEW ECONOMY OF PRECARIOUS WORK

Although the rise of precarious work may appear to be determined by the inherent power of new economic forces and new technologies, a closer look reveals that its power draws heavily on an older politics of inequality. Furthermore, by accepting inequality and insecurity as economic power, this new economic vision clouds our ability to develop a more stable and prosperous economy.

A. Displacing the Knowledge Economy

Initially, the declining power of the idealized white male industrial worker in late twentieth-century United States was heralded as a move toward a new knowledge economy.⁸⁷ In that vision, older manufacturing industries would move many production jobs to less developed countries with cheaper—and less politically powerful—labor.⁸⁸ In place of the ideal white male industrial worker, this vision promised that American productivity would be led by a new class of highly educated "symbolic analysts" in creative and professional or managerial jobs with high pay and high quality of life.⁸⁹

But in the early twenty-first century, this sunny vision of a knowledge economy was eclipsed by a harsher image of an "innovation economy" characterized by new risks and discipline. This vision presents human knowledge and governance as fallible, subjective, and inefficient, compared to the more reliable, objective and powerful productivity of market forces mediated by artificial intelligence.⁹⁰

This idea of the declining power of knowledge reflects and reinforces the eroding support and rewards for educated workers in the early twenty-first century United States. Workers overall have become substantially more educated and skilled, but that increased productive potential has not translated into proportionate gains in pay. The declining wages for college educated workers since the 1990s, including those with advanced degrees, 91 show that "knowledge workers" are not

^{86.} Id.

^{87.} See generally ROBERT B. REICH, THE WORK OF NATIONS: PREPARING OURSELVES FOR 21ST CENTURY CAPITALISM (1991) (explaining the changes in work from a shift from an industrial economy to a knowledge economy).

^{88.} See Robert Reich, The Nightmarish Future for American Jobs and Incomes Is Here, ALTERNET (May 7, 2015, 5:11 AM GMT), https://www.alternet.org/economy/robert-reichnightmarish-future-american-jobs-and-incomes-here (discussing how the current economy has confirmed his earlier prediction of the global shift in many manufacturing jobs).

^{89.} Id. (noting that his earlier prediction underestimated the effects of knowledge-replacing technologies).

^{90.} See generally Philip Mirowski & Edward M. Nik-Khah, The Knowledge We Have Lost IN Information: The History of Information in Modern Economics (2017) (critiquing the economic ideology devaluing broad humanistic expertise with quantified data and metrics).

^{91.} See discussion of falling wages, supra Hansan, note 65, at Part II; Elise Gould, Even the Most Educated Workers Have Declining Wages, ECONOMIC SNAPSHOT (Feb. 20, 2015),

generally the winners of the new economy. Public investment in higher education has declined dramatically since the 1970s, 92 leaving many students and families burdened with debt.

Further, narratives promoting the innovation economy tend to particularly target the professions as obstacles or outdated relics standing in the way of newly powerful economic engines. Professions depend on protections such as licensing and educational credentials, regulations limiting corporate ownership or hierarchical control, fiduciary duties limiting self-interest, and provisions for achieving rights to job security and partnership or shared governance. Professional ethics and legal rules temper the market model by prohibiting some kinds of self-interested gain. For example, faculty members, researchers, doctors, pharmacists, lawyers, journalists, and nurses may be penalized for accepting cash or kickbacks in exchange for high grades, quack medicine, prison sentences, falsified evidence, or clients' personal data.

However, new technologies (along with other changes) have fostered opportunities for "innovators" to profit from "disrupting" professions. In law, for example, some advocate reducing licensing and education requirements as a solution to law student debt and lack of affordable legal services. This proposal suggests a future where corporations and their algorithms will sell standardized legal advice online to the masses, leaving well-paid and well-educated lawyers as a luxury service for profitable firms and their executives and investors. In recent years, technology has helped law firms to restructure some human legal work as lower waged and insecure contract gigs. In medicine, the federal government's push toward digitization has sometimes led to new burdens and risks on doctors and a decline in time spent with patients—changes not clearly linked to improved

http://www.epi.org/publication/even-the-most-educated-workers-have-declining-wages/ (for workers with advanced degrees, reporting data showing a decline from 2012 and flat wages compared to 2007).

^{92.} Thomas G. Mortenson, *State Funding: A Race to the Bottom*, AM. COUNCIL ON EDUC. (Winter 2012), http://www.acenet.edu/the-presidency/columns-and-features/Pages/state-funding-a-race-to-the-bottom.aspx.

^{93.} For a critical analysis of one book featuring this narrative of professional disruption, see Frank Pasquale, *Automating the Professions?*, L.A. REV. OF BOOKS (Mar. 15, 2016) (reviewing RICHARD & DANIEL SUSSKIND, THE FUTURE OF THE PROFESSIONS (2015)).

^{94.} For an insightful analysis of how recent "innovations" in law practice and legal education are eroding the distinct values of law as a profession rather than a market business, see Alfred S. Konefsky & Barry Sullivan, In This, The Winter of Our Discontent: Legal Practice, Legal Education, and the Culture of Distrust, 62 BUFF. L. REV. 659 (2014).

^{95.} See, e.g., Gillian K. Hadfield, Legal Barriers to Innovation: The Growing Cost of Professional Control over Corporate Legal Markets, 60 STAN. LAW REV. 1689, 1727-32 (2008) (advocating congressional and other interventions to replace professional control of legal services with corporate control). Professor Hadfield serves as an advisor to LegalZoom, a leading corporation seeking to profit from such automation. See About Us: Executive Bios, LegalZoom.Com, https://www.legalzoom.com/about-us/executive-bios (last visited June 29, 2018).

^{96.} See Pasquale, supra note 93 (questioning the inattention to inequalities in proposals to solve access to justice problems with cheap automated legal services).

^{97.} See, e.g., Claire Bushey, The Gig Economy Comes to Law, CRAIN'S CHI. Bus., May 8, 2017, at 3 (discussing evidence of growth in contract legal work and its effects).

quality or lower costs. 98 Similarly, in education, massive online instruction has been promoted as a cheaper and more productive substitute for human teachers. 99

In higher education, a majority of faculty are now in non-tenure-track positions that lack substantial professional protections, compensation, and control. In 1969, over 78% of U.S. faculty were in tenured or tenure-track positions, but by 2009, over 66% of higher education teachers were in contingent positions ineligible for tenure. Hand are career adjuncts hired on a "just-in-time" basis to maximize institutional flexibility and minimize educational costs, so that full-time teachers earn poverty-level wages and few benefits, without access to offices. Additionally, they often lack clerical or technology support, and they are not given time for preparation or student advising. Although women now receive a substantial share of Ph.Ds. in many academic disciplines, this gain in gender equality is tempered by the rise of this "Kelly Girl" model of higher education, and low-waged career adjuncts are disproportionately female. A recent news investigation found women adjunct professors in the United States were coping with poverty wages by sleeping in their cars and by taking on second shifts as sex workers. 103

B. Masculinizing the Innovation Engine

The newly emerging ideal of the productive worker is not the professional service provider, educator, or symbolic analyst. Instead, that ideal worker is the robot and the algorithm, along with the private market investors, executives, and innovators who appear endowed with a mysterious and unique ability to design and perfect these superior inhuman forces. The automated intelligence of the innovation economy promises even more submissive service than the Kelly Girl through digitized labor freed from needy and noncompliant human bodies and minds. Like the Kelly Girl, the new automatons tend to be designed and marketed as stereotypically feminized personalities. Popular devices with identities like Alexa, Siri, and Cortana are frequently set to respond to consumer commands with

^{98.} See, e.g., Danielle Ofri, The Patients vs. Paperwork Problem for Doctors, N.Y. TIMES (Nov. 14, 2017), https://www.nytimes.com/2017/11/14/well/live/the-patients-vs-paperwork-problem-for-doctors.html (reporting several studies of the impact of electronic medical records as well as her personal experience as a physician).

^{99.} See, e.g., Justin Pope, What Are MOOCs Good For?, MIT TECH. Rev. (Dec. 15, 2014) (summarizing how massive online courses have not fulfilled initial ambitious claims but arguing some institutions have found useful adaptations to supplement more traditional educational formats).

^{100.} Adrianna Kezar & Daniel Maxey, *The Changing Academic Workforce*, 3 TRUSTEESHIP MAG. 21 (May/June 2013), https://www.agb.org/trusteeship/2013/5/changing-academic-workforce.

^{101.} Caroline Fredrickson, *There Is No Excuse for How Universities Treat Adjuncts*, THE ATLANTIC (Sept. 15, 2015), https://www.theatlantic.com/business/archive/2015/09/higher-education-college-adjunct-professor-salary/404461/ (reporting evidence that 31% of adjuncts live below the poverty line).

^{102.} Kate Bahn, *The Rise of the Lady Adjuncts*, CHRONICLE VITAE (Dec. 6, 2013), https://chroniclevitae.com/news/206-the-rise-of-the-lady-adjuncts.

^{103.} Alastair Gee, Facing Poverty, Academics Turn to Sex Work and Sleeping in Cars, THE GUARDIAN (Sept. 28, 2017), https://www.theguardian.com/us-news/2017/sep/28/adjunct-professors-homeless-sex-work-academia-poverty.

female voices.¹⁰⁴ Cortana, for example, was named for a nude-appearing female figure in a video game.¹⁰⁵ A (male) designer of another feminized digital assistant explained that he gave it the same name as his former human female assistant.¹⁰⁶ One scholar of artificial intelligence noted this practice seems to reflect some men's view of women as not fully human.¹⁰⁷

Further examples suggest the new economy runs on old gender practices. In stark contrast to women's significant gains in representation within traditionally prestigious professions like law and medicine, men continue to overwhelmingly dominate high technology business. In 2013, women held only 26% of computer-related professional jobs, down from 35% in 1990 and about the same as in 1960. ¹⁰⁸ In 2012, only 12% of working engineers were women. ¹⁰⁹ Under a 2014 court order, Google released diversity data showing women comprised only 17% of the company's workforce and that less than 1% of its employees were African American. ¹¹⁰ In 2016, only 7% of partners in the top 100 venture capital firms were women. ¹¹¹ And also in 2016, women-led companies received 2.19% of venture capital dollars, less than in the previous two years, ¹¹² while companies run by men received 16 times more start-up funding than those run by women. ¹¹³ A study of venture capital investments between 1975 and 2003 found less than 5% of initial public offerings involved a female venture capital investor. ¹¹⁴

A range of evidence counters the theory that these disparities mainly reflect women's preferences for humanistic fields rather than the technical skills and artificial intelligence deemed more productive in the contemporary economy. Historian Nathan Ensmenger explains how computer programming was initially identified as an especially feminine occupation. Popular stories of the 1960s explained that "Computer Girls" draw on women's "natural" domestic or clerical

^{104.} Adrianne Lafrance, Why Do So Many Digital Assistants Have Female Names?, THE ATLANTIC (Mar. 30, 2016), https://www.theatlantic.com/technology/archive/2016/03/why-do-so-many-digital-assistants-have-feminine-names/475884/.

^{105.} Id.

^{106.} Id.

^{107.} *Id.* (citing Kathleen Richardson, An Anthropology of Robots and AI: Annihilation Anxiety and Machines (2015)).

^{108.} Am. Ass'n Univ. Women, Solving the Equation: The Variables for Women's Success in Engineering and Computing 2 (2015), https://www.aauw.org/research/solving-the-equation/.

^{109.} *Id*.

^{110.} Sheelah Kolhatkar, *The Tech Industry's Gender Discrimination Problem*, THE NEW YORKER (Nov. 20, 2017), https://www.newyorker.com/magazine/2017/11/20/the-tech-industrys-gender-discrimination-problem.

^{111.} Gené Teare & Ned Desmond, The First Comprehensive Study of Women in Venture Capital and Their Impact on Female Founders, TECHCRUNCH (Apr. 20, 2016), https://techcrunch.com/2016/04/19/the-first-comprehensive-study-on-women-in-venture-capital/.

^{112.} Valentina Zarya, *Venture Capital's Funding Gender Gap is Actually Getting Worse*, FORTUNE (Mar. 13, 2017), http://fortune.com/2017/03/13/female-founders-venture-capital/.

^{113.} Id.

^{114.} Paul A. Gompers et al., Gender Effects in Venture Capital, HARV. BUS. SCH. 7-9 (May 12, 2014), https://ssrn.com/abstract=2445497.

skills to perform coding work.¹¹⁵ The gender ideology of that time imaged that software tasks like programming were less valuable and less skilled than the maledominated and higher paid jobs which focused on computer hardware, even though female programmers' knowledge could be instrumental in leading hardware innovations.¹¹⁶ Ensmenger explains that as the economic value and complexity of software design became clearer, employers instead began to promote computer programming as distinctly masculine work, and the industry gradually adopted a variety of new practices and structures that distinctly disadvantaged women.¹¹⁷ For example, employers developed "personality tests" that selected new hires based on characteristics like "disinterest in people," helping to develop the contemporary narrative of the masculine "computer geek." ¹¹⁸

Contemporary evidence suggests that this pervasive male caricature of technological expertise continues to reflect stereotypes rather than objective gender differences in productivity, interest, or skill. Research shows how engineers attuned to feminized interests and social needs can be especially innovative and productive. Despite rhetoric of a new meritocracy based on depersonalized objective information, "nearly everyone regards high-technology entrepreneurship [as] the last bastion of where the barriers to women are still extremely high," according to University of Toronto management scholar Sarah Kaplan. A study of entrepreneurs' pitches to investors found that investors evaluated presentations made by male voices as more persuasive, logical, and fact-based than presentations with identical content made by female voices. Business scholars Paul Gompers and Sophie Wang found that increased gender diversity in partners of venture capital investment firms is linked to improved performance in deals and funds, and that senior partners with daughters were more likely to hire women. 122

Women who do choose jobs in technology leave the field at much higher rates than men, and a workplace culture of unfairness is the most often cited reason for doing so.¹²³ This high turnover of workers due to unfair treatment in U.S.

^{115.} See generally Nathan Ensmenger, The Computer Boys Take Over: Computers, Programmers and the Politics of Technical Expertise (2010).

^{116.} See id. at 37 (explaining the example of how programmer Betty Holberton convinced male designers of early computer hardware to address the risks of human error).

^{117.} Id. at 69, 144-49.

^{118.} Id.

^{119.} See, e.g., Stanford University's Gendered Innovations project, joined by the European Commission and the U.S. National Science Foundation, http://genderedinnovations.stanford.edu/what-is-gendered-innovations.html (last visited June 29, 2018) (researching case studies of technological successes based on sex and gender inclusiveness and attention to social needs).

^{120.} Shane Digman & Tom Cardoso, *The Innovation Gap: Tech's Big Diversity Problem*, THE GLOBE & MAIL (updated Mar. 12, 2017), https://www.theglobeandmail.com/technology/the-innovation-gap-techs-big-diversity-problem/article34238507/.

^{121.} Alison Wood Brooks et al., *Investors Prefer Entrepreneurial Pitches by Attractive Men*, 111 PROCEEDINGS OF THE NAT'L ACAD. OF Sci. 4427, 4430 (2014).

^{122.} Paul A. Gompers & Sophie Q. Wang, And the Children Shall Lead: Gender Diversity and Performance in Venture Capital (NBER Working Paper Series No. 23454, 2017).

^{123.} ALLISON SCOTT ET AL., KAPOR CENTER FOR SOCIAL IMPACT, TECH LEAVERS STUDY (Apr. 27, 2017), https://www.kaporcenter.org/wp-content/uploads/2017/08/TechLeavers2017.pdf.

technology industries may result in an estimated \$16 billion in losses per year, according to some research. A 2015 survey of 200 senior women in Silicon Valley revealed that 60% had received unwelcome sexual advances on the job; one in three of these women feared for their physical safety. Description 125

The image of the computer geek who works odd hours, neglects family relationships, and takes pride in flouting social norms helps to normalize and rationalize abusive and unaccountable behavior as a natural expression of masculine creative power. Facebook famously exhorted its tech workers to "move fast and break things." Prominent tech workplaces designed like upscale fraternity houses glorify a "slave-driving work culture" of long hours by offering perks like free laundry, steaks, and drinks. 127

Recent class action lawsuits and news reports provide evidence of "pervasive and ingrained" sexual harassment of women in this high-tech work culture, with complaints in prominent tech firms often resulting in retaliation or indifference. For example, a female engineer at Uber reported that her complaints about her supervisor's demands for sex were ignored on the ground that he was a high performer who couldn't be punished. Female entrepreneurs reported that leading venture capitalists responded to their start-up pitches with sexual propositions rather than business funding or suggested that they get money by marrying instead. The CEO of student loan Fintech firm SoFi resigned after dozens of women complained of sexual harassment in a "frat house" culture that included workplace sex along with abusive behavior directed toward women workers. In addition to sexual predation, women reported receiving discriminatory pay at other prominent firms, and women of color may especially be subject to discrimination.

^{124.} Id.

^{125.} Sheelah Kolhatkar, *The Tech Industry's Gender-Discrimination Problem*, THE NEW YORKER (Nov. 20, 2017), https://www.newyorker.com/magazine/2017/11/20/the-tech-industrys-gender-discrimination-problem (discussing the Elephant in the Valley survey, https://www.elephantinthevalley.com/).

^{126.} See Nick Statt, Zuckerberg: 'Move Fast and Break Things' Isn't How Facebook Operates Anymore, CNET (Apr. 30, 2014), https://www.cnet.com/news/zuckerberg-move-fast-and-break-things-isnt-how-we-operate-anymore/. See generally Jonathan Taplin, Move Fast and Break Things (2017) (invoking a popular Silicon Valley slogan as the title for his book criticizing the digital economy for destructive influence on arts and cultural production).

^{127.} COREY PEIN, LIVE, WORK, WORK, WORK, DIE: A JOURNEY INTO THE SAVAGE HEART OF SILICON VALLEY 68 (2017).

^{128.} Katie Benner, Women in Tech Industry Speak Frankly on Culture of Harassment, N.Y. TIMES (June 30, 2017), https://www.nytimes.com/2017/06/30/technology/women-entrepreneurs-speak-out-sexual-harassment.html. See also Kolhatkar, supra note 125 (giving numerous examples including class action litigation against Microsoft, Qualcomm, Uber, Twitter, and Google).

^{129.} Benner, supra note 128.

^{130.} Mike Isaac, *Uber Investigating Sexual Harassment Claims by Ex-Employee*, N.Y. TIMES (Feb. 19, 2017), https://www.nytimes.com/2017/02/19/business/uber-sexual-harassment-investigation.html (reporting on complaints of Susan Fowler).

^{131.} Nathanial Popper & Katie Benner, *It Was a Frat House: Inside the Sex Scandal that Toppled SoFi's CEO*, N.Y. TIMES (Sept. 12, 2017), https://www.nytimes.com/2017/09/12/technology/sofi-chief-executive-toxic-workplace.html.

^{132.} Kolhatkar, supra note 125 (reporting on lawsuits against Tesla and Google, among others).

One group of women in technology developed an "Al Capone Theory of Sexual Harassment" linking predatory sexual behavior with other unlawful activities, fostered by a tech industry culture of masculinized entitlement to dominate and control others and to appropriate others property and personhood. Like nineteenth-century masters of households or plantations, today's technology industry can often insulate its treatment of workers from public scrutiny and public justice, due to arbitration and nondisclosure requirements that protect the workplace as a sphere of privacy and unequal control. 134

C. Ideology of Economic Innovation

Is the inequality, injury, and insecurity of the innovation economy the necessary price of a newly powerful economic engine? If we think of the economy as a train that runs on superior individual talent for self-interested risk-taking, then the demands of law, democratic citizenship, and public accountability can appear to be dispensable luxuries, if not direct impediments, to productive growth. But the idea that prosperity depends on enhancing the power and freedom of entrepreneurs and innovators is political storytelling more than economic fact.

As prominent economist William Baumol has explained, innovation and entrepreneurship have no obvious connection to real economic growth or general prosperity, and indeed, these can be parasitical and wasteful. Legal scholar Frank Pasquale analyzes the insights and evidence from Baumol and others to show that law should not deferentially promote economic innovation or dismiss its risks and injuries as marginal or temporary costs of progress. Pasquale notes Baumol's study of the international arms trade as an example of business entrepreneurship leading to costs such as enhancing the power of terrorists or tyrants to use violence for destructive gain. Pasquale further gives the example of how federal preemption of state consumer protection laws was supposed to promote financial innovation but instead fueled extensive fraud with devastating results for many homeowners and communities.

Similarly, economist William Lazonick rejects the theory that innovation is linked to rewarding executives and investors with high returns for high risks, concluding that this legal approach has enabled corporate executives and shareholders to become predatory extractors of economic value from workers and

^{133.} *Id.* (citing commentary by diversity consultant Valerie Aurora and ACLU technology fellow Leigh Honeywell).

^{134.} Id. (citing a 2014 survey by corporate defense law firm Carlton Fields Jordan Burt).

^{135.} William J. Baumol, Entrepreneurship: Productive, Unproductive & Destructive, 98 J. Pol. Econ. 893, 894, 897-98 (1990).

^{136.} See Frank Pasquale, Entrepreneurship Can Be Unproductive or Destructive, LAW & POL. ECON. BLOG (Nov. 15, 2017), https://lpeblog.org/2017/11/15/entrepreneurship-can-be-unproductive-or-destructive/.

^{137.} Id.

^{138.} Id. See also Frank Pasquale, Black Box Society 101-35 (2015) (discussing how deregulated financial technology fueled the mortgage crisis).

society.¹³⁹ In his analysis, productive innovation comes from businesses that succeed in functioning as integrated collective entities,¹⁴⁰ and he argues that fostering this innovation will require re-orienting corporate law to give workers more rights to control, and share in, their firm's productivity.¹⁴¹

Further, legal scholar Jedediah Kroncke shows that comparative international evidence does not support the theory that competitive and productive economies must replace "rigid" workers' protections with policies promoting employer flexibility. Instead, precarious work is linked to substantial socioeconomic harm and, in some contexts undermines economic growth by eroding human capital investment. Without secure income streams, workers are less likely to develop long-term human capacity and social stability through investments in education, health, homeownership, marriage, family care, or support for stable and effective government. Given the lack of supporting evidence, Kroncke questions the elite's continuing support for reducing labor protections, and he notes the flexibilization theory serves to entrench inequalities that were previously justified by older, pre-modern elite ideologies of natural or divine biological hierarchy.

Similarly, the economic evidence does not explain the enthusiasm for local economic development strategies in the United States that shift public investment from education, health, and infrastructure to support private technology projects. New York State's technology investments were led by a state university "nanotechnology chief" who was hailed by the governor as a miracle-working "genius" several months before he was charged by federal and state authorities with operating a criminal political corruption scheme. Known as "Dr. Nano," the flamboyantly spending, sexist, and highly compensated former SUNY Polytechnic Institute President Alain Kaloyeros led the state's efforts to make its university system a conduit for high technology development subsidies in

^{139.} William Lazonick, Innovative Enterprise Solves the Agency Problem: Theory of the Firm, Financial Flows, and Economic Performance 9, 17 (Inst. for New Econ. Thinking, Working Paper No. 62, 2017).

^{140.} See id. at 5 (explaining the key features of productive business innovation).

^{141.} Id. at 42.

^{142.} Jedidiah J. Kroncke, *Precariousness as Growth: Meritocracy, Human Capital Development and Discourses of Workplace Deregulation in Brazil, China and India*, 9 LAW & DEV. REV. 321, 323 (2016).

^{143.} Id. at 329-31.

^{144.} Id. at 331-32.

^{145.} Id. at 357.

^{146.} Tom Precious, Under Cloud of Pay-to-Play Scandal, Kaloyeros Goes from Exec to Prof, BUFFALO News (updated Oct. 12, 2016), https://buffalonews.com/2016/10/11/kaloyeros-resigns-suny-post-amid-pay-play-scandal/; Joseph Spector, For Alain Kaloyeros, An Empire Falls, DEMOCRAT & CHRON. (Sept. 23, 2016), https://www.democratandchronicle.com/story/news/politics/blogs/vote-up/2016/09/23/kaloyeros-empire-falls/90910514/.

^{147.} Nathan Tempey, New York's Highest Paid Employee Loves His Ferrari, Bathroom Selfies, Sexist Jokes, THE GOTHAMIST (Oct. 8, 2015), http://gothamist.com/2015/10/08/highly_paid_state_worker.php (reporting that Kaloyeros was the highest paid state employee and that his social media postings included frequent stereotypical insults against women, including a joking reference to being prevented from executing his ex-wife in an electric chair).

economically distressed upstate New York. ¹⁴⁸ Using university authority insulated from standard state procurement and transparency rules, Kaloyeros oversaw programs worth an estimated \$14 billion and received state funding to attract private technology businesses in a number of cities across the state. ¹⁴⁹ After Kaloyeros stepped down, state officials revealed that his risky financial deals had left SUNY with massive debt without clear budgeting or backing, ¹⁵⁰ and in 2017 the state provided over \$50 million in bailout funds for looming payments on one high-cost building. ¹⁵¹ Many of the technology business developments targeted for lavish, state-supported facilities and other subsidies under Kaloyeros's leadership have failed to materialize, or they have fallen far short of promised goals. ¹⁵²

For example, one of the public-private technology partnerships under Kaloyeros's leadership involved a \$55 million state subsidy for an IBM facility in Buffalo, which the state promoted as a "center for cutting edge software development" that would train university students and produce 500 new high-tech jobs. ¹⁵³ Instead, after its first year of operation, the facility employed a much smaller number of workers—many in low-waged call center positions created under an outsourcing contract that replaced better paid state employees. ¹⁵⁴ Further, these call center workers are not directly employed by IBM itself, but instead work as contingent staffing agency employees, receiving no paid holidays and with strictly limited and closely monitored break schedules that allegedly interfered with workers' ability to use the bathroom. ¹⁵⁵ This high-tech economic development takes the Kelly Girl model to a new level, encouraging multinational technology employers not only to minimize responsibility for workers' personal or

^{148.} See Heaney, supra note 15.

^{149.} Joseph Spector, SUNY Poly's Influence Imperiled by Scandal, DEMOCRAT & CHRON. (updated May 7, 2016, 2:26 PM).

^{150.} See Jon Campbell, After Failed Deals, Can SUNY Poly Save Itself From 'Danger'?, DEMOCRAT & CHRON. (Aug. 10, 2017), https://www.democratandchronicle.com/story/news/politics/albany/2017/08/10/suny-poly-canal-ponds-danger/104261540/ (reporting comments by Kaloyeros's successor on the inadequate budgeting); Larry Rulison, SUNY Poly Faces Issues with Lenders Over \$500 Million Debt, Times Union (Sept. 27, 2016), https://www.timesunion.com/tuplus-business/article/SUNY-Poly-faces-issues-with-lenders-over-500-9313250.php (reporting on the large debt out of compliance with obligations to lenders).

^{151.} Larry Rulison, SUNY Poly Had Money Troubles Before Hammer Came Down, TIMES UNION (Nov. 1, 2017), https://www.timesunion.com/business/article/SUNY-Poly-had-money-troubles-before-hammer-came-12319942.php (reporting most of the state grant was earmarked for supporting debt obligations on a new \$375 million "Nanocenter").

^{152.} See Campbell, supra note 150 (reporting that a massive industrial facility in the Rochester area remained vacant along with failed developments in Albany and Syracuse); Jim Heaney & Charlotte Keith, State of Subsidies: Job Growth Across Upstate New York Remains Sluggish Despite Billions in Economic Development Subsidies, INVESTIGATIVE POST (Mar. 26, 2017), http://www.investigativepost.org/2017/03/26/state-of-subsidies/ (noting failed developments promised by Kaloyeros in Utica, Rochester, and Dunkirk as part of a larger failure of accountability and rationality in "big ticket" public subsidies for business development).

^{153.} Charlotte Keith, *IBM Another Buffalo Billion Letdown*, INVESTIGATIVE POST (Nov. 9, 2017), http://www.investigativepost.org/2017/11/09/is-ibm-a-buffalo-billion-boondoggle/.

^{154.} Id.

^{155.} Id.

bodily needs, but also to receive public support for the unequal private rewards from precarious work.¹⁵⁶

Other major public support for private technology business in New York has similarly failed to produce strong evidence of tangible economic results. In defense of low initial jobs results and high marketing costs for New York's university-based tax-free technology development zones, the state's economic development director emphasized its intangible success in changing perceptions and culture, despite lackluster economic numbers. ¹⁵⁷ Another new public subsidy initiative has awarded \$17 million in state funds to private entrepreneurs in an annual contest to attract innovative start-ups to Buffalo. ¹⁵⁸ When a report revealed that nearly three quarters of the winning companies have left the area, the program's director insisted the program was nonetheless successful as a "marketing juggernaut" producing a new local image despite the lack of new local jobs. ¹⁵⁹

CONCLUSION

What has most clearly held the U.S. economy back in the last decade? Not rigid regulators, workers with imperfect human bodies, excessive and outdated demands for security and equality, or feminine preferences for human relationships and humanities rather than quantification and technology. Instead, the clearest drain on U.S. economic power and productivity in the last decade has been the 2008 financial crisis, which resulted from policies designed to encourage extreme gains and risk-taking among financial market innovators and investors imagined to be the source of newly powerful productivity.

Although the full economic, social, and political costs of the crisis are highly uncertain and difficult to measure, many leading analyses have estimated lost productivity of over \$10 trillion. For example, a 2013 study of the U.S. costs of the crisis by economists of the Dallas Federal Reserve conservatively estimated

^{156.} See id. (reporting that Kelly Services provided workers for IBM at another New York facility with better benefits).

^{157.} See Susanne Craig & Jessie McKinley, Cuomo's Job Creation Program Is Slow to Take Hold, N.Y. TIMES (May 14, 2015), https://www.nytimes.com/2015/05/15/nyregion/for-76-new-jobs-new-york-state-has-spent-tens-of-millions.html (reporting response of Howard Zemsky, head of the state economic development agency, to evidence of lackluster results); Rick Karlin, Economic Development Efforts Heavily Questioned, Fiercely Defended, TIMES UNION (Aug. 3, 2016), https://www.timesunion.com/local/article/Economic-development-efforts-heavily-questioned-9116 411.php (reporting Zemsky's focus on progress in changing perceptions in response to continuing concerns about lack of results and accountability in costly economic development deals).

^{158.} Charlotte Keith, *Entrepreneurs Take State Grants and Flee WNY*, INVESTIGATIVE POST (Oct. 4, 2017), http://www.investigativepost.org/2017/10/04/43north/.

^{159.} Charlotte Keith, *Investigative Post: Is 43North a Success?*, THE PUBLIC (Oct. 4, 2017, 5:00 PM EST), http://www.dailypublic.com/articles/10032017/investigative-post-43north-success (investigating the results and reporting the comments of John Gavigan).

^{160.} Eduardo Porter, Recession's True Cost is Still Being Tallied, N.Y. TIMES (Jan. 21, 2014), https://www.nytimes.com/2014/01/22/business/economy/the-cost-of-the-financial-crisis-is-still-being-tallied.html (reporting studies from the Government Accounting Office, the Better Markets reform advocacy group, and the Dallas Federal Reserve).

that the direct costs of the crisis could range between \$20,000 and \$150,000 in lost lifetime earnings for every person in the nation, with potential for far greater long term and indirect social costs. In 2015, an updated analysis by Better Markets, a group supporting financial reforms, concluded that the crisis reduced U.S. GDP by \$20 trillion. Their report singled out Toledo, Ohio as a leading example of the long-term damage from the crisis, finding that the crisis would likely reduce employment in the city through 2021. In 2015, an updated analysis by Better Markets, a group supporting financial reforms, concluded that the crisis reduced U.S. GDP by \$20 trillion.

Differences in gender identity, preferences, and skills do not justify reserving the benefit and control of economic power to an elite and unaccountable few. Whether as food servers or lawyers, teachers or parents, plumbers or programmers, workers can reclaim rights and power to be protected and funded as society's deserving *makers*. As was true in the nineteenth-century United States, the precarious condition of many workers dependent on private masters is not grounded in economic productivity but rather in failed and destructive politics. The vast majority of men, as well as women, will benefit from reviving a more sound understanding of economic value as a collective public resource grounded in laws that equitably support the potential for all human beings to contribute to a better, fairer society.

^{161.} Tyler Atkinson et al., *How Bad Was It? The Costs and Consequences of the 2007-2009 Financial Crisis*, DALLAS FED STAFF PAPERS, July 2013, at 1, 19-11, https://www.dallasfed.org/assets/documents/research/staff/staff1301.pdf.

^{162.} BETTER MARKETS, *THE COST OF THE CRISIS:* \$20 TRILLION AND COUNTING 1 (July 2015), https://bettermarkets.com/sites/default/files/Better%20Markets%20%20Cost%20of%20the%20Cris is.pdf.

^{163.} Id. at 49.

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