Technology, Inequality and the Democratizing of Innovation

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Abstract

This thesis examines how technological advancement in the digital economy has intensified economic inequality and undermined egalitarian ideals, proposing a liberal-republican framework as a response. It critiques the monopolistic power of "Big Tech" and questions whether their control over data and intellectual property fosters an unjust hierarchy of wealth and political power. Moving beyond critique, the thesis advocates for republican freedom as non-domination to envision institutions and norms that democratize technological benefits and uphold justice.

The initial chapters build a normative foundation, drawing on thinkers like John Rawls, Philip Pettit, and Alan Thomas, while emphasizing the stability of liberal-republican institutions through Machiavelli's insights on corruption and systemic decay driven by antagonism between "the many" and "the few." Chapter three is a central chapter that analyzes the digital or "knowledge" economy, suggesting it mirrors early capitalist structures, such as the "putting-out" system, or what Yanis Varoufakis calls "technofeudalism." Subsequent chapters explore the relationship between technological innovation and finance, revealing how it deepens economic and political disparities. The thesis proposes digital Georgism and stronger support for open-source initiatives as ways to democratize innovation and highlights the republican ideal of self-sufficiency for economic independence and non-domination. Concluding chapters evaluate socialist solutions, including James Muldoon's "Platform Socialism," before presenting a liberal-republican alternative that supports shared innovation, justice, and sustainable democratic governance in an evolving economy.

Author's Declaration

I declare that this thesis is a presentation of original work and that I am the sole author. This work has not previously been presented for a degree or other qualification at this University or elsewhere. All sources are acknowledged as references.

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Introduction

Fifty years of industrial innovation across the West has seen the rise to prominence, and economic dominance, of the so-called "Magnificent Seven" technological companies. Global household names, these seven companies – Alphabet, Amazon, Apple, Meta, Microsoft, Nvidia and Tesla – have many of the features of commercial monopolies. In August, 2024, a court did indeed find that Google (owned by Alphabet) has an illegal monopoly over internet searching.

Together, these seven companies, and other companies similar to them that together constitute the digital technology sector, have some characteristic features. Not all of these companies share the same features—they form an overlapping set. First of all, they are commercially dominant in their industries. Secondly, they have very high company valuations – these seven stocks constitute roughly thirty percent of the total value of the S&P500 which, as its name implies, lists five hundred companies. Thirdly, apart from the Taiwanese chip manufacturer Nvidia, they are firms with worldwide operations but which are primarily based in the United States of America. This localness betrays the outsize global influence of these firms in terms of their societal effects, especially if one extends the list to another company owned by the CEO of Tesla, Elon Musk, namely the social media platform "X" (formerly known as "Twitter"). In each case, these companies have an entrenched commercial advantage over their competitors, with the caveat that they compete against each other in some sectors of particular markets.

Further characteristics of such firms is that they tend not to employ a large number of people relative to their very high level of profit. They have proven to be adept at reducing their tax liability by taking advantage of locating different parts of their business in different jurisdictions. They tend to be light on capital expenditure, and are among the apex firms of what Herman Mark Schwartz calls the "franchise economy" (Schwartz, 2017).

“Franchise economy” refers to a system in which value extraction is primarily, or in great part, driven by the monopolization of intellectual property rights (IPRs) and the control of intangible assets rather than through productive investments. Legal monopolies over patents, copyrights, and trademarks, function as "club goods," or exclusive resources that restrict access and generate rents. IPR heavy firms are therefore positioned to extract profits without a significant amount of capital investment and with a minimal direct reliance on labor. IPR heavy firms are capable of achieving market dominance while outsourcing a great deal of labor and production. These firms tend to work at a layer above more capital- or labor-intensive firms from which it sources—capable of swiftly changing suppliers with minimal risk to itself. This further diminishes workers’ bargaining power and intensifies wealth and income inequality.

Within the franchise economy, companies can leverage their IPR to, not only protect their products, but also to gain favorable terms for financing and to influence public policy to further cement their market position. This strategy ensures profitability through exclusionary mechanisms, with rents extracted from consumers, workers, and even producers. This generates a hierarchy within value chains that produces significant inter-firm inequality, which consequently also translates to greater household inequality (Schwartz, 2016).

These companies reward, very highly, a small number of employees while outsourcing a wide range of commercial functions – including the manufacture of hardware (other than chips). Non-essential functions of the company are typically outsourced, often internationally. They have wide competitive “moats”, based on both on high profitability, the cash they retain (“retained earnings”) and on the ownership of extensive intellectual property rights. They stand at the core of an industrial sector, digital technology, which has been implicated in a major societal change across the affluent West during this same period: extensive income and wealth inequality (Piketty, 2014).

This thesis addresses the question of the connection between these two parallel sets of developments. Clearly, no one believes that the rise to commercial prominence of "Big Tech" is the sole explanation of the rise of income and wealth inequality in the USA, the UK and more broadly across the developed world. However, this thesis addresses the question of whether the rise of Big Tech has accelerated these processes and whether, in doing so, it has seen the emergence of a new form of capitalism, a rent-extracting degenerate successor to capitalism ("techno-feudalism"), or a regression to older forms of capitalism (such as the "putting out" system). Recent political philosophy and social commentary has given evidence of a "tech lash": an intellectual and popular backlash against technology and the companies that represent it. The argument of this thesis differs from this literature in four ways.

First, it explicitly sets out the basis of its critique of technology by articulating a general approach to both justice and democracy. This liberal-republican conception, set out over the opening two chapters, is the normative foundation for what follows. It is, therefore, clear both why social developments associated with Big Tech are critiqued and allows one to identify preferable alternatives.

Secondly, the thesis explicitly addresses the question of whether what we are facing is a new development within capitalism or the resurgence of past forms.

Thirdly, the thesis separates out different issues that apply to different aspects of Big Tech, such as the importance of platforms as commercial intermediaries.

Fourth, and most important, this thesis aims to do more than develop a critique. It uses its normative foundation to set out an alternative, democratized, version of an innovation culture where the many benefits that technological development has brought, and continues to bring, to

our economies and societies can be preserved, extended, and separated from the socially undesirable outcomes produced by Big Tech in its current form. These concerns shape the plan of this thesis which is as follows.

Chapter one examines the relationship between Big Tech and inequality, offering three key explanations. It begins with the skills-biased technological change thesis, arguing that inequality arises from a shift in the productive frontier, where workers must adapt to new skill demands in the knowledge economy. However, I critique this view as an oversimplification of economic dynamics. The second section explores how platform capitalism echoes older forms of merchant capitalism, highlighting the role of intermediation and the commodification of data as labor. A third perspective considers whether these developments signal the emergence of technofeudalism, combining the worst aspects of capitalism and feudalism. Each section sets the stage for alternative frameworks that will be further explored in later chapters, such as platform cooperatives and digital Georgism, aimed at democratizing innovation and mitigating the extractive dynamics of the current economy. The chapter concludes by questioning whether capitalism has evolved or merely adapted historical patterns, offering a hybrid approach to address these challenges.

Chapter two delves into how the principles of republicanism can help shape a democratized innovation economy through pre-distribution. Informed by the economics of innovation, this chapter opens by framing the economy as inherently dynamic, driven by continual innovation and disruption (Ramlogan and Metcalfe 2006; Minsky 1988/1992; Schumpeter 1912/1942). The second section explores the unique characteristics of the innovation economy, emphasizing the role of both technological advancements and its, often speculative, financial backing. This leads into an analysis of the tight connection between innovation and finance, where financial mechanisms both enable and destabilize innovation efforts. Following Mazzucato (2018) and

Janeway (2018), the role of the entrepreneurial state is then examined, arguing that public investment plays a crucial part in fostering breakthrough innovation while counterbalancing significant gaps in private investment. Furthermore, in this chapter I conceptualize disequilibria, not as an anomaly, but as a central feature of the dynamic economy, thus requiring institutions to be resilient and adaptive in order to avoid oligarchic drift. The chapter concludes by proposing a new model that integrates these elements, using republican pre-distribution as a way to that remains egalitarian without sacrificing the economic dynamism associated with technological innovation.

Chapters three sets out the normative framework for the thesis: a composite view which is a hybrid of superficially competing traditions in political philosophy: liberal-republicanism. One of the reasons for the adoption of this view is that, in the work of the political philosopher John Rawls, it has received a complete specification in that which Rawls called "our choice of a social system" (Rawls, 2001). Choosing from a list of alternatives, Rawls argued that only a form of liberal market socialism or a property-owning democracy were capable of specifying, in concrete terms, the demands of justice. Later writers, such as Thomas (2017) and Edmundson (2017) argued that Rawls ought to have included amongst his "circumstances of justice" that which the latter calls the "fact of oligarchy". It is the explicit need to incorporate safeguards against oligarchic domination that lead me to follow Thomas (2017) in arguing for the priority of a system in which capital is universally accessible to all citizens as a means of protecting democratic values. This thesis extends this account by more fully drawing out the connection with the project of Machiavellian democracy.

That frames the discussion of chapter four, which explicitly argues that the republican tradition is particularly helpful as a way of thematizing a digital economy as it is focused on dis-

equilibrating forces. In particular, this chapter focuses on the insights provided by Machiavelli in regard to the dynamism of political systems due to antagonisms within it. Writers such as John McCormick (2011) and Gabriele Pedullà (2018) provide deeper, and at times, novel insights in how to understand Machiavelli as a theorist. These readings warn of oligarchic drift, with a particular concern in this thesis for the stability of republican freedom as non-domination. This drift is characterized by an analysis of corruption, not merely as individual misconduct but as the decay of institutions over time, shaped by the shifting dynamics between elites and the people. A critique of elections shows how unqualified electoral procedures and governance through representatives can reinforce aristocratic or oligarchic structures, perpetuating the domination of elites. The chapter concludes by applying McCormick's concept of Machiavellian democracy, where, in order to achieve stability, political and economic antagonisms are institutionalized, rather than suppressed. This framework rejects the possibility of political equilibrium, particularly in the context of an innovative economy. Instead, it argues for institutions that adapt to the inherent instability of innovative economies, preserving democratic governance and non-domination by channeling conflict productively.

Chapter five develops a labor-republican framework for the 21st-century knowledge economy, focusing on the concept of non-domination more broadly, and its application in the marketplace in particular. Taking after Philip Pettit, this chapter puts forward the republican conception of freedom as non-domination, arguing that individuals should not be subject to the possibility of arbitrary interference. The next section extends this principle to the market, critiquing current labor practices where employees often lack meaningful control over their work. The chapter asks whether this ideal of non-domination can be adapted to the realities of the digital or knowledge economy, which relies heavily on intellectual or more abstract labor and technological

innovation. The final section proposes changes, including the possibility of workplace democracy, establishing a knowledge commons, and publicly-owned platforms. The purpose being to empower workers and align economic institutions with liberal-republican ideals. Through these discussions, the chapter sets the groundwork for a labor model that responds to the distinct challenges of today's economy while promoting autonomy and agency for all workers—much of which will be discussed in more detail in the final chapters of the thesis.

Chapter Six explores the necessity of democratizing innovation and the role of workplace democracy within an innovation-based economy. It begins by addressing whether a fair economy demands democracy at work, drawing on arguments by Joshua Cohen and others who suggest that if political democracy is justified to prevent arbitrary state interference, a parallel case may be made for workplace democracy in regard to employers. The chapter then turns to the practical implementation of deliberative democracy, advocating for participatory structures that can give workers meaningful decision-making power. Following this, it examines a potential problematic divide between kinds of firms which may still generate unacceptable inequalities despite widespread workplace democracy. Finally, it concludes by responding to meritocratic objections that challenge the feasibility and desirability of workplace democracy. The overarching argument is that democratizing innovation not only aligns with republican ideals of non-domination but also ensures that technological progress serves the common good rather than entrenching new forms of domination.

Chapter Seven introduces the potential of platform republicanism as a solution to the socio-economic challenges posed by Big Tech, contrasting it with James Muldoon's platform socialism. The chapter begins by introducing a liberal-republican framework, emphasizing decentralization, non-domination, and economic independence as essential principles for governing digital

platforms. The chapter critiques platform socialism, arguing that while cooperative ownership offers important insights, it does not sufficiently address the concentration of power. I propose that the historical republican ideal of self-sufficiency can be adapted for the digital era, drawing parallels between agrarian and digital republicanism to argue for democratized access to digital infrastructure. I then develop a case for digital Georgism, advocating for taxation on digital rents to prevent economic segregation among firms. I conclude this chapter by exploring the role of state policy in shaping a liberal-republican digital economy that balances innovation with democratic accountability, ensuring that technology serves public interests rather than entrenching new forms of domination.

Chapter eight considers how digital technology can facilitate a utopian transformation of work by restructuring it toward meaningful engagement and away from oppressive practices. I outline the risks automation poses, such as surveillance, dehumanization, and loss of worker autonomy. These dangers are exemplified by Umair Haque's concept of the "Asshole Factory," in which technology is deployed to maximize certain workplace metrics, often at the expense of common courtesy, reciprocity, and respect. I then argue that automation can, not only provide workers with expanded opportunities for meaningful work, but also emancipate workers from some of the most oppressive realities of current employment. This can be done by eliminating the most undesirable jobs, reallocating cognitive and creative tasks, and redistributing responsibilities across all employees. Drawing on Gomberg's notion of contributive justice, it envisions a future where AI allows labor to be shared fairly, breaking the competitive dynamics that currently limit meaningful work. I conclude this chapter with a reflection on the necessity of aligning technological advancement with a commitment to justice, ensuring that innovation serves the public good rather than entrenching new forms of inequality and domination.

I then conclude my thesis by summarizing some key points. I also provide some final concluding remarks. But firsly, it is important to make explicit the scope of this thesis, along with some key terminology that will be used throughout.

Scope and Terminology: Because this dissertation ranges across several overlapping phenomena, it is necessary to clarify the scope of analysis and the terms I use to describe it. I employ a cluster of concepts—knowledge economy, digital economy, platform economy, gig work, shadow work, innovation economy, and Big Tech—in that order throughout this thesis—that are often treated interchangeably in public debate. In what follows, I distinguish how I use each term and why the distinctions matter for the liberal-republican analysis developed here. I have chosen this particular cluster of terms deliberately, because each captures a dimension of contemporary capitalism that is especially relevant to my argument. The knowledge economy highlights the rise of intangible assets. The digital economy marks the infrastructures that make those assets productive. The platform economy reveals how firms extract rents through intermediation. Gig and shadow work expose transformations in labor. The innovation economy emphasizes the financial and temporal dynamics of change. Big Tech provides the empirical apex where these forces converge. These terms therefore serve not only as descriptors but as analytical tools for identifying distinct mechanisms of domination and inequality in need of republican remedy.

The knowledge economy: The "knowledge economy" refers to economic domains where intangible assets—intellectual property rights, trade secrets, software, brands, data, and organizational know-how—are the decisive drivers of value. Jonathan Haskel and Stian Westlake emphasize the importance of "intangible capital" as the engine of wealth in contemporary economies. Stan Metcalfe further defines the knowledge economy as one in which knowledge is

both the principal input and the primary output of production, with innovation as its defining competitive process.^3 The distributive stakes here are profound: unlike tangible goods, knowledge assets are scalable, easily replicable, and often protected by legal monopoly. This means wealth concentrates in the hands of those who control intellectual property regimes, reinforcing oligarchic drift. For this reason, the knowledge economy is the institutional heart of the argument in this thesis.

The digital economy: Within the broader knowledge economy, I use the phrase "digital economy" to denote activity specifically underpinned by digital infrastructures—data, algorithms, software, and networks—that give concrete expression to intellectual property rights-heavy forms of value creation. It includes online platforms, data-driven services, and digitally mediated production processes. Not all parts of the knowledge economy are digital, but the digital economy is a distinctive subset of the knowledge economy, where patterns of inequality have become especially pronounced—and the primary subject of analysis in this thesis.

The platform economy: The "platform economy" refers to a particular organizational form within the digital economy: firms that act as intermediaries between producers and users, extracting rents by controlling access and benefitting from network effects. Nick Srnicek's influential account treats platforms as a distinctive "business model" characterized by intermediation, data extraction, and market enclosure. Whereas the knowledge economy highlights the role of intangible assets, the platform economy highlights structural intermediation. Historically, this resembles the logic of merchant capitalism or the "putting-out" system, in which middlemen organized production without directly producing goods. The analogy is meant to underscore continuities in power relations, not to collapse different historical contexts.

Gig work and shadow work: Closely linked to the platform economy are two distinct but related labor arrangements. “Gig work” denotes discrete, outsourced tasks mediated through platforms, ranging from ride-hailing and food delivery to digital micro-tasks. Such work exemplifies precarious employment and the externalization of risk onto workers, but it is still paid labor, however insecure. “Shadow work,” by contrast, refers to hidden or unpaid labor performed by users themselves, such as moderating online content, solving captchas, or training machine-learning systems through everyday interaction. This is uncompensated or poorly compensated, often invisible work that nevertheless creates value for platforms. Taken together, gig and shadow work illustrate how the platform economy extracts value both from precarious paid labor and from unpaid user activity. Both categories matter normatively because they show how contemporary capitalism reaches beyond conventional wage relations, complicating older republican accounts of labor and domination.

The innovation economy: By “innovation economy” I mean the broader dynamic of continual technological change and the financial structures that sustain it. Joseph Schumpeter described capitalism as defined by “creative destruction,” where waves of innovation disrupt equilibria. Hyman Minsky emphasized the link between innovation and financial instability. Mariana Mazzucato has more recently shown how public investment plays a decisive role in funding and directing innovation. In contrast to the knowledge economy, which emphasizes intangible assets as the main drivers of value, and the digital economy, which refers to the infrastructures through which much of this value is created and exchanged, the innovation economy highlights the temporal and financial dynamics that underpin change itself. The innovation economy concept therefore draws attention to how technological development is financed and institutionalized, rather than what is produced. This distinction is crucial for my

normative argument: it reveals why innovation, while dynamic, can generate instability regarding egalitarian norms and institutions unless its financial underpinnings are subjected to republican safeguards.

Big Tech and the "Magnificent Seven: The firms often referred to as "Big Tech"—Alphabet, Amazon, Apple, Meta, Microsoft, Nvidia, and Tesla—are treated here as paradigmatic apex firms. They are illustrative but not comprehensive. Taken together they represent the clearest empirical site for analyzing domination in the twenty-first-century economy. They are also politically salient, shaping tax regimes, labor markets, and even public discourse. But not all digital firms are "Big Tech." Where I generalize, I mark explicitly whether I am speaking of apex firms or of broader institutional logics.

Temporal scope. Although I occasionally invoke historical analogies—merchant capitalism, the putting-out system, or Varoufakis's "technofeudalism"—the empirical focus of this thesis is on the period since roughly 2000, not long after the commercialization of the internet, when Big Tech began to consolidate its global dominance. Earlier technologies such as the printing press or the telegraph certainly had transformative effects, but the institutional environment of the twenty-first century—intellectual property regimes, financialization, and platform intermediation—differs in kind. Historical analogies are meant to illuminate recurrent logics of rent extraction and domination, not to claim one-for-one equivalence across eras.

Each category foregrounds a different mechanism of inequality and domination: the knowledge economy highlights the centrality of intangible assets; the digital economy underscores infrastructural transformation; the platform economy reveals the power of intermediation; gig and shadow work expose the transformation of labor relations; the innovation economy points to financial dynamics; and Big Tech exemplifies the concentration of these forces in a small set of

apex firms. A republican framework requires clarity on these terms because each category raises distinct threats to freedom as non-domination and thus requires distinct institutional remedies. Without such clarity, one risks attributing to "technology" as a whole what are in fact the results of specific institutional arrangements. The aim of this subsection is therefore to mark out the scope of analysis, ensuring that subsequent chapters can address these overlapping but non-identical domains with the precision demanded by justice as non-domination.

Empirical and Diagnostic Analysis

Chapter One: Three Explanations of the Relationship between Technology and Inequality

Introduction

The dramatic rise in economic inequality observed across advanced economies did not begin with the ascent of Big Tech. The neoliberal turn of the late 1970s and early 1980s already marked a decisive break with the more relatively egalitarian distributional patterns of the postwar decades, particularly in the United States. What distinguishes the present moment, however, is not the emergence of massive inequality as such, but the way in which technological transformation has accelerated and deepened preexisting dynamics. The knowledge economy, organized around data, platforms, and intellectual property, has intensified the concentration of wealth in unprecedented ways.

This intensification is structural. While the neoliberal era loosened constraints on capital and reasserted the primacy of markets, the rise of digital platforms has created new mechanisms by which wealth and power accumulate: outsourcing or gigification of labor, data extraction from users, and network effects that entrench monopoly positions. The consequence is that wealth continues to concentrate within a relatively small economic elite, but at a pace that far outstrips earlier episodes of inequality growth.

While the neoliberal turn of the 1980s had already generated widening inequality, the rise the knowledge economy has intensified this trajectory, accelerating both the pace and the concentration of wealth accumulation. The question, then, is how best to understand the relationship between these two developments: the longer arc of rising inequality since neoliberalism, and the distinctive dynamics introduced by the digital economy. In this chapter I consider three different ways of making sense of this connection.

The first comes from orthodox labor economics, which interprets inequality as a market signal of skills-biased technological change. On this view, globalization and digitization have shifted the productive frontier, rewarding a minority of workers with the skills to thrive in a "winner-takes-all" knowledge economy while leaving most behind. A second explanation, developed by Nelson Lichtenstein, suggests that digital platforms are less novel than they appear, representing instead a return to older forms of merchant capitalism. Here intermediation and the extraction of "data as labor" are taken to exemplify longstanding logics of capitalist accumulation. A third, more recent account claims that the rise of Big Tech has propelled us beyond capitalism altogether, into a "technofeudalism" that combines the worst features of capitalism with the coercive relations of feudal hierarchy. Yanis Varoufakis, for example, argues that the last four decades have witnessed the unchecked rise of such a regime.

By examining these explanations in turn, and clarifying their limitations, I aim to show why the rise of the knowledge economy, and developments therein, such as "Big Tech," are best understood not as a break from, but as an intensification of, the un-equalizing tendencies of the last several decades.

1.1 Is the Explanation Skills Biased Technological Change?

A prominent explanation of rising inequality comes from orthodox labor economics, where the dominant framework since the 1980s has been the theory of "skills-biased technological change" (SBTC). According to this view, technological advances shift the productive frontier in ways that increase the demand for skilled labor relative to unskilled labor. The widening dispersion of wages is explained by the inability of many workers to keep pace with the skills demanded in a rapidly changing economy. Globalization exacerbates this picture, as millions of low-wage workers from developing countries entered the global labor market during the same period. Western workers without advanced education or specialized skills were left vulnerable to wage stagnation, while the minority who possessed the necessary skills were propelled upward into the ranks of a new professional elite.

Applied to the contemporary digital economy, SBTC theorists argue that knowledge work and technological innovation are mutually reinforcing. Knowledge work is enhanced by digital technologies, which themselves expand in scope and power through the contributions of highly skilled knowledge workers. The major technology firms are the most visible beneficiaries of this process, accelerating social change through a dynamic in which innovation increases the demand for certain skills, while simultaneously threatening the obsolescence of other forms of work. As automation moves further "up the value chain," even relatively complex professions are threatened with replacement.

This picture carries some intuitive plausibility. At the apex of the income distribution, workers with highly specialized and complex skills receive outsized rewards in "winner-takes-all" markets. Workers at these apex firms become indispensable to their employers, who cannot risk losing them to competitors. In such markets, the marginal difference made by a single high-value employee is

enough to justify extraordinary compensation. At the same time, the quality of work for those further down the distribution has deteriorated. Jobs have become more precarious, more closely surveilled, and often less well remunerated. Automation and digitization have de-professionalized many occupations, reducing them to routinized tasks that can be easily monitored and eventually automated. The result is a bifurcated labor market in which a minority of highly rewarded knowledge workers exist alongside a growing majority whose work is increasingly insecure.

Ugo Pagano has offered an illuminating account of how this dynamic operates in the knowledge economy (Pagano 2014). For Pagano, the production of knowledge involves an ever-deepening division of labor. New innovations generate new domains of expertise, which both upskill and downskill labor. On the one hand, specialization can empower workers: a lawyer who develops expertise in a highly technical legal subfield may command extraordinary fees, reflecting the productivity gains of deepening knowledge. On the other hand, the processes of hyper-specialization can fragment labor into increasingly narrow tasks that are repetitive and easily replaced. Adam Smith's classic example of the pin-maker illustrates how the division of labor can reduce complex activity into simple repetitive and standardized motions. As knowledge deepens, much of labor may be stripped of discretion and creativity, leaving it vulnerable to mechanization and automation. Pagano's account highlights the double-edged character of knowledge in modern economies: it can both empower and degrade, creating elites of highly rewarded knowledge workers while simultaneously generating new forms of down-skilled, precarious labor.

In this sense, the SBTC thesis appears to capture some important features of the neoliberal period. But when applied to the rise of the knowledge economy and its Big Tech winners, the limitations of this explanation become clear. The most striking feature of the knowledge economy is not income inequality as such, but wealth inequality. The SBTC framework interprets inequality

through the lens of wages, but the most significant transformations of the past two decades have occurred through the accumulation of wealth in intangible assets (such as intellectual property, trade secrets, brand, corporate culture, etc). As Thomas Piketty has emphasized, the long-term dynamic of capitalism is that returns to capital outpace returns to labor (Piketty 2014). What Big Tech illustrates is the intensification of this process. The fortunes of its leading figures are not derived from their wages as workers, however skilled, but from their ownership of stocks, data infrastructures, and intellectual property.

Katharina Pistor has provided a powerful account of how intangible assets are legally "coded" in ways that advantage economic elites. Intellectual property rights, contractual structures, and financial instruments transform ideas into forms of capital that can be traded, collateralized, and leveraged. These processes ensure that wealth flows disproportionately to those who control, or have greater access to, legal institutions and financial networks. Haskel and Westlake have likewise shown how "intangible capital"—patents, software, data, and organizational know-how—has become the primary driver of wealth in advanced economies (Haskel and Westlake 2017). And, crucially for my argument, Herman Mark Schwartz demonstrates that wealth inequality today is structurally linked to the organization of firms around intellectual property rights (Schwartz 2016). Big Tech firms minimize their direct employment footprint while maximizing the rents extracted from subcontractors and intangible assets. This "IPR-heavy" model produces inequality not only between workers but also between firms, concentrating profits in a handful of apex corporations while leaving peripheral firms and workers with ever-thinner margins. Schwartz further shows how these rents are recycled into financial markets rather than into productive investment, contributing both to secular stagnation and to the consolidation of wealth at the very top.

The SBTC thesis therefore misses the core mechanisms of inequality in the digital economy. By focusing on skills and wages, it obscures the institutional and organizational strategies that drive the concentration of wealth. It also obscures the political dimension of these developments. By treating inequality as a neutral outcome of market forces, SBTC sidelines the role of law, taxation, and financial regulation in shaping who benefits from technological change. If inequality is simply the reflection of market signals, then the responsibility lies with individual workers to adapt by acquiring new skills. Yet the evidence suggests that even as educational attainment has expanded, inequality has accelerated. Erik Brynjolfsson and Andrew McAfee (2014), for example, emphasize how the demand for ideational skills—creativity, entrepreneurship, business model innovation—has increased alongside technological change. While this may explain the rewards accruing to a minority of highly creative individuals, it does not explain why wealth has concentrated so intensely among the owners of platforms and data infrastructures. The governance of capital, not the distribution of skills, is the decisive factor.

Moreover, the SBTC framework is historically misplaced when applied to Big Tech. It was originally developed to explain rising inequality in the 1980s and 1990s, well before the emergence of the platform giants. To apply it to today's digital economy is to miss what is most distinctive about this period: the network effects that entrench monopoly positions, the capacity to extract and commodify user data, and the legal enclosures of intellectual property. These mechanisms channel value upwards in ways that have little to do with the scarcity of skilled labor. A software engineer at Google may be highly skilled, but the extraordinary profits of Alphabet are not explained by her income. They are explained by Google's ownership of search infrastructure, advertising networks, and data.

The SBTC framework also fails to capture the global dynamics of labor exploitation in the digital economy. Contemporary advances in artificial intelligence, for example, are only possible because of the labor of low-paid data annotators, often located in the Global South. This "shadow work" underwrites the seeming autonomy of machine learning systems, but it is poorly compensated and largely invisible. By "shadow work" I mean the unpaid or underpaid labor that is indispensable to the digital economy but deliberately hidden from recognition as such. The "shadow" refers both to its invisibility and to the way tasks once institutionally supported are devolved onto individuals without compensation or status. In the context of data annotation, it is not simply the act of labeling images or texts that constitutes shadow work, but the structural arrangement whereby this labor is fragmented into micro-tasks, outsourced to precarious workers, and disavowed as a productive asset in its own right. Shadow work in this sense exemplifies domination: it sustains the smooth functioning of platforms and AI systems while denying workers meaningful control over the conditions and recognition of their contribution. Far from rewarding skill, this dimension of the digital economy relies on the hyper-exploitation of some of the world's poorest workers. At the same time, many middle-income jobs in advanced economies are being de-professionalized and reduced to routinized functions subject to algorithmic surveillance. Technology here is not raising skill but eroding autonomy and control.

For these reasons, while SBTC provides a useful benchmark for understanding the neoliberal era, it cannot explain the distinctive trajectory of inequality in the age of Big Tech. Its focus on income rather than wealth, on skills rather than capital, and on markets rather than institutions, obscures the dynamics that have made the digital economy such a powerful engine of inequality. Inequality today is not simply the outcome of workers failing to keep pace with technological change. It is the result of political and institutional decisions that allow a small

number of firms to monopolize knowledge, data, and platforms, and to convert these into unprecedented concentrations of wealth. The distinctive challenge of the digital economy is that it amplifies pre-existing trends toward inequality while transforming the mechanisms through which inequality is reproduced. To understand it, we must move beyond SBTC and consider alternative accounts that characterize the structure of contemporary capitalism more directly.

1.2 A Return to Our Capitalist Past?

An alternative proposal is that the most novel of recent business practices ought, surprisingly, to be conceptualized as the return of an earlier episode in the historical evolution of capitalism. Jairus Banaji, in *A Brief History of Commercial* Capitalism, traces the history of "merchant driven capitalism" and the commercial practices that these merchants introduced since the early medieval Venetian traders to the late 19th century. Many of these practices correspond to the phenomenon of "merchant capitalism[1]." Labor historian Nelson Lichtenstein defines merchant capitalism as:

> [A] form of market exchange, primarily in commodities, in which traders, shippers, merchants, and financiers play key roles over and above the commodity producers themselves or the nascent manufacturers of their time (Lichtenstein 2012, p.8)

In summary, under merchant capitalism industrial capitalists, or "commodity producers," generally play a subordinate role to those who control the supply-chains and trade routes by which the producer's goods are distributed. While recent egalitarianism has been very much focused on the domination of the private household, whether as a worker or as a consumer, by the industrial firm, the recent development of the return of merchant capitalism has greatly empowered some

[1] According to Tim Barker's review of *A Brief History of Commercial Capitalism*, there are ongoing debates about whether commerce, particularly right before the industrialization in the 19th century, constitutes "capitalism" or whether these practices were a transitory bridge between feudalism and capitalism proper

commercial intermediaries. The focus of the late twentieth century digital revolution on platforms explains this return of the merchant capitalist using a business model originally pioneered "offline" by Wal-Mart and further developed online by Amazon and Alibaba.

Commodity producers came to dominate the industrial process from the second half of the 19th century. This domination continued well into the 20th century. Taylorist-Fordism was the new paradigm in which commodity producers integrated vertically, breaking the merchant monopoly over supply-chains and trade (Lichtenstein 2012, pp. 15-17). However, Lichtenstein argues that recently we have seen the return of the dominance of merchant capitalism. He compares contemporary political-economic trends to those in pre-civil war American merchant capitalism.

There are three characteristics of antebellum merchant capitalism that have returned (Lichtenstein 2012, pp. 10-22). The first characteristic is commodity production and distribution as central to the economy. The second characteristic is the power that merchant capitalists have over producers and state regulators. The third characteristic is the "debased and sweated condition of labor within the supply chain and production facilities" (Lichtenstein 2012, p. 10). In arguing that there is a reemergence of merchant capitalism, Lichtenstein points to the world's major retailers, such as Wal-Mart, Target, and Tesco, among others. The digital revolution, I would argue, has accelerated this trend. Now the "bricks and mortar" stores need a digital strategy in order to compete with their online rivals.

The commodities produced and circulated during the era of antebellum merchant capitalism, were often things such as wheat, cotton and tobacco. The list of commodities today has been expanded to include consumer goods such as appliances, auto parts and laptops (Lichtenstein 2012, p. 10). In markets commodities have virtually no qualitative differentiation; with nothing to differentiate one commodity from another, their prices tend "towards the universal mean." As

noted by Lichtenstein, manufacturers attempt to avoid commodification of their product for as long as possible in order to keep their own profits high via product differentiation and an artificial "segmentation" of the market. Meanwhile, major retailers—playing the role historically played by merchant capitalists—insist on buying in bulk in order to reduce cost per unit; this accelerates the commodification of the producers' goods. Therefore, producers are forced to accept significantly smaller profit margins, and transfer much of their own reduction in profits to labor by offering lower wages. Modern merchant capitalists are here exploiting, to their benefit, one aspect of the supply chain revolution. Just as manufacturers cut costs vis-à-vis their geographically distributed supply chains, so the new intermediaries squeeze the profit margins of manufacturers, too. Labor loses out across both dimensions.

Rather than commodity production "generat[ing] a mass 'flat world' of open markets in which producers and consumers compete on equal terms," we can observe instead "hierarchical supply chains organized and controlled by" small group of major retailers (Lichtenstein 2012, p. 13). Merchant capitalists, then and today, take advantage of a global division of labor in which producers in different parts of the globe make undifferentiated commodities. Merchants, those who warehouse and distribute such commodities, are able to switch between suppliers if one proves unsatisfactory due to internal unionization efforts, production higher costs, or other issues. This "jurisdictional arbitrage" produces a race to the bottom in a globalized attempt to drive down labor costs. Merchants are the mediators between the producer and the consumer, putting them in a strategic position with disproportionate bargaining power over both producers and labor. Merchants in the 19th century and today also both hold disproportionate political influence. 19th century Gladstonian liberalism in Britain, for example, has certain parallels to what many contemporaries refer to as "neoliberalism" with a politics of low tariffs, free trade, and the state

playing a primary role in opening up the space for new markets (Lichtenstein 2012; Banaji 2020, pp. 76-78). These policies allow for greater maneuverability of global supply chains, generating benefits for the intermediaries who control the supply chains (merchants), but decreasing the power of those who are bounded to particular geographic locations, such as commodity-producer firms and workers.

In exerting such control over producers, the dominance of merchant capital clearly has implications for labor and production processes as well. According to Lichtenstein, there are two reasons for this: firstly, commodities are fungible; secondly, merchant capital has to this point successfully avoided moral and legal responsibility for its impact on the conditions of labor and production processes (Lichtenstein 2012). I have already noted the first point: the threat of shifting supply chains away from a particular producer ultimately puts pressure on labor to accept lower wages and worse conditions. The second is achieved through "disaggregating" the firm, or to put it differently, by outsourcing production, among other tasks, by contracting producers rather than producing in-house. Merchant capital functions similarly to finance capital in that "the aim […] is to ensure control over the largest possible amount of outside capital with the smallest possible amount of one's own capital" (Hilferding, 1910, as cited in Banaji, 2020, p. 70). By focusing on controlling distribution, warehousing, and branding, merchant capital is then able to control production without direct ownership of commodity-producing capital. Lichtenstein cites the example of United Fruit Company, which, when faced with increased worker militancy and criticism over labor practices, decided to abandon their production efforts in Latin America and instead contract with independent local growers who still maintained poor working conditions. This practice creates a legal distance between the major brand and its producers, which makes it

more difficult to place legal blame on the brand for any work conditions, or to easily identity the brand as morally responsible.

The analogy to merchant capitalism should not be taken to imply that technology firms literally reproduce the commodity-trading practices of early modern merchants. The parallel lies instead in their structural role as intermediaries. Historically, merchants prospered by controlling circulation points, such as ports, fairs, and trade routes, extracting rents from flows of goods they did not themselves produce. Likewise, many technology companies today profit less from direct production than from their capacity to mediate access to markets, data, labor, and infrastructures.

On this broader understanding, Amazon is not the sole or even paradigmatic case. While its retail arm exemplifies the merchant's role as broker between producers and consumers, other business models reveal the same dynamic in different guises. Labor platforms such as Uber or Mechanical Turk act as brokers of labor power, taking a cut from each transaction without employing workers directly. Cloud providers and SaaS firms supply essential digital infrastructures, embedding themselves as unavoidable toll-keepers of computation, storage, and business operations. Even where the output takes the form of services rather than commodities, the underlying source of profitability remains the capacity to occupy and defend a strategic chokepoint in circulation.

What unites these diverse business models is their reliance on intellectual property rights and related legal mechanisms to secure and reproduce these intermediary positions. Patents, trademarks, copyrights, and data rights function as exclusionary legal devices: they allow firms to enclose what might otherwise be replicable or sharable, creating artificial scarcity and enforceable claims over essential infrastructures. The effect is to transform control over intangibles into durable

rents, much as mercantile charters once granted exclusive trading privileges along particular routes.

Schwartz's account of the "franchise economy" captures this logic with particular clarity. In such an economy, firms achieve profitability not through large-scale capital investment or direct employment but through the monopolization of intangible assets (Schwartz 2017). Intellectual property operates as the equivalent of a franchise license: a legal entitlement that allows the holder to skim value created elsewhere in the system. Firms like Microsoft, Apple, or Meta rely on precisely this kind of "franchise logic," outsourcing production while consolidating their control over platforms, brands, and standards.

While the historical analogies I draw—merchant capitalism or the putting-out system—can seem tailored to one firm rather than another, their purpose is to illuminate a structural logic common across different business models. Amazon and Apple, for example, appear dissimilar. Yet both rely on strategies of controlling chokepoints in order to extract rents. Amazon occupies the intermediation chokepoint, much like Wal-Mart before it, but on a digital scale, extracting value through platform access. Apple, by contrast, positions itself at the most profitable ends of the "smile curve," consolidating value through design, branding, and ecosystem control while offshoring low-value assembly. In both cases, profitability depends on legal and institutional architectures—intellectual property rights, jurisdictional arbitrage, and international tax codes—that enable firms to command flows of value without direct control over every stage of production. The high value-add Apple secures from branding and design would be significantly less absent the intellectual property regime that underpins it. The historical analogies are therefore not claims of one-for-one identity, but heuristic devices: they show that contemporary firms, like merchant capitalists, secure dominance by controlling chokepoints in value chains rather than by producing

commodities themselves. In this sense, intellectual property rights are not an incidental feature of the digital economy but its constitutive foundation—the legal infrastructure that makes mediation, rather than production, the primary source of accumulation.

Seen in this way, the analogy to merchant capitalism is not undermined by the fact that many firms provide services rather than commodities. The historical merchant's role was never reducible to goods alone but to the legal and institutional privileges of intermediation. While many technology firms may appear to do quite different things, on the whole the largest firms converge on a strategy of rent extraction through the control of circulation, secured by intellectual property and platform dominance.

1.3 The Parallel Return of the Putting-Out System

While merchant capitalism relinquishes ownership of production, it still maintains a high degree of control over the production process. Lichtenstein argues that currently merchant capitalists achieve this mostly through sub-contracting producers as explained previously. Historically it has achieved this by also deploying the "putting-out" system, also known as the "cottage industry" system. The putting-out system was:

> [E]ssentially domestic, and therefore dispersed, was dominated by entrepreneurs who were traders and exported to near and distant markets… In its classic form the workers (often spinners and weavers who still owned their instruments of work) received the raw material from the merchant-entrepreneur and were paid by the piece when they handed over the finished product" (Poni, 1985, as cited in Banaji, 2020, p.86).

The late medieval Florentine wool industry functioned through the putting-out system, where thousands of people were recruited to work from home. Each piece they produced was rated and compensated for accordingly (Banaji 2020, pp.90-91). Outworkers often owned their own tools, such as looms, but rather than operating as independent artisans, their livelihoods depended on the

piece-wages provide by their employers (Banaji 2020, pp.93-94). In the early 18th century, the putting-out system was still a widespread practice, for example Lyon's "Grande Fabrique" was much less a grand factory and more a network of outworkers producing silks from their homes (Banaji 2020, p.93). The putting-out system continued well into industrialization within certain industries, such as carpet-making, until it fell into obscurity in the 20th century. The major retailers that Lichtenstein describes mostly take advantage of contracting with industrial commodity mass-producers. But for some considerable amount of time before industrialization merchants were able to leverage multitudes of outworkers, turning villages, towns and cities into "grand factories" much to the same effect.

Banaji provides two reasons for merchants' dominance in regards to outworkers, which are similar to the two reasons Lichtenstein provides for merchants' dominance today. The first reason is merchant's monopoly on raw materials. The second is "the ability [of] merchants to organize the overall production process in ways that would have been impossible for isolated groups of workers within it" (Banaji 2020, pp. 88-89). At the same time a key advantage of employing outworkers was the ability to lay-off workers or quickly re-hire them with ease according to the demands of managers or the market, allowing for a large reserve of workers ready at the employer's will (Banaji 2020, p.92). Working from home also did not preclude certain outworkers from close supervision by their employer (Banaji 2020, p.91). Textile products were produced strictly according to designs provided by the merchant intermediaries. Deviations from the designs came out of the workers' piece-wages.

Recent capitalist practices have seen the re-emergence in the "New Economy" of putting out capitalism that, to some extent, displaces part of the Taylorist-Fordist paradigm for work. That paradigm was dominant as a form of industrial organization during the late 19th-20th century

dominance of commodity producers. It required a marked division of labor within the firm. Despite the division of labor in-house, there are some benefits associated with firms of this era. Given the vertical integration of the commodity-producing firm, they are more likely to rely on comparatively geographically local economies. Henry Ford, for example, knew that he needed to generate local demand for his product, and therefore paid his workers enough to afford a Ford vehicle. All workers labored in relative physical proximity, facilitating organizing efforts and labor militancy. Finally, as noted earlier, vertically integrated firms are more likely to be held morally or legally responsible for labor conditions. Taylorist-Fordism, then, accompanied a stakeholder capitalism that was more inclusive than the forms of capitalism that have emerged in the US economy since the 1970s.

By contrast the division of labor scattered through the supply chain is arguably deeper in a disaggregated or merchant "firm.". Not only are workers specialized in a given task, but their workplace – or entire country to an extent - is specialized in a "core competency[2]." The putting-out system compounds the problem of the division of labor as workers are further atomized, adding to the difficulty associated with organizing efforts between workers. It is in that context that labor is forced, for example, to supply its own assets for marketization: one's car, in the case of Uber, or one's spare property, in the case of AirBnB.

Lichtenstein argues that the today's major retailers behave similarly to that of the merchant capitalists in pre-civil war United States. The 2018 U.N. Trade and Development Report makes a

[2] The UN Trade and Development Report 2018 discusses core competencies in chapter III. Firms are disaggregated according to the "smile curve," which indicates which tasks within the supply chain provide the most value-added. "Lead firms," or merchant firms, focus their core competencies on high value tasks such as research and development – design and marketing are often also included. Production provides the least value added, and therefore it is a task left for other firms, often in the global south, to perform. In the case of the putting-out system the lowest value-added tasks are subcontracted to individuals and households.

similar connection between colonial era commerce and contemporary global supply chains. The report suggests that digitization is likely to exacerbate these trends (pp.75-76). In the following sections I will discuss how digitization and the "platform economy" have contributed to the return of merchant capitalism. Digitization not only takes advantage of global supply chains in a manner similar to 18th century merchant capitalism, but has reintroduced the putting-out system as a widespread practice. In the final sections I propose a pair of possible solutions to the intensifying of merchant capitalism due to digitization. I will begin my arguments in the following section by addressing data production as unrecognized labor. This is merely one, representative, example of the return of merchant capitalist practices in the New Economy.

1.4 Data as Labor

Many of the most successful technology companies have built business models that rely heavily on user-produced data to generate market value. While companies like Google or Facebook provide many free services, they are able to monetize by selling advertising space. Advertisers are willing to purchase that space because they are able to target their audience with historically unprecedented accuracy. The accuracy of this targeting relies on the data generated by everyone using the often-free services provided by technology companies. That data is then warehoused and used as an input for machine-learning, a relatively new sophisticated form of artificial intelligence.

These machines need vast quantities of data in order to learn complex patterns. These patterns can then be used to predict someone's preferences, a useful piece of knowledge for advertisers. Without this data, machine-learning would be impossible and the business models that rely on this kind of targeted advertising, which includes a considerable portion of the digital economy, could not exist. The data plays a vital role in the economic value of these technology companies. Machine-learning does not operate as a linear "self-determining" algorithm, rather they

"design the interaction between worker (meaning […] the users who produce the data) and machines to produce specific information or production services" (Posner and Weyl 2018, p. 208). Posner and Weyl liken Machine Learning programmers to "factory floor managers who direct data workers to the most productive outlets." Without this data labor, programmers design contentless machines that cannot generate any market value for the company.

They describe much of the current state of uncompensated data labor in digital industries as "techno-feudalist." Under feudalism, lords guaranteed the serfs' safety and rights to use the land, while taking "all the upside of the market return on the serfs' agricultural output" (Posner and Weyl 2018, p.231). In "techno-feudalism" technology platforms provide users with useful services, like Google's search engine, but also take all the upside of the market return on the users' data output.

Posner and Weyl's argument is guided by an important point about statistical sampling. In the field of statistics increasing the number of data points reaches a point of diminishing returns where more data increases the confidence of a finding by negligible fractions of a percentage. Assuming this model, it would not make sense to compensate platform users (henceforth referred to as "users") for the data they produce beyond this point. The value of each additional data point is negligible. Under this model it would make more sense to prioritize compensation for the value added by programmers and entrepreneurs (Posner and Weyl 2018, pp.225-230). Using statistical models as a reference, it would not make sense to treat data production as a form of labor. Compensation to users for generating data may not make sense in this case.

Posner and Weyl argue that this analogy with statistics does not apply to machine-learning (henceforth referred to as ML) problems. For ML problems, the authors argue, interpreting data as a labor product does make sense. If data is labor, then users that generate data for ML problems should be compensated accordingly. The authors' argument that data is labor rests on the fact that

complex ML problems do not generate a diminishing return on data. ML requires vast quantities of data in order to learn patterns, features, and distinguish signals from noise. ML requires these quantities of data in order to avoid overfitting, which is when the noise is incorrectly interpreted as signals by the machine and builds an inaccurate model.

As the machine learns to solve one problem, it can then graduate to learn increasingly complex problems. This creates layers of problems in which the machine must reference what it had learned in one layer in order to solve for the next, and back again, in a series of feedback loops. Due to the nature of ML, increasingly complex problems require increasingly large amounts of data. What determines the marginal value of data in this case is "the distribution of complexity across different problems" (Posner and Weyl 2018, p.228). Rather than each new piece of data generating a diminishing return, the opposite is more often true. Each new piece of data may increase in value, particularly for complex tasks (Posner and Weyl 2018, p.229).

Posner and Weyl suggest a four-point proposal for a future which recognizes data production as labor. Firstly, the value of the marginal contributions of the data produced must be quantified. Without quantification, data labor cannot be priced. Secondly, systems for tracing contributions must be in place to identify who contributed and how much. Thirdly, filters should be in place to remove jobs that certain individuals have no interest in. This is to avoid being overwhelmed with spam or uninteresting jobs. Lastly, new regulations and infrastructure must be in place to ensure fair labor practices and protect data from theft or under-compensation. Posner and Weyl argue that while initially the compensation for data labor will be little due to the likelihood that the marginal value of data being low that situation will change. As automation and AI become more pervasive, opportunities data labor will expand. They argue that payment for data

will also increase higher quality data and encourage entrepreneurship, leading to greater workloads and more income (Posner and Weyl 2018, p.246).

1.5 Skepticism Over Data as Labor's Power to Generate Equitable Circumstances

While it sounds plausible that in the future whole careers may be made as data generators, there is reason to be skeptical of how data labor will evolve. Data as labor will not be unlike other actors in the platform economy. The platform economy is made up of five broad categories of businesses; platforms for platforms, platforms for digital tools for platform support, platforms for mediating work, retail platforms, and service-providing platforms (Kenney and Zysman 2016).

In the first category there are platforms that operate as ecosystems in which other platforms grow. The internet itself is a "foundational platform." Google as a platform takes inventory of the internet. Windows, Apple iOS, Google Android, and other operating systems are also included. Cloud services, such as Amazon Web Services, also offer tools in which users can then build other platforms. The second category includes software, sales support, human resources, and other platforms for business support. The third platform, mediating work, includes sites such as LinkedIn, that mediates the work of headhunters and human resource departments. The fourth, Retail platforms, are marketplaces such as Amazon and eBay, where individuals and businesses can sell their goods. Lastly, service-providing platforms, include examples such as Uber, AirBnB, TaskRabbit, crowdfunding sites, and financial services like PayPal.

Benefits to users varies depending on the category of platform, and can vary within categories depending on the platform's governance model (Kenney and Zysman 2016). Platforms may run as a cooperative as proposed by the Platform Cooperativism Consortium, as a "consensus set of rules" like Wikipedia, or run by a "group of entrepreneurs and venture capitalists" (Kenney and Zysman 2016). While distribution of benefits varies with platform governance, consensus

around the platform economy has generally concluded two things; the first conclusion is that it enables workers to have greater flexibility over their work schedules, and "untaps the entrepreneurial energies of workers" (Friedman 2014; Kenney and Zysman 2016; Stefano 2015). The second conclusion is that is has increased precarity among workers who once may have relied on traditional work[3] with more stable wages, benefits, and job security.

Many platform-based businesses, such as Uber or TaskRabbit, are what Gerald Friedman refers to as "shadow businesses" (Friedman 2014). Friedman defines shadow businesses as reliant on a largely transient workforce with few permanent employees. Uber, for example, has about twenty-two thousand in-house permanent employees and 3.9 million drivers (Uber 2018).

Traditional in-house employment is often associated with long-term relationships to a company which often entails legacy pay, deferred compensation plans, job ladders, and job stability or "promise of future employment" (Friedman 2014). The work that shadow businesses offer, as in the case of Uber drivers (henceforth referred to as "gig work"), lack these benefits. Gig work is not new, but the nature of the technology behind platform-based business allows for businesses to offer gig work on a much larger scale than before, where now a company of twenty-two thousand employees can hire nearly four million gig workers. It also has the key feature of "putting out capitalism" which is that in addition for their compensated service in driving a vehicle, Uber drivers have to supply their primary asset, the vehicle itself, themselves.

According to Kenney and Zysman, the gig work offered by platform-based shadow businesses resemble the outwork of the putting-out system (Kenney and Zyman 2016). Whereas the employers of outworkers have historically commanded a physical presence in the workers'

[3] "Traditional work" in this case is more closely associated with the era of commodity-producer dominance and the Taylorist-Fordist paradigm.

lives, having to occasionally stop by to deliver raw materials or pick up the finished good, today platforms as an employer tend to be a lot less visible. Workers interface with technology rather than with a manager or supervisor, which may give the impression of neutrality towards a worker's decisions over their labor. It is easy to perceive technology as a tool or enabler rather than as a supervisor or boss. Despite this common perception, the platform business still maintains a high degree of control over production of the product or service, as well as control over compensation and work organization, while "still claiming to be an intermediary" (Kenney and Zysman 2016). It also exploits its labor force's supply of the key asset deployed by the business. The one variation on this model is that Uber will facilitate vehicle leasing from third parties at commercial rates, so that the worker is paying both the lender of the vehicle and the platform merchant to be able to work.

Platforms are able to maintain this control for the same reasons merchant capital was able to control outworkers and commodity-producers as discussed by Lichtenstein and Banaji, with some additional reasons as well. Due to first-mover advantage and the network effects necessary for a platform to be a viable business, the company in question maintains a natural monopoly of sorts on the "raw material" for the production of the product or service (UN Report 2018). A company such as Uber, for example, controls the supply-chain, by its ability to organize the overall production process in a way that would be impossible for an isolated group of workers within the process to achieve otherwise. They do this by controlling the brand, and by acting as the intermediary between service-producers and consumers. This is not too dissimilar from United Fruit Company's strategy of leveraging its brand and distribution networks to control local fruit producers.

The outworkers of the Florentine wool industry or Lyon's silk industry often owned their own tools, and were euphemistically referred to as artisans. At the same time, their livelihoods and that of their families often depended on piece-wages which just met subsistence levels (Banaji 2020, pp. 93-94). Today gig work is often euphemistically referred to as entrepreneurship, rather than artisanship. Gig workers are required to deploy their own capital; whereas Florentine outworkers owned their looms, rideshare drivers own their own vehicles. Therefore, the platform effectively controls, not only the gig worker's labor, but the gig worker's capital as well while maintaining minimal liability in that regard. Gig workers are often paid piece-wages as well. Uber drivers, for example, are not paid while waiting for the next customer. Instead, they are promised payment upon arrival to the passenger's destination. If all drivers for ride-sharing application were truly independent entrepreneurs, we would expect a highly competitive rideshare industry that generates a "flat world" of undifferentiated price-takers. Instead, we find that the rideshare industry is not flat, but hierarchical. Two major brands, Uber and Lyft, dominate the rideshare industry and have considerable influence in how work in that sector is organized and compensated.

Some benefits to gig work are that workers are allowed flexibility in their schedules. Assuming there is competition and alternatives in the job market, gig workers also have less impediments to seeking better working conditions than they would under traditional long-term employment. Some platforms, such as Etsy which is a retail platform, allow gig workers to start their own small business. Gig work can also be used to explore alternative career paths and develop new skills before fully committing to a career change. Gig work can also be used to supplement other income. However, evidence points to workers preferring the certainty and stability of traditional work (Friedman 2014). Data from the Bureau of Labor Statistics show that when

workers have more bargaining power, they choose permanent work and employment in gig work decreases (Friedman 2014).

Platforms that employ gig workers also generate the same intense division of labor discussed in section two. Platforms generally keep the high value-added tasks, such as marketing or branding, in-house – these are the pre- and post-production stages that allow the platform to capture rents (UN Report 2018, p.76). Production, the lowest value-added task within the value chain, is outsourced to individual gig workers. Gig workers, therefore, have a low degree of freedom in regards to developing or defining their tasks. Instead, they must specialize as commodity producers - which can be either in the form of a product or service - for the platform. As contractors, gig workers also have no way to "climb the ladder" within the firm to escape their commodity-producer status and engage in higher value-added tasks. Platforms organize production and labor as a "grand factory," but without a singular physical factory floor. The atomization creates an additional barrier to labor organizing that has benefited merchant capitalists historically as well.

Unless careful attention is paid to platform governance, Posner and Weyl's proposal that data be recognized as productive labor may become another instance of gig work for shadow businesses. While data labor may come with the benefits of gig work, such as flexibility in hours and supplementary income, it is likely to involve the same disadvantages as well. Data labor will likely require workers to deploy their own capital, their personal computer – the 21st century equivalent to the loom. Data production is most likely to be compensated through piece-wages rather than hourly wages or as a salaried position. The division of labor within data production – who chooses what ML problems to engage with and to what end – is likely to be marked. Finally, data labor can be performed by anyone in the world as long as they have access to a computer and

an internet connection. The implication of this is an extraordinarily flexible labor supply that replicates the hierarchal structure of supply chains characteristic of merchant capitalism Considering the vast quantities of data necessary for ML problems, companies such as Google or Facebook will still likely rely largely on a transient workforce with few permanent employees.

A transient workforce also means there is less commitment on the part of the employer and on the part of the employee. It is likely to impede learning-by-doing and worker investment in firm-related skills. Without the commitment to human capital entailed in traditional employment through incentives like deferred compensation or legacy pay, the result is a low-skilled highly replaceable and undifferentiated workforce. The dynamism and innovativeness that Posner and Weyl predict will develop in data labor is unlikely to occur if platform businesses are allowed to operate primarily as shadow businesses or "putter-outers." Weyl and Posner do indirectly address platform governance in that they propose data labor unions, which if achieved, would likely fight on issues regarding platform governance. While this is an encouraging start, further investigation and inquiry is needed in regards to platform governance in addition to exploring data as labor.

In the remainder of this chapter, I will consider how the egalitarian ought to look to the deeper resources of the egalitarian tradition in order to address these changing commercial circumstances. The practices themselves may well be the historical recurrence of a prior model. But egalitarian theory has not responded to the return of these practices leaving the ideological space free to brand precarious and poorly paid work, for example, with such positive framing as "the gig economy". The very idea of a "gig" positively conceptualizes these retrograde steps in the evolution of labor. I turn now from diagnosing the problem to suggesting ways in which the egalitarian might respond to them.

1.6 Alternative Possible Solutions: (i) Worker-Managed Platforms and (ii) Digital Georgism

A situation in which a majority of workers remain transient maintains the worst of what 19th century labor republicans called "wage-slavery." In republican political theory, freedom is defined as non-domination (Gourevitch 2011; Pettit 1996, 2006). This entails being free from arbitrary interference from others and also being free from the *possibility* of arbitrary interference. The mere absence of arbitrary inference is insufficient for non-domination because one can be free from interference and still be dominated. A slave with a benevolent or indifferent master may live his whole life free from arbitrary interference, but being a slave entails that should his master at a whim be inclined to interfere, he may. The slave is still at the master's mercy and so he is dominated. 19th century American labor republicans saw wage labor as a form of domination, often referring to it as "wage-slavery" instead (Gourevitch 2013). Wage labor entails being at the mercy of one's wages in order to subsist. An employer has leverage over his employee in this regard. Knowing that the employee depends on his wages for rent, groceries, and other necessities, the employer is able to demand things of the worker would otherwise not be inclined to do under alternative circumstances, such as work in an unsafe environment or work longer hours.

The transient nature of gig workers is likely to exacerbate this issue of domination. Given that gig workers are paid piece-wages, work is more precarious. When one task ends it is unclear when the next opportunity may arrive. This increases the reliance workers have on their employers and allows for greater domination in the employer-employee relationship. Platform businesses, much like out-putters of merchant capitalism, rely on the precarity of work to maintain a reserve of labor which can be deployed and un-deployed according to market conditions or according to the needs of the managers or business owners. While gig work theoretically has the benefit of increased flexibility of scheduling for the worker as well, her dependency on the piece-wages provided by shadow business employment may undermine this benefit. If it is an unknown when

the next job arrives, it seems more likely that workers take as many jobs as they can, when they can, without particular regard for their own preferences, in order to best guarantee they receive the level of income they need to subsist. In that case the benefits of a flexible schedule disappear and the problem of juggling different "gig" assignments is acute.

While the republican agrarian ideal of self-sufficiency, homesteading, faded with industrialization, 19th century labor republicans propose worker-managed firms as a solution to wage-slavery, and in order to achieve liberty in the domain of economic life (Gourevitch 2013). Self-sufficiency and non-domination is achieved through an understanding of mutual interests and shared fates as workers on the factory floor. Rather than workers' fates being at the whims of owners or managers, they put their own fates in their hands by managing the firm together democratically as a cooperative. In much the same way the solution to 21st century gig worker conditions may be to demand cooperative governance for platforms. With cooperative platforms workers can receive compensation for their data labor, as well as have a say in working conditions, data use, privacy, and other issues that may be of concern.

In my previous discussion I took the shadow work involved in data annotation and data labor as paradigmatic as the emergence of new forms of exploitation. To supplement the approach of the twenty first century labor republican I would like to propose an outline solution to the problem of data labor. That is the task of the next section.

I noted previously that large amounts of data need to be collected and stored in order for ML to function well. This requires a significant amount of computational power only achievable with large server farms (Posner and Weyl 2018, p.217, 236). There are only a few major technology companies with these capabilities. People also generally find platforms useful because it connects them to a large network of friends, family, and other communities, often on a global level.

Customers and clients may also benefit from the economies of scale achieved by these large platforms. This requires firms to scale to immense sizes, such as Facebook which has 2.6 billion users in 2020. These large scales allow companies to gather the vast amounts of data they need for their AI and ML problems. According to Posner and Weyl, in 2015 this generated a situation in which 64% of internet searches were through Google and Facebook's billion and a half users spent fifty minutes on average on their phone application (Posner and Weyl 2018, p.235). Additionally, because of the scale and network effects necessary for ML and big data analytics to function well, first mover advantage is crucial as markets can only make room for so many high-scaled competitors. Platforms that control the pre- and post-production stages within the value chain, such as research and development or sales, are positioned to capture additional rents (UN Report 2018, p.76). Finally, though data – unlike natural resources such as land or oil – is non-rivalrous, the combination of strong intellectual property rights, scaling effects, first mover advantages, and market power allow data to be an excludable good; this expands the potential for rent extraction (UN Report 2018, p.78).

The size of the networks required to generate the amount of data necessary create monopsonies of data labor. As a monopsony of data labor, working conditions, monetary compensation, and other benefits are to be determined by the employers with little to no input by the data-workers as they are left with few alternatives. The high barrier to entry given the computing power necessary for AI and ML and the necessity of scaling to large sizes mean that these technology companies occupy, according to Posner and Weyl, a "central piece of real estate in the digital commons" (Posner and Weyl 2018, p.236).

As a possible solution to the monopsony problem, one could take a Georgist approach. Henry George considers land rents to be among the chief generators of inequities in society,

because land owners are able to extract value simply in virtue their ownership without themselves contributing to the value added. A simple example is that of the farmer. A farmer sees the price of his crop increase. The land owner, observing the increase in the price of crop, raises the rent accordingly. The increase in profit the farmer would have made is instead now transferred to the land owner. Despite the farmer working the land, working the plow, sowing the seeds, and reaping the crop, the land owner acquires the added value. To remedy this, Henry George's proposal is to tax the whole of the rent. Land and natural resource rent alone are taxed wholly, while improvements are not.

My proposal is that, similarly, a tax can be applied to platform-based businesses that occupy "land" within the digital commons. What does or does not count as land in this context may vary by platform. It is possible that platforms for platforms, platforms for business support, platforms for mediating work, retail platforms, and service-providing platforms have unique features that must be taken into account. Rather than having one standard definition of digital land, there may be five, one for each category.

While data as labor is one way to frame the issue, data may also be considered a natural resource such as precious metals extracted from land. The internet itself is also a platform that acts as "land" of sorts, a kind of public commons in which companies such as Google and Facebook have enclosed particular sections. An 100% tax on this "land" restores the inherited wealth of this commons to the public, which can be done in the form of funding public works or providing a basic income for all citizens.

A Georgist tax is reserved for scarce goods in limited supply, which is why it traditionally applied to land and natural resources. One may argue the internet and data are not scarce in the same way that land or natural resources are, but the scaling requirements for big data, ML

problems, and AI development effectively form a kind of natural monopoly and scarcity problem. As the land owner extracted value from the farmer's labor, Google and Facebook are able to extract value from data laborers. As monopsonies they set the terms and conditions of labor. As monopolies, advertisers and search engine optimizers looking to buy ad space are again confronted with Google and Facebook's market power. A Georgist tax would allow these technology companies to keep the value added they themselves may provide, while ensuring these companies cannot make money simply by occupying a central piece of digital real estate or through the exclusion of non-rivalrous goods.

1.7 A Hybrid Proposal

Land and natural resources are a universal given, but exist in limited supply. Provided these two facts, fairness dictates that all citizens should benefit equally from the land and natural resources. The commons then provide the tools in which all have an equal chance to labor on. There is no limit in which labor can transform objects, and therefore labor can be compensated in proportion. A Georgist tax restores the commons, thus allowing everyone to benefit from land and natural resources and their digital counterparts. Things that are naturally scarce are of equal benefit to all, thereby effectively breaking any potential monopoly, which a Georgist tax can accomplish. Breaking monopoly alone does not necessary improve labor conditions. Firms can still be operated in a rigid and hierarchical way, and opportunities to contribute in a meaningful way may remain scarce if a strong division of labor persists.

Workers' cooperatives alone are also an insufficient proposal. While a cooperative may provide a sense of fairness internally to the firm, there is no a priori reason to think that it can provide that sense of fairness externally. We could imagine one cooperative, Co-op A, which

function as a platform or a "merchant" of sorts, while another cooperative, Co-op B, functions solely as a commodity-producer. While workers within their respective cooperatives may feel a sense of fairness in relation to their peers, the workers of A are positioned to dominate workers of B, much in the same way merchants have historically dominated commodity-producers.

The scope of the cooperative matters greatly as well. If a company such as Uber were turned into a cooperative, it is worth considering whether that would simply be the twenty-two thousand workers or if it would also include the 3.9 million drivers. If the scope only includes the initial twenty-two thousand permanent employees, the other 3.9 million workers remain dominated through their relationship in the supply chain.

Combining both solutions ensures that workers have a say over their work conditions, governance, and privacy. At the same time, a Georgist tax would ensure that no one firm monopolizes the marketplace. The tax also serves as a safety net, such that commodity-producing workers do not feel the squeeze applied by "merchant" cooperatives that capture the supply chain. Any potential injustice between firms can be compensated through the redistributive effects of the tax.

1.8 Can we avoid Technofeudalism?

Social critics Yanis Varoufakis and Cédric Durand are both drawn to the same metaphor in their respective critiques of Big Tech: Varoufakis's critical essay is titled *Technofeudalism: what killed Capital?* and Durand's essay, soon to be translated into English, was titled in its 2020 original French edition *Techno-feudalisme – critique de l'economie numerique* (Durand, 2022; 2023; Varoufakis, 2024). Both authors ironically play with the combination of the claim that something radically new has transformed capitalism – or killed it – but that this is a regression to an historical stage before capitalism. Our pre-capitalist historical state is that of feudalism. Both authors are

Marxists, and combined with Marx's critique of capitalism is his admiration for the productive forces that this socio-economic system unleashed – freeing us from feudalism. Now, it seems, we have the worst of both worlds.

Varoufakis' provocative thesis is that we have historically progressed beyond capitalism to a social system, dominated by Big Tech, that combines the exploitative nature of feudal relations with contemporary digital technologies, in particular digital platforms, or rather, "cloud capital." In Varoufakis's view, Big Tech firms do not merely participate in competitive markets; instead, they act as "digital landlords," controlling essential digital infrastructures and platforms. Just as feudal lords owned the land on which serfs toiled, tech giants own and control the digital spaces and ecosystems within which modern economic life occurs. Data serfs provide the platforms free labor in exchange for residency; producers must pay rents to be accessed by customers; algorithms–not markets–match buyers and sellers; and proletarianized workers are technologically surveilled in warehouses and other essential terrestrial locations. The result, according to Varoufakis, is an erosion of the traditional capitalist relationship between labor and capital, as cloud fiefdoms replace markets as mediators, and rents replace profits.

In this new technofeudal order, profits are extracted less from market competition and more from monopolistic control, surveillance, and the capture of digital rent. Unlike classical capitalism, where markets were at least nominally competitive and profits came from productive labor, technofeudalism renders many participants powerless, trapped in a system where they must participate but have no meaningful control. The dystopian result is that digital citizens find themselves subordinated to the arbitrary will of a new elite of 'platform overlords' – much like serfs were subject to the whims of feudal lords.

For both Varoufakis and Durand, the challenge lies in finding an exit from this regression. If capitalism could once destroy feudalism by unleashing productive forces, the question becomes: how can we now escape technofeudalism? Varoufakis suggests that the solution lies in collectively owning the cloud commons. Both argue for reclaiming these platforms for the public good, proposing democratic control of digital infrastructures to ensure that technology serves collective interests rather than perpetuating private domination.

I remain skeptical of whether or not we are in a technofeudalist moment. As argued earlier in the chapter, I believe the digital economy is reproducing patterns historically repeated in capitalism and its development. Several factors fuel this skepticism. Firstly, it was not unusual for traditional monopolists to integrate both horizontally and vertically, and it may be worth considering that the power that Amazon and other cloud capital holds is not that capitalism has been transformed, but that these companies have integrated across sectors, much like their traditional predecessors. Secondly, I believe the tripartite distinction of merchant capitalists, commodity producers, and labor, is analytically more useful. The boundaries between these distinctions are permeable, as some firms have historically been able to go from merchant to producer and back again, according to macroeconomic circumstances and which model proved more profitable. While in the Fordist era, commodity-producers seemed to have their day, the neoliberal era has proved the merchant model as more profitable. Additionally, many of these technologies are following a market logic that has predated the commercialized internet, as already exemplified by Wal-Mart and others. The idea of slimming down the firm to its "core competencies" and subcontracting or outsourcing the rest is nothing new—and I believe this is at the core of much of the issue.

What strikes me as true within the technofeudalist critique is that data is a form of labor that deserves to be recognized, and that there is a clear economic and political danger in the concentration of wealth associated with many of these technologies. However, I believe the tripartite distinction I mentioned, and the previous analysis of value chains and the smile curve better point to how and where the economic chokepoints are, and provide the critical analytical foundation for a more robust solution—which will be further expanded in the final chapters of this thesis. While some commentators like Varoufakis describe these dynamics as "technofeudal," I treat the term as a heuristic rather than a new epochal category. The underlying mechanisms—monopoly, rent-seeking, and piece-work—remain recognizably capitalist, even if their digital form makes them newly acute.

1.9 Conclusion

In this chapter I have set out, in a schematic way, how I think egalitarians ought to respond to the new commercial practices of the New Economy. I have taken as my paradigm case the issue of treating data as labor. It is emblematic of how we need to acknowledge the value that people are adding to companies and technology. Data as labor is necessary, but not sufficient in achieving equity in compensation for work and treatment of workers. I have noted that questions still remain on platform governance, monopoly power, and rent extraction. Platform cooperatives may be one avenue to resolving these issues. Imposing a tax on digital rents and distributing the gains back to the public is alternative solution. A third option may be to combine the proposal, creating a marketplace full of competing cooperative platforms and charging them tax on rents to keep the markets dynamic and competitive, while providing a basic income for all citizens. In all of these ways egalitarianism needs to renew its tool box of solutions to address the return of some old forms of exploitation in the New Economy.

In my view, the most notable changes to capitalism wrought by the rise of Big Tech should be understood as both an acceleration of pre-existing neoliberal trajectories and a reversion to earlier logics of accumulation, albeit with novel mechanisms. This is my diagnosis: a dual character that explains both the continuity and the distinctiveness of the digital economy.

First, Big Tech accelerates inequality not primarily through wages but through wealth accumulation in intangible assets. Earlier analyses of neoliberalism or more orthodox neoclassical approaches, especially those framed by the "skills-biased technological change" thesis, emphasized differential rewards to labor as a major explanatory factor for wealth inequality. By contrast, what is distinctive about the digital subset of the knowledge economy is the centrality of intellectual property, data infrastructures, and platforms as forms of capital. As Katharina Pistor has argued, these intangibles are "coded" into capital by law, generating durable claims of ownership and rent extraction. Thomas Piketty has shown that capital's share tends to outpace labor's share over the long run, but the dominance of intangible assets in Big Tech has accelerated this tendency dramatically. The commanding fortunes of the digital economy are not explained by high wages for scarce skills, but by oligopolic rents secured through law and finance.

Second, Big Tech reorganizes capitalism around intermediation. Nelson Lichtenstein's account of merchant capitalism is helpful here: platforms such as Amazon, Apple, and Google exercise power not by producing commodities themselves, or at least not primarily so, but by controlling access to markets, users, and suppliers. This echoes the "putting-out" system of early capitalism, where intermediaries structured production without directly owning it. Yet what I claim is distinctive in the digital era is the capacity of platforms, and many other technology related business models, to enforce this power locally and globally through digital infrastructures and legal monopolies. Herman Mark Schwartz's notion of the "franchise economy" captures this

development. Apex firms structure entire value chains while remaining relatively light in direct employment or capital investment, at least when compared to historic oligopolic predecessors. Their control rests on ownership of IPR, brand, and data — enabling them to extract rents from producers, workers, and consumers alike.

Third, one of the most noticeable changes as a result in the rise of Big Tech is the intensification of labor domination through algorithmic management and shadow work. I claim these practices are analogous the pre-industrial "putting-out" system, where labor was fragmented, hidden, and dependent on intermediaries. While in some ways this resemblance indicates a regression of sorts, it is a noticeable change from the Fordist paradigm—with vertically integrated firms that kept more capital and labor in-house—that dominated most of the 20th century in the United States. Today, data annotation, content moderation, and user "click labor" sustain AI and platform operations while being treated ambiguously, sometimes compensated, but poorly and precariously, and often disavowed as productive labor. This shadow work exemplifies domination in the republican sense. Workers within this political-economy are structurally dependent on opaque distant systems that they cannot contest. At the same time, middle-income jobs in advanced economies have been de-professionalized—or threatened near-future de-professionalization—subjected to algorithmic surveillance, and stripped of discretion. Thus, what is distinctive is not domination related to inequality per se, but the specific mechanisms—updated forms of putting-out—by which republican freedom are eroded.

Taken together, these changes suggest that the rise of Big Tech is not best understood as a wholly new system ("technofeudalism") nor as a mere continuation of neoliberal capitalism. Rather, it is an intensification of neoliberal inequality through new mechanisms of rent extraction, and a reversion to older logics of intermediation, albeit transformed—and therefore contemporized—by

the centrality of intangible assets. My argument is distinctive in drawing these threads together: while the skills-biased technological change thesis helps explain certain dynamics at the margins, it cannot serve as a sufficient explanatory framework. The main drivers of inequality and domination lie elsewhere, in the political and institutional organization of the economy around intangible assets and intermediaries. By using Schwartz's account of the franchise economy and my own argument that extends the logic Lichenstein's observations on the business model of Wal-Mart to the greater knowledge economy—specifically in the digital space—I contend that the decisive explanation is political and institutional. The trends brought about by Big Tech are both continuous with and discontinuous from past trajectories. It accelerates inequality, reasserts the power of intermediaries, and relies on novel forms of legally secured rent, thereby deepening domination in ways that demand a republican response.

Chapter Two: Can we use Republican Pre-Distribution to re-shape a Democratized Innovation Economy?

Introduction

The preceding discussion has shown how forty years of rising inequality of income, wealth, and political influence has strained the relationship between economic organization and social democratic values. One option, which I will not explore, is to give up the prospect of continual economic growth and to explore no growth or de-growth alternatives. I do not take that path here. Instead, I begin by assuming the desirability of a growing, innovative, and dynamic economy and ask how such an economy might be made consistent with stable egalitarian outcomes.

The model I develop in this chapter is not a generic claim that capitalism as such is inherently innovative or dynamic. Rather, following the framework of evolutionary economics (Metcalfe 1998; Nelson & Winter 1982), I treat innovation and dynamism as defining features of the type of economy I want to analyze. The central problem considered here and throughout this

thesis is not whether we should value innovation, but how to design institutions that preserve dynamic efficiency while pre-empting its socially destabilizing effects.

This thesis presents a republican conception of political economy with the notion of equilibrium as the bridging concept. A realistic account of innovative economies takes them to be permanently disrupting equilibria through continual innovation. This disruption is both promising and dangerous: it powers growth, but in practice the way innovation is financed and organized has also produced destabilizing inequalities—or so it has historically in capitalist economies.

My proposal is that in order to regulate this dynamic economy, and to recognize the constitutive role of the state within it, we should turn to the republican tradition—a tradition concerned with pre-emptively containing the drift to corruption endemic to all political institutions. I argue that this tradition provides the resources for developing a pre-distributive political economy capable of encasing innovation within a framework that both sustains its benefits and guards against its corrosive social and political consequences.

2.1 The Dynamic Economy

In this section I make that case that, much like in biology, an innovative economy is modelled by differentiation, adaptation, competition, and evolution (Metcalfe 1998; Nelson & Winter 1982. The innovation economy is not in general equilibrium, which would suggest statis, but is rather characterized by constant endogenously induced change. This section also sets out the role played by the entrepreneurial state in innovation development, from funding basic research through to helping in commercialization. Finally, I describe relatively recent developments in the economy and its destabilizing effects on the political economy more generally.

Innovative technologies have a transformative impact on society at large. Since the invention of the steam engine roughly three hundred years ago, we have undergone three industrial revolutions, and a significant amount of literature argues that we are currently undergoing a fourth

revolution. The steam engine, electricity and the combustion engine, information technologies, and now – artificial intelligence and three-dimensional printing – have all had significant impacts on our culture, society, economy, and politics. These revolutions have acceleration of our sense of time, increased our ability to scale, shortened distances, and transformed communication in unforeseeable ways. Not every innovation leads to an industrial revolution. Most innovations are relatively incremental. Nonetheless, the accumulation of incremental innovations can also represent notable differences in society and in our individual lives. These changes have come with risks and consequences, both good and bad.

Displacement, alienation, pollution, and increases in economic inequality is often a consequence of revolutionary innovative periods. At the same time, its consequences have also produced increases in longevity, comfort, and helped democratize access to knowledge and information. It may be argued that the negative consequences have outweighed the good, and therefore innovation ought to be avoided in favor of equilibrium where we either maintain what we already have (perhaps we simply play with distributions of already existing things), or we intentionally de-technologize society. If so, it may be worth considering several counterpoints first.

Innovation simply produces new or improved tools. The problems and solutions generated by these tools are largely defined by their political, economic, and social context. It is difficult, if not impossible, to say whether any particular downside is intrinsic to the tool itself or in how it is applied. Additionally, speaking in broad terms, innovation is a form of applying human creativity in order to adapt to changing circumstances. Even if one desires to remain still, the ecological, political, cultural, social, and economic environment inevitably change and demand human responses. Innovation, then, is inevitable, if only to not fall behind and be left vulnerable to those who do decide to innovate or change. Assessing all the arguments for or against innovation is

beyond the scope of this project. I will assume that innovation is generally desirable, if not in some sense inevitable. With that assumption in mind, I will proceed to argue what kind of republic can best defend freedom as non-domination within the context of an innovation economy. Firstly, I will begin with describing how the innovation economy works.

2.2 Characterizing the Innovation Economy

Innovation is the commercialization of an invention, where the latter is "the first occurrence of an idea for a new product or process (Caligari 2018)." There is also a distinction between the inventor and the innovator. The inventor is an individual or group of individuals who thought of a new idea. Alternatively, innovator, or "entrepreneur" in Schumpeterian terms, is the firm or organization which is capable of combining the resources, knowledge, capabilities, and skills necessary to commercialize an invention (Caligari 2018). According to neo-Schumpeterian and evolutionary theory of economics, innovation is a process of creating new combinations of existing skills, knowledge, and resources in order to open new markets or generate new or improved products, services, or methods of production (Kaldor 1972; Minsky 1992; Ramlogan and Metcalfe 2006; Mazzucato 2015, 2018). These combinations are typically arrived at after several phases. Though the phases may vary between industries, and between place and time, it generally involves the following; basic research, applied research, development, and deployment (Mazzucato 2015).

Basic research is the scientific basis in which a product or service may be developed, though general advancement in scientific understanding does not necessarily immediately translate to an obvious practical or commercial application. Applied research tries to bridge the gap between scientific understanding and practical use, for example, a chemist may try to make use of her knowledge of polymers to create a new material that may have industrial applications. Development often takes the form of product development. At this phase engineers may take the

new material and design a product or service with it, for example, engineers can design a new more durable tire using the material developed by the chemist. Deployment often involves commercialization. At this phase marketing teams create ad campaigns; sales teams identify customers; and the product or service is put in the market. It is important to note that innovation is the whole process itself, and not defined as a singular phase.

A non-innovative economy would theoretically be a less dynamic society as innovation is responsible for a significant amount of endogenous change in an economy. This point can be illustrated by considering Schumpeter's initial 1912 model of innovation as a first approximation in explaining why innovation induces change. We can imagine a non-innovative economy as a circular flow in which we have general equilibrium, with resources in maximum use, and the system reaching the optimum level of output. Individuals within the circular flow are assumed to "act promptly and rationally" (Mazzucato 2015). Change is exogenous to the model. Change may be explained in terms of things such as new consumer tastes, shifting politics, or environmental change. Exogenous change can also be induced by what Schumpeter calls "noneconomic development," such as population growth (Mazzucato 2015). However, these kinds of changes are observed as "continuous infinitesimal shocks to the circular flow." Points within the equilibrium may change, but the static model of competitive equilibrium still best approximates this system (Mazzucato 2015).

According to Kaldor, economic development has allocative and creative functions. Allocative functions include such things as economies of scale and the division of labor which result in increasing returns and a certain distribution of wealth and resources (Kaldor 1972). The Creative functions may be tied to the allocative functions (and vice-versa). Here Kaldor makes reference to "learning by doing," in which "optimum design for the steam engine or the diesel

engine or the sewing machine has only been achieved after many years or decades of experience" (Kaldor 1972). Knowledge of physics or the science of engineering alone does not give us *a priori* insight on to how apply their principles to build new technologies or their myriad potential for practical applications. In economics they refer to this process of trial and error as "dynamic economies of scale." As experience and knowledge are compiled, output increases, which again has implications on allocative functions.

Innovation is a process of creating new combinations (Kaldor 1972, Minsky 1988, Mazzucato 2018). These combinations are typically arrived after going through various phases. Though the "phases" may vary between industries, and between place and time, it generally involves the following; basic research, applied research, development, and deployment. Basic research is the scientific basis in which a product or service may be developed. As mentioned previously, general advancement in our scientific understanding does not necessarily always immediately translate to an obvious practical application. Applied research tries to bridge the gap between scientific understanding, and practical use, for example, a chemist may try to make use of her knowledge of polymers to create a new material that may have industrial applications. Development often takes the form of product development. At this phase engineers may take the new material and design a product or service with it, for example, engineers can design a new more durable tire using the material developed by the chemist. Deployment often involves commercialization. At this phase marketing teams create ad campaigns; sales teams identify customers and the product or service is put in the market.

Innovation is not merely a scalar, like a rate in which you simply either have more or less of it. A more apt approximation would be to think of innovation as a vector, having a magnitude and a direction (Mazzucato 2013, 2018; Atkinson 2015). Direction in this context may broadly be

considered in terms of allocative and creative functions of economic development discussed earlier. Allocative functions include distribution of benefits such as wealth or resources. Creative functions define the application or purpose. As allocative functions define the "who," creative functions define the "how." There is a considerable number of variables that steer the direction of innovation. This chapter will consider only a few.

One significant determinant of the direction of innovation is history. As Paul David put it, "history matters." Economic development is path-dependent (Lazonick and Mazzucato, 2013; Mazzucato, 2018; Ramlogan and Metcalfe, 2006). Path-dependent processes are ones in which the scope of potential future directions or outcomes is determined by "locally" irreversible past outcomes (David 2007). Generally speaking, branching processes are path-dependent. Biological evolution is one such example, where "speciation constitutes a non-reversible event." Once a certain path has been "decided," the old scope of potential directions collapses, and a new branch of potential directions emerges. The figure below illustrates this.

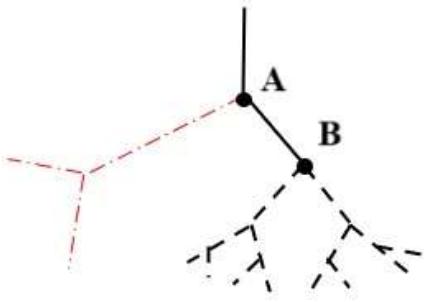

Figure 1: Tree branch-like strucuture showing potenial future evolutionary directions, as well as lost potential avenues in the past (red)

The solid black line represents the past. The dotted black lines represent potential directions. To the left of point A, we see a dotted red line, which represents possibilities had things perhaps gone differently. These possibilities no longer exist. Point B represents a snapshot in time, the present. As time goes on we can imagine point B moving along a dotted trajectory, leaving a solid black line in its wake. As its tail solidifies, the paths not taken turn red; they no longer exist. Though this illustration is crude and oversimplified, it helps present an intuitive understanding of path-dependence. We can observe

how history matters in the point B's trajectory. Though there is a range of potential future directions point B can take, its future trajectory will be a function of where it has already gone.

According to neo-Schumpeterian and evolutionary theory of economics, forming new combinations is what makes an economy dynamic (Schumpeter 1912; Ramlogan and Metcalfe 2006; Minsky 1988, 1992). Innovation is the material basis of economic change. The element of directionality makes decision-making in an innovative firm a particularly special case.

The Schumpeterian/neo-Schumpeterian account of creative destruction is important to keep in mind because suggests that innovation-driven economies may be structurally unstable—marked by cycles of disequilibrium and concentrated gains—from the perspective of an egalitarian state that intends to maintain relative equality among citizens. From a republican standpoint, this matters not only because such dynamism produces winners and losers, but because it creates the conditions for domination should those dynamics grow exponentially. Those positioned to capture the rents of innovation may have a window in which they can leverage their momentary market advantage into a more prolonged political and social power over workers, consumers, other market actors, and potentially even governments. Additionally, the control over the directionality of technology, and which problems it is meant to solve, can add an extra layer of danger regarding structural domination. The lesson is not that innovation should be curtailed, but that the institutions of a just republic must be designed to channel its disruptive energy in ways that prevent structural domination. This is precisely the role of predistribution, which will be discussed further in chapters three and four. For the time being, it is important to understand that predistribution seeks to shape the rules of the game at the front end, before inequalities of power and wealth become entrenched, rather than relying on redistribution after the fact.

2.3 The Connection Between Innovation and Finance

This dynamic, in which temporary market advantages risk being entrenched into longer-term domination, is intensified once we account for the role of finance. The connection between innovation and finance shows how momentary gains can be capitalized and extended, magnifying the republican concern with the resulting inequality. An innovative economy works differently than a relatively stagnant one, as innovation represents a disruption of the circular flow and breaks away from the static model previously discussed. The original Schumpeterian theory modelled innovation through the lens of two primary actors; the banker (financer) and the entrepreneur (the innovative firm/organization). These actors are co-dependent (Caligari 2018). According to Schumpeter's original vision, "capitalism has an ever-evolving structure, where evolution is driven by profit seeking innovators" which generates the process of "creative destruction" (Schumpeter 1912, Minsky 1988). It is innovation which drives the evolution and dynamism of the economy. "Development consists of new combinations [...]" "New combinations require 'the detaching of productive means (already deployed elsewhere) from the circular flow and allocating them to new combinations (Minsky 1988)" "With the use of credit, the entrepreneur is able to "outbid" the producers in the circular flow in the market for the required means of production (Minsky 1988)" The new combination of resources then competes with the old combination in the market. In competition the old is presumably replaced by the new. This, to sum it up crudely, is "creative destruction."

Just as Minsky points out, "money is never neutral" in this point of view, because without financing the entrepreneur is unable to outbid incumbents for the means of production necessary to build new combinations. For Schumpeter, the financier "stands between those who wish to form new combinations and the possessor of productive means. He is essentially a phenomenon of development. [...] He makes possible the carrying out of new combinations, authorizes people, in

the name of society as it were, to form them. He is the *ephor* of the exchange economy (Schumpeter 1912)."

The financier of Schumpeter's time has since evolved (Minsky 1988, 1992). Finance has gotten significantly more complex with institutional investors, venture capital, and the state (Mazzucato 2018). These too, play their roles as the ephors of the exchange economy in contemporary capitalism.

The goal of both the banker and the entrepreneur is to make money. The strategy of the entrepreneur is to innovate in order to gain an edge over competitors. However, innovation requires resources - resources that are otherwise dedicated to the maintenance of the circular flow (Schumpeter 1942; Minsky 1992). The banker is able to loan the credit and purchasing power necessary for the entrepreneur to then outbid incumbents for those resources, interrupt the circular flow, and redirect the necessary resources for innovation. The removing of resources from the circular flow is disruptive in at least two ways (Mazzucato 2015). Firstly, as mentioned previously, the innovation itself is a new combination of knowledge, skills, and resources that deviates from the old norm. Secondly, redirecting resources away from the circular flow means there is less supply of those resources available to maintain the previous regime, thus making it more costly to continue. This represents a radical break in relatively static model of competitive equilibrium (Mazzucato 2015). This innovative break in the equilibrium is what Schumpeter characterizes as "economic development." Economic development is therefore disruptive of the status quo. Seen as part of an evolutionary process, it represents a qualitative change in the system (Fagerberg and Verspagen 2002).

Assuming the innovation is successful, the entrepreneur gains a competitive advantage. Before too many competitors can adapt to this innovation and things settle in a new competitive

equilibrium, the entrepreneur effectively holds a monopoly on this innovation and is able to charge rents, which translates to profits. Now that the entrepreneur is profitable, he can pay back his loan with interest – representing the bank's profit. Therefore, this is the intimate relationship between the banker and the entrepreneur: The entrepreneur is unable to innovate without the banker. Likewise, the banker is unable to be profitable without the entrepreneur. What this simple model illustrates is that an innovative economy is never in equilibrium – the circular flow is constantly interrupted

The circular flow model just described is an idealized and highly abstract model. It therefore provides a crude approximation of reality. In many ways it is also now outdated, as it was originally theorized by Schumpeter in the early twentieth century (Minsky 1992; Mazzucato 2015). According to Mariana Mazzucato, we can combine Schumpeter's model of innovation with the economic theories of Keynes and Minsky to achieve a better understanding of the economics of innovation that better matches contemporary empirical and theoretical research (Mazzucato 2015, 2018). The circular flow model provides two key insights.

The first insight is the intimate relationship between the banker and the entrepreneur. While this relationship has always played a significant role in capitalist societies, the relationship itself has evolved as both the banker and the entrepreneur have produced several innovations since Schumpeter's time (Minsky 1992; Mazzucato 2015). The banker has produced several new complex financial instruments, and new financial players have since taken prominence – such as venture capitalists and the importance of institutional investors (Callegari 2018; Janeway 2018). The banker today relies on several means to generate profit beyond collecting interest on loans – however the role of the entrepreneur in is no less significant in the banker's profit-making. On the side of the entrepreneur, various revolutionary general-purpose technologies, such as the personal

computer and the internet, have generated entirely new markets that had not previously existed. The second insight is that general equilibriums are not good approximations of innovative economies. This has been further explored by Keynesians, post-Keynesians, and evolutionary economists in particular (Mazzucato 2018). This second insight is what is most important to consider for the purposes of this chapter. Marianna Mazzucato has, in particular, emphasized the critical role of the entrepreneurial state.

2.4 The Role of the Entrepreneurial State in the Innovation Economy

Mazzucato explains that the evolutionary school of economics studies and models the economy by using biological metaphors, in contrast to the neo-classical school which makes greater use of terminology borrowed from physics, such as steady-state equilibrium (Mazzucato 2015). The evolutionary explanation of capitalist economies is "based on the triad of variation, selection and development of new variations" (Ramlogan and Metcalfe, 2006, p.128). Schumpeter hints towards this direction in his original work stating, "capitalism has an ever-evolving structure, where evolution is driven by profit seeking innovators" which generates the process of "creative destruction" (Schumpeter and Backhaus 2003; Minsky 1992).

While in neo-classical theory differences between firms are seen as "imperfections in an otherwise perfectly competitive market," the evolutionary model takes these differences seriously. There is no "average" firm as differentiation between firms, and their innovativeness, plays a defining role in competition, and in the evolution of the firm (Mazzucato 2015). Mazzucato points out "that instability and firm size are not constrained by notions of 'equilibrium' or 'optimality' but instead understood as properties emerging from interactions between heterogenous agents" (Mazzucato 2015). It is precisely due to this heterogeneity that innovation and change occurs (Ramlogan and Metcalfe 2006). The neo-classical assumption of the average agents, under the

evolutionary understanding, would be insufficient for explaining change or growth – it would imply stasis (Mazzucato 2015).

Evolutionary economics, in direct contrast with neo-classical economics, explains how the dynamics and nature of innovation makes *dis*equilibrium the norm. Schumpeterian theory further explains how innovation is then a function of the dynamics between the banker and entrepreneur. These dynamics drive change and growth, but also represent a significant source of instability (Mazzucato 2015; Minsky 1992). What Minsky adds to Schumpeter's initial theory is that finance has a "dynamic of its own" motivated by its impulse to make a profit. Minsky concurs with Marx that finance uses money to make commodities to make more money. The banker is capable of its own innovation by creating new financial instruments and new ways of organization. As previously pointed out, the banker described in the 1912 Schumpeter model is a commercial bank. However, today we have investment banks and institutional investors involved in stocks, bonds, and security markets.

The dynamics of finance are a decisive destabilizing element in the economy (Mazzucato 2015; Minsky 1992). The evolution of finance has led to a financialization of the economy in which traditionally non-financial firms are themselves increasingly "hoarding cash or participating in speculative investments, such as stock buybacks" (Mazzucato 2015). Productive investments, such as research and development, have become less important than financial investments as a significant source of profit for an important amount of American companies (Mazzucato 2015).

While financial innovation may be necessary at times in order to fund innovation, it can become harmful as well. Behaviors such as stock buybacks are often predatory. These actions come at the expense of potential productive investments into things such as research and development, which ultimately arrests innovation. Many investments which are going to research

and development are not going to the most innovative firms or industries. These firms or industries, such as the biopharma industry, tend to require long term commitments as the science behind it must be rigorous and well tested. Capital is currently too impatient to commit to such a thing as it looks for quick returns.

There is an element of chance for the banker and for the entrepreneur in the innovation process. There is never a guarantee that the endeavor will be successful and reap profit. Frank Knight makes the distinction between risk and uncertainty in this regard (Knight, 1921). The probability distribution in risk is known. There is a one-sixth chance of winning a bet on the roll of a fair die, for example. The risk involved in investing in innovation can therefore be quantified and modelled by appraising assets, looking back at the history of the particular market, and comparing would-be competitors, among other things. Both the banker and the entrepreneur can therefore adopt strategies to mitigate their personal risk.

In contrast to risk, the probability distribution is unknown in the case of uncertainty. Theoretically, uncertainty would play a significant role even in an economy in perfect equilibrium. The future is always an unknown. An economy in equilibrium may be able to model and prepare for endogenous change, but exogenous shocks to the system remain a persistent possibility. The role of uncertainty in an innovative economy is even greater, because innovation represents non-linear and unpredictable endogenous development in the economy. Innovation is the new combination of things and - to a greater or lesser degree - unlike than anything before it. The "newer" the innovation, the harder it seems to be able to accurately quantify and predict its consequences. The invention and commercialization of the internet, for example, has led to the creation of whole new markets that have previously never been conceived. Its costs and benefits could not have been quantified ex-ante.

Uncertainty is the backdrop on which an innovative economy exists. According to Herbert Simon's theory of complexity, a complex system is made up of many parts that interact in a way that makes it difficult to infer the properties of the whole simply by linearly adding up the known properties of its constitutive parts and the laws of their interactions (Janeway 2018). Instead, a complex system is characterized by evolutionary processes, hierarchies or systems of systems, and emergent properties. Emergent properties are generated by feedback loops of interactions between various systems, beliefs, norms, and institutions

Today, the relationship between finance and the high-tech industries plays a considerable role as the most innovative sectors in the economy. Both require a high degree of, not just abstract knowledge, but also a greater combination of knowledge from multiple fields. The expansion of knowledge within the economy is, among other things, an emergent phenomena of a key feedback loop identified by Nicholas Kaldor, to whom the "division of labor depends in large part on the division of labor" (Kaldor 1972). Kaldor points out that this is not simply a tautology, because there is a cumulative effect. The division of labor is also the division of knowledge, and as specialization in some specific domain of knowledge deepens, so then expands the possibilities of specializations of specializations. The growth of knowledge specializes and then resynthesizes in various ways to create new combinations and possibilities. This growth of knowledge has downstream implications on the technology and innovation available for investment, from basic research through to commercialization. Complexity introduces risk and uncertainty at each iteration and at every stage of the process of innovation. For example, a concept may be proven at the level of basic research, but that does not necessarily translate into knowledge of successfully commercializing it.

Much of the Schumpeterian literature emphasizes the significance of the banker and the entrepreneur roles in innovation. Usually, the banker role is identified with private individuals or private institutions, like commercial banks or institutional investors. The role of the entrepreneur is likewise often identified with individuals or companies. As the economy has evolved, so has the roles of the agents involved in innovation. In Schumpeter's own time, according to his observations, the banking institutions had taken the backseat. It was relegated to a rather marginal position, and mainly concerned with commercial banking. Schumpeter theorized, and observed, that the role of the banker in the innovation process was mostly done by the entrepreneur itself, inhouse (Schumpeter, 1942). This is possible in a system of "trustified capitalism," where markets are dominated by large incumbent firms with little opportunity for new entrants. Under this model, innovation is financed by the profits of the commercial wing. The commercial activity of ATandT, for example, financed Bell Labs, which produced knowledge and invention that later became also became important commercially successful innovations. This also points to the fact that quite often large firms are best equipped for innovation, contrary to some popular views that smaller and nimbler firms are more productive or innovative (Mazzucato, 2015, p.52). Large firms' access to greater funding, institutionalized knowledge, and economies of scale, enable their superior productivity.

However, more recent literature in economics highlights the role of the state in the innovation process as well as either banker, entrepreneur, or both. According to Mazzucato, a considerable number of decisive innovations in the last few decades were made possible only through state support (Mazzucato, 2015; Mazzucato and Semieniuk, 2017). The smartphone is not only itself a market, but as a hardware and software platform, it has become nearly essential in order to fully engage in other downstream markets, both digital and offline. Key components that

make up the smartphone are all publicly funded technology, from the lithium-ion batteries, to the liquid-crystal display, to the touch-screen, and more (Mazzucato and Semieniuk, 2017).

Public funding is most often deployed for the most risky and uncertain phases in the innovation process. The public funding of - and the role of the state in – innovation was significant relatively early in the twentieth-century, complicating the picture outlined by Schumpeter in a system of trustified capitalism. Without such public investments, the twentieth and twenty-first centuries would not have been as innovative. It may be tempting to characterize the public investment in innovation as a response to a market failure. However, that explanation is inadequate (Janeway 2018).

Silicon Valley, regarded as the current world capital of innovation, has a long history and relationship with the United States government (O'Mara, 2019). During World War II, the United States government began investing heavily in industrial capacity its west coast in order to more quickly build the necessary equipment to combat Imperial Japan. In doing so, it was necessary to transfer technical expertise, which at the time was mostly concentrated on the east coast. Talent hired during the war time economy set the foundation for what has become the Silicon Valley. The Cold War provided justification for further investments in science and technology by the United States.

Programs such as the National Aeronautics and Space Administration (NASA) and the Advanced Research Projects Agency (ARPA) developed human talent and built institutional knowledge (O'Mara 2019). The aims of such massive projects are ambitious and broad, such as landing a man on the moon. The funding of these projects has no clear exit strategy in regards to any reasonably foreseeable profitability. Instead, this kind of research and development generates important downstream effects. The research at ARPA produced ARPANET in the mid-1960s,

which developed into the internet which began to be commercialized in the 1990s. Public funding, therefore, is not a response to market failures, but rather is necessary in creating new markets *ex nihilo*, in a manner of speaking.

The state may also play a role in the other stages of the innovation process as well. The namesake of the Silicon Valley, the silicon chip, was initially too cumbersome and too expensive for general market consumption. However, the U.S. government demanded the chips for the Space Race (O'Mara 2019). The government was able to pay whatever it took to manufacture the chips. It also required smaller and smaller semiconductors for its missions, encouraging further innovation in chip manufacturing. The sustained government demand allowed the silicon chip production to scale until prices were low enough for the general market. Their cost-effectiveness and their smaller size made the first personal computers technologically and commercially viable. In fact, according to Mazzucato, the state best fulfills its innovative role when active throughout the innovation process, from basic research to commercialization (Mazzucato 2015, 2018).

Mazzucato's intervention sharpens the republican point. If the state is already a central actor in financing and underwriting innovation, then the distribution of its gains is not a matter of "after the fact" taxation but a question of how we institutionalize the innovation system itself. In other words, the state is not simply correcting market failures—it is co-producing markets and shaping their trajectories. This provides the strongest possible case for predistribution. If the state's actions and investments are constitutive of innovation, then citizens have a prima facie justice claim to see those gains flow back to them in ways that secure their independence and prevent domination. Mazzucato thus supplies the empirical foundation for why a republican predistributive approach is feasible and not fantastically utopian; it builds on institutional realities that already exist.

2.5 Conceptualizing Instability in the Dynamic Economy

The novelty of radical innovations, such as the internet, carries a profound uncertainty. There is no precedent in which its impact could be modeled or reasonably guessed. Fundamental basic research requires the scientific method, and successive iterations of trial and error are required. Most ventures in this domain are likely to end in failure, meaning there is a considerable quantity of resources spent with no understanding of whether the costs can ever be recovered in a reasonable amount of time. At the same time, in the event of a scientific discovery at the level of basic research still provides no information on whether a commercially viable use is applicable. The demand for it is an unknown.

The state is the best equipped for this kind of research and development for several reasons (Mazzucato 2015; Mazzucato 2018). Firstly, the state can afford to be patient: the payoff may take decades. Most institutional investors are not willing to wait as long for returns. Secondly, the state is not bound to profit-seeking. The state may have several motives, from geopolitical concerns to promoting the general welfare of its citizens. It can decide on missions, like sending a man on the moon based on these motivations. Thirdly, the state has access to a considerable number of resources. This is particularly true in the case of the United States or other countries which are monetarily sovereign.

The necessity of state involvement in the innovation economy during WWII and the Cold War legitimatized the role of the state as entrepreneur, if it was generally justified through the armed forces, such as the Department of Defense which ran ARPA (O'Mara 2019; Janeway 2018; Mazzucato 2018). However, despite the important role the state has played in innovation in recent history, its role has gradually been politically delegitimized, particularly when spending cannot be justified through military or intelligence institutions (Janeway 2018). Solyndra, for example, was

an American company that developed and manufactured solar panels. It received public funding through its initial phase, however, facilitating it all the way to full commercialization was not politically tenable. The process was left for non-state investment to finish; however, the investment was seen as too risky by private funders and the company failed (Mazzucato 2018).

At the level of economic theory, the perception of the state's role as a stopgap for market failures, rather than seeing its role as entrepreneur and market-creator, has come to limit the quantity and kinds of investments the state is able to make (Janeway 2018). Consequently, the United States is losing out on important markets, while the Chinese state has not experienced this same kind of delegitimization. Despite the United States having a significant head start in solar panel technology in the 1970s, it is now behind several countries, including China. China's innovation model has a more proactive state which facilitates basic research all the way through marketization. This is how it was able to thoroughly surpass the United States in solar panel technology and competitiveness in the industry (Mazzucato 2018).

Without a strong entrepreneurial state, non-state investors are left to fill in. However, venture capital, and other institutional investors, tend to be risk-averse. Generally, venture capital focuses on high potential growth, low technological complexity, and low capital-intensive investment opportunities. Otherwise, costs and risks increase beyond a level they deem tolerable (Mazzucato 2018, p.55). They are not as capable or willing to engage in the kind of long-term, patient, radically uncertain mission-oriented investments that the state is equipped to handle.

In the wake of the delegitimization of the entrepreneurial role of the state we have seen an increase in the "financialization" of the economy at the expense of the real economy. In the first half of the twentieth-century, well-regulated commercial banks were the most common finance institutions. According to Mazzucato, the relationship between the value-add of financial

institutions had been relatively consistent with their share of corporate profits until around the end of the 1980s. They went from roughly 10 percent of each to representing 20 percent value added and 40 percent of the share of corporate profits (Mazzucato 2015). Deregulation of banks, along with the development of new financial instruments, have contributed to this trend (Janeway 2018). Banking has evolved significantly away from the old commercial banks from Schumpeter's time. At the same time, non-financial sectors of the economy are evolving to become more like banks in that a great share of their income is now derived purely from financial activities rather than industrial activities, including firms such as General Motors and General Electric (Mazzucato 2015).

Financial development is coming at the expense of capital development, defined as "technological advance, rising labor productivity, public and private infrastructure, innovations, and advance of human knowledge" (Mazzucato 2015). Rather than risking resources by investing into research and development and a Schumpeterian process of creative destruction, resources are often dedicated to even more speculative practices, such as stock buyback. Consequently, despite seeing significant advancements in some sectors of the economy, the results are extremely uneven. Mazzucato points out that "the US and UK are falling behind in many basic areas, including universal education, health improvements, public and private infrastructure, and poverty alleviation" (Mazzucato 2015). Growth is increasingly concentrated within fewer economic sectors, with finance being the main benefactor.

These developments have led to an instable economy, as evidenced by the "Great Recession" in 2008, a monetary policy of low interest rates, and quantitative easing. As greater numbers of people are left out of this finance-led economic growth, social support of political institutions will erode. Without the entrepreneurial state playing a greater role in creating and

shaping markets, everything that accompanies innovation – such as knowledge distribution, expansion of new combinations and opportunities, and other positive feedback loops – will not be accessible to most people.

Innovation is, to a large degree, a political question. The state has long been essential in the kinds of innovations that create and shape entire markets. This is necessary for economic development, generating wealth, and in distributing knowledge. Reestablishing the legitimacy of the entrepreneurial states is sensible given recent systemic instability generated by finance-led growth. However, it is also important to have institutions within the entrepreneurial state that are designed to be responsive to the inherent dynamism of an innovative economy. Public institutions designed to respond to an equilibrium economy are bound to be undermined and destabilized by shocks it perceives as exogenous, and therefore largely unprepared for.

2.6 The New Economy and Inequality

Within the scheme of social division of labor, finance is the "ephor of capitalism" – as coined by Schumpeter - who decide which innovation ultimately gets financed, and therefore what forms of knowledge and labor are dissipated. However, finance is increasingly investing in itself and not putting resources towards productive activities. Mazzucato suggests we "[make] a distinction between 'good' Schumpeterian rents and 'bad' extractive rents" (Mazzucato et al. 2023). Financialization of the economy has become a recent theme in economic and business literature (Mazzucato et al. 2023; Janeway 2018). This is characterized by increasing land rents, additional fees for financial services, and the real sector "embracing extractive business models" (Mazzucato et al. 2023).

Concepts like "rent" and "monopoly" are loaded terms, per contra, I take the Schumpeterian view of neutrality. Rent and monopoly may be socially or economically desirable

or undesirable depending on the kind and context. Land rents and rents generated by other natural monopolies are often undesirable. Entrenched monopolies, particularly if governed undemocratically, are also generally undesirable. However, according to Schumpeterian theory, profits are rents generated by competitive advantages produced by innovation, differentiation, and monopoly. As the theoretical circular flow is disrupted by a shift in resources towards a new combination, incumbent firms must now pay more to reproduce the same output. Meanwhile, until other firms "catch up," the innovative firm maintains an effective monopoly over their innovation. Monopoly, no matter how temporary, is what enables rent (Mazzucato et al. 2023). Rent may therefore often describe what may generally be characterized as "earned income," and is not necessarily predatory.

The current finance, and the increasingly financialized real sector of the economy are increasingly extractive. Keeping to the Schumpterian and evolutionary models, this change has been produced through gradual endogenous change of feedback loops between the division of knowledge. Skills and knowledge gaps still play a role in economic inequality, an elite production of new and creative business models has certainly contributed to current disparities. This is however not mutually exclusive from the explanation of inequality generated by the holders of capital. New models of business and financing have increasingly been converging to an extractive economy, rather than an innovative Schumpeterian economy. Developments in technology have contributed to upskilling an elite which has taken initiative in entrenching itself through financialization.

If we are collectively to benefit from the dynamic efficiency of capitalism, as the Keynes-Schumpeter-Minsky tradition understands it, then Mazzucato is right that we must bring the state back in. But this will be a state of a particular kind: collectively self-authorized in the way

envisaged by the republican tradition. My proposal is even more specific: that the Machiavellian republicanism of chapter two is particularly useful given its focus on the stabilization of institutions against the permanent threat of the drift towards institutional corruption. Developing this set of proposals is the task of the remainder of this thesis.

2.7 Conclusion

By conceptualizing the economy as a dynamic and perpetually shifting entity, characterized by cycles of disruption and regeneration, I have underscored the necessity for institutions that are proactive rather than merely reactive. The pre-distribution strategies discussed in this chapter are not only about ensuring fair access to resources, but are aimed at preventing the concentration of wealth and power that leads to oligarchic dominance. The entrepreneurial state, as outlined, plays, or must play, a dual role: it is both an initiator of innovation and a guardian that ensures public investments yield shared prosperity. Public policy, thus, must be crafted to balance economic dynamism with safeguards against extractive practices, ensuring that the benefits of technological advancement are not captured solely by entrenched elites.

Taken together the evolutionary, the neo-Schumpeterian and the Mazzucato perspectives give us both the diagnosis and the opening for reform. Schumpeter shows how the innovation economy may generate instability and concentrated gains that threaten republican freedom. The role of finance demonstrates how these temporary advantages provided by the natural disruption of innovation can be converted into long-term structural power, further magnifying the risk of domination. Mazzucato then adds the crucial point that innovation is already co-produced by public institutions, making the distribution of its rewards a matter of institutional design rather than after-the-fact correction. The republican predistributive approach which I defend begins to emerge here: it accepts the dynamism of innovation but insists that the legal, financial, and

institutional structures through which innovation occurs must be designed to disperse its benefits and prevent oligarchic drift. This is not an abstract moral add-on, but a re-specification of innovation policy in republican terms, aimed at securing non-domination and preserving the conditions for democratic self-rule. This is necessary in if we are to both maintain a dynamic and innovative economy while also safeguarding our egalitarian commitments against the its inherent disruptions.

The lessons drawn here lead directly to the focus on the normative framework of this thesis, where I will turn to liberal-republican ideals as they pertain to labor within the knowledge economy. Building on the insights of Philip Pettit's conception of freedom as non-domination, the discussion will explore the idea that contemporary labor practices, shaped by technological and intellectual property developments, must be adapted to protect workers' autonomy. The next chapter will argue that a labor-republican framework is crucial for empowering individuals to exercise genuine control over their work and contributions in an economy increasingly driven by abstract and intellectual labor. This transition will explore how innovative economies can sustain justice and non-domination by ensuring that all citizens, not just a handful of capital owners, share in the governance and fruits of economic progress.

The distinctive dynamics of arising from Big Tech—the acceleration of wealth inequality through intangible assets, the reassertion of intermediation, and the emergence of shadow or gig work— provide the contemporary backdrop against which republican analysis must proceed. What is at stake is not only distributive unfairness, but the entrenchment of new and old reemergent forms of domination. Platforms and IPR-heavy firms exemplify how oligarchic drift occurs in innovative economies: their power rests less on productive investment than on legal monopolies

and the strategic position of intermediaries, which enable them to dictate terms to workers, consumers, and even states.

A Machiavellian republican framework is particularly apt for diagnosing this configuration. By emphasizing the pervasive disequilibria that structure both politics and economics, we can draw direct connections between the lack of equilibrium of innovative economies and the the stability, or lack thereof, of egalitarian institutions. The theoretical connection is that the innovative economy can lead to the erosion of egalitarian institutions, due to its disequilibria potentially leaving opportunistic moments in which moderating institutions fail to respond in time. The empirical fact is that Big Tech's success is corroding the fair value of liberties. The republican concern is not equilibrium as such, but resilience: the institutionalization of antagonism in ways that prevent oligarchic capture and sustain freedom as non-domination. In this sense, the reversion to older forms of capitalism, layered with novel mechanisms of domination, sharpens the republican concern. Yet there is a broader meta-problem: innovative economies are dynamic by their very nature, and disequilibria are the norm. In classical and neoclassical economics, equilibrium represents a kind of "circular flow" of resources within the economy that suggests stability and balance; but innovation is precisely what breaks that circle, interrupting flows, reshaping industries, and redistributing power. Each new wave of innovation carries the potential to destabilize the institutions that had been designed to moderate inequalities under the previous regime. This means that institutions which once successfully curbed oligarchic tendencies may quickly become obsolete or ineffective once the technological terrain shifts. From a republican perspective, this is crucial: domination can reappear not only because elites seek to entrench their power, but because the pace of innovation constantly reconfigures the sites at which domination is exercised.

The question, then, is whether a society can sustain both a dynamic, innovative economy and a stable egalitarian order at once. Stability and equality require institutions that are resilient, adaptive, and capable of re-specifying their protections as new forms of innovation arrive. This tension between dynamism and stability is at the core of the republican worry. The next chapters develop this argument by showing how predistributive and democratizing institutions can redirect innovation toward liberal-republican egalitarian ends. Having outlined the dynamics of innovation and its destabilizing effects, the next step is to consider what a just evaluative framework should look like. Chapter Three develops this by setting out the liberal-republican conception of justice that anchors the remainder of the thesis

Normative Framework and Assessment

Chapter Three: A Normative Framework for Assessment – Justice

Introduction

The preceding chapters developed the diagnostic phase of the thesis, identifying how Big Tech has transformed the dynamics of contemporary capitalism. The rise of Big Tech has not created inequality ex nihilo. What makes an analysis of Big Tech salient is that it has accelerated pre-existing neoliberal trajectories while reviving older patterns of capitalist accumulation. These dynamics are distinctive in three respects: the intensification of wealth inequality through intangible assets and intellectual property, the resurgence of intermediation as the dominant locus of power, and the proliferation of shadow work that erodes autonomy and recognition. Each of these shifts constitutes a form of domination.

At the same time, these developments crystallize a broader meta-problem raised in Chapter two—the lack of equilibrium in innovative economies. Each new round of innovation has the possibility of disrupting existing institutional settlements, opening moments when mechanisms designed to moderate inequality under the previous regime may falter or collapse. The theoretical

argument I make is that innovation, given enough time, erodes institutions and norms, including the kinds of egalitarian institutions and norms I am committed to here as a liberal-republican; the empirical reality is that Big Tech's success has corroded the fair value of liberties in contemporary democracies. By situating these dynamics within a framework attentive to disequilibria, I have shown how the economic and political dimensions of innovation are intertwined.

These observations prepare the ground this chapter and the following chapter, where the analysis moves from diagnosis to normative assessment. The framework of liberal-republicanism, with its Machiavellian emphasis on disequilibria and oligarchic drift, will be developed as the most appropriate lens through which to interpret these dynamics. This normative framework will in turn underpin the institutional proposals advanced in the final phase of the thesis.

3.1 A "liberal-republican" framework of justice

By a liberal-republican theory of justice I mean the synthesis that Alan Thomas develops between political liberalism (Rawls) and the republican tradition (freedom as non-domination). Thomas argues this is not a rival to Rawls but a constructive completion of Rawls's project: non-domination thematizes issues (especially around power and dependence) that political liberals too often leave implicit, and it supplies the background conditions under which Rawls's own principles can stably hold. Thomas explicitly frames the project as a "creative synthesis" rather than a zero-sum alternative, aiming to provide "an appropriate context for the stable implementation" of justice as fairness.

3.2 Non-domination

According to Philip Pettit, the republican conception of freedom as non-domination focuses on social freedom as opposed to freedom outright. The first most danger to social freedom is arbitrary interference, and therefore social freedom must be guarded against it (Pettit 2006). If

arbitrary interference were allowed, those subjected to it would dependents living at the mercy of whoever is capable of committing this interference, effectively establishing a relationship of domination of one over the other.

Rawls and Pettit can be read not as rivals but as complementary. Rawls's first principle secures a wide range of basic liberties—political participation, freedom of conscience, and association, among others. Pettit's republican notion of non-domination clarifies the mode of enjoyment of these liberties. It is not enough that citizens formally possess such rights; they must be able to exercise them without depending on the contingent restraint of those who hold concentrated power. Non-domination thus acts as a structural safeguard ensuring that Rawls's set of freedoms is not merely formal but robustly protected. In institutional terms, both approaches converge on property-owning democracy: Rawls derives its necessity from the guarantee of fair political value, while Pettit insists it from the demand that no citizen's liberty hang on another's arbitrary will. As Thomas argues, this framing shows how the republican concern with domination can be read as reinforcing Rawls's first principle rather than standing apart from it. Taken together, Rawls gives us the set of freedoms we have reason to care about, and Pettit supplies the standard by which their value is secured.

If outright freedom takes priority, then all obstacles, whether natural or social, are equally important. The accessibility of choices is what matters most. Outright-freedom, therefore, corresponds most closely to option-freedom, which focuses of the alternatives available to the agent (Pettit 2003). The number, diversity and significance of options are the general features of what may make options meaningful. If there are too few options, option-freedom may be too limited. Intuitively the number of options is important (Pettit 2003). Diversity is a considerable factor as well; Even if the number of options is large there must be some discernable difference

between the alternatives, or that too may negatively impact option-freedom. Different options may have different significance, either objectively or subjectively. If option A has a considerable impact in altering the world, while option B has no such impact, then those with access to option A rather than B have greater option-freedom. The significance of the options may also be subjective. One agent may find a certain dilemma to offer compelling choices, while another agent feels indifferent towards the same matter. One agent is offered meaningful options according to his subjective values, while the other is not. The three general features of number, diversity and significance of options are what determine option-freedom.

According to Pettit, republican freedom focuses on social freedom rather than freedom outright (Pettit 2006). Whereas the property of freedom outright is bound primarily to the choice, the property of social freedom is bound primarily to the chooser or the agent. Historically republican freedom has been defined as opposed to the condition of subjection or slavery; the agent being free is prioritized rather than the freedom of the choices. A free person is not dependent on the good graces or the whims of others. Republican freedom is a matter of having the status of a free person, therefore agency-freedom is most appropriate (Pettit 2003). Agency-freedom is defined by Pettit as including at least three conditions (Pettit 2003). Firstly, option-freedom is protected from the interference of others. Secondly, the protection one receives is as effective and extensive as provided to all others. Thirdly, everyone is in a position to know that it is the case that everyone's option-freedom is as protected for everyone else. In summary, "choosers will be free so far as they have resources that give them a shielded standing among others and their choices will be free so far as that standing ensures that they are not obstructed in making those choices" (Pettit 2006).

Though it has been previously stated that in agency-based freedom option-freedom must be protected from the interference of others, what matters more specifically is that option-freedom is protected from arbitrary interference. Arbitrary interference is characterized by the intentional, negligent, or otherwise blameworthy imposition by another (Pettit 2003). According to Pettit, actions with "unforeseen effects of hinderance" do not count as sufficiently blameworthy to be considered an arbitrary interference. An obstruction can be characterized as either the elimination of an option, making some option more difficult, or attaching a penalty to an option. While arbitrary interference undermines republican freedom, non-arbitrary interference is compatible with republican freedom. Non-arbitrary interference is interference done by another, but on behalf of the original agent and to which the agent remains in control. Pettit provides the example of Ulysses requesting he be tied to the mast in order to listen to the sirens' song while avoiding physical danger (Pettit 2003). Interference of the state, so long as it is organized as democratic self-government, is acceptable as a form of non-arbitrary interference. Republican freedom includes non-interference, but also requires shielding from non-interference. Both together constitute non-domination. As noted by Alex Gourevitch, defining freedom as non-interference is insufficient (Gourevitch, 2014). A slave may have the good fortune of having a kind or indifferent master, opening up the possibility to access all kinds of choices. The slave may pursue his goals uninterrupted by his master. Despite being the un-interference, his pursuits are at the mercy of his master's good graces, they go unguarded. The slave is still a slave. He remains dominated. On the other hand, republican freedom also allows for the possibility to be interfered with, but go on undominated so long as the interference is not arbitrary. Defining non-interference alone as sufficient for freedom does not allow for any of these two possibilities.

3.3 Holism about Rawls's three principles, and why background institutions matter.

On Thomas's view (which I adopt), justice as fairness must be realized as an integrated package. It is a mistake to implement one Rawlsian principle in isolation (e.g., the difference principle) and hope the rest will follow by administrative fixes. Thomas insists instead on "the implementation of all three of the principles of justice as fairness as an interlocking whole" and, crucially, on securing them against the right background context. The upshot is familiar Rawls but with a firmer institutional floor: equal basic liberties (with their fair value), fair equality of opportunity, and the difference principle—together—require a property-owning democracy (POD), not merely a more generous welfare state. In Thomas's words, "only a property-owning democracy places a limit on capital-based inequalities," and the commitment to POD "is derivable from the fair value proviso" and "also follows from the fair equality of opportunity principle."

3.4 Predistribution (not just redistribution), property, and constitutionalization.

This is the core institutional shift. Rather than rely on ex post redistribution over a background of concentrated asset ownership, the liberal-republican view aims to pre-structure the economy so that unjust concentrations—and the dependency and political capture they produce—do not arise in the first place. Thomas's Chapter Five explicitly distinguishes (i) constitutionalizing the background form of the economy within which Rawls's principles can operate without generating impermissible inequalities from (ii) the principles themselves. The difference principle is not redundant; it "crystalizes and entrenches the very ethos of justice … as a legislative fundamental." But it must be embedded in a constitutionally secured scheme that disperses capital and expands the economic basic structure accordingly, so the principles can "operate in a stable way."

Predistribution is institutional, I therefore also treat property as a legal construction—a bundle of enforceable claims and governance rules—which can be specified constitutionally to

prevent domination. The aim is not to layer transfers over a fixed market order, but to constitute the market itself through rules that pre-empt domination. In assessing whether widespread ownership of productive assets – both tangible and intangible assets – will produce the kind of outcome Rawls intended, it is worth considering the difference between assets and capital. Pistor uses the term "asset" to refer to "any object, claim, skill or idea, regardless of its form" (Pistor 2006, p.2). An asset is just the unadulterated thing. Legal coding turns an asset into capital. The law bestows certain assets with attributes that makes it possible to generate greater wealth for its possessor. The rest of this thesis will adopt this insightful distinction between an asset and its capitalization.

In *The Code of Capital*, Pistor further articulates four attributes that the law confers onto assets, thus transforming them into capital: *priority* ranks legal positions which privileges certain asset-holders' claims over others; *durability* extends priority through time; *universability* extends priority and durability through geographical space; *convertibility* allows the asset-holder to convert their private credit claims into state money (Pistor 2019, pp.13-15).

Pistor claims that some of these features are more important than others. In ranking competing claims over an asset, she argues that priority rights are the key to capital. If a particular creditor is given priority rights over the debtor, they can secure all the assets they need to fully recover their losses. Other creditors are left with the remainder, which may potentially leave them with a total loss (Pistor 2019, p.13). Durability extends priority rights in time. Old land entailment laws, for example, gave priority rights to a family rather than to an individual. That meant creditors would only be allowed to seize so much of the land, but not all of it. Insulation from creditors makes it more likely to maintain priority rights (Pistor 2019, p.15).

Rather than there being an "invisible hand" that guides markets, Pistor claims that it is the law that offers its guiding hand. The law sets up the rules and boundaries of markets, for example, by codifying assets into capital, setting up competing jurisdictions, and defining what kinds of contracts are acceptable. Meanwhile, the law itself is negotiated by experienced lawyers—with deep understanding of the nuances and complexities involved in the law—who are able to put the legal modules to use in sophisticated ways. Asset-holders, assuming they can afford it, can employ the services of these exceptional lawyers in order to graft the legal modules onto the asset, thus bestowing the asset with the attributes necessary to generate wealth. According to Pistor, capitalist economies are not "defined by free markets that allocate scarce resources efficiently," nor is it the case "that prices reflect fundamental values" (Pistor, 2019, p.19). It is the law that accounts for the value of assets, their creation of wealth, and consequently for the distribution of wealth.

We may often treat agreements as binding due to certain social norms. Certain societal norms may also provide us with a general idea of what belongs to whom. While everyone abides by these norms, the law and its influence remain invisible. The law's ability to grant assets certain wealth-generating attributes becomes apparent when competing claims over the same asset arises. An individual may mortgage a house, generating a competing claim over the property between the homeowner and the creditor. Should a dispute between whose claim has priority over the asset arise, each will argue their case in court. The court's decision relies on precedent and jurisprudence, and lawyers will attempt to build their case in conformity with them. This is how the law, including things like property rights, is negotiated.

Given my adoption of Rawls's theory of justice, we can approach this question using his principles. The first principle of justice, the liberty principle, should include the right to hold and to have exclusive use of personal property. This should be a basic right, as Rawls argues that personal

property, such as dwellings or private grounds, provides the material basis necessary for personal independence and a sense of self-respect (Rawls, 2001, §32.6). However, there are two "wider conceptions" of the right to property that Rawls does not include as basic rights (Rawls, 2001, §32.6):

> (i) the right to private property in natural resources and the means of production generally, including rights of acquisition and bequest; (ii) the right to property as including the equal right to participate in the control of the means of production and natural resources, both of which are to be socially, not privately owned.

Rawls argues that this "Property Question" ought not to be a constitutional fundamental. While the existence of personal private property is to be established constitutionally, choosing between (i) and (ii) is to be decided in the legislative stage by each society in the light of its own history and political traditions (Rawls, 2001, §32.6). Given that property rights more generally are legal constructions that have come to exist through historical and social processes, it remains unclear why Rawls insists on personal property being a basic right to be established constitutionally. Meanwhile wider conceptions of property are to be established legislatively, and justified on historical and social conditions. The "how" of the legal and institutional codification of property is an important piece to the POD puzzle, as it will define the wealth-generating and wealth-accumulating ability of any given asset. It is also key in addressing the "investment veto," which will be addressed in the next section.

3.5 Why welfare-state capitalism is insufficient (Rawls's own critique).

Rawls's diagnostic summary—quoted by Thomas—puts the problem exactly: welfare-state capitalism "rejects the fair value of the political liberties," is half-hearted about genuine equality of opportunity, and "permits very large inequalities in the ownership of real property … so that the control of the economy and much of political life rests in few hands." Even if it secures a decent

social minimum, "a principle of reciprocity … is not recognized." Thomas's republican lens explains why that critique matters: non-domination condemns institutional dependence on concentrated private power; achieving the fair value of liberties requires dispersing economic power, not just insulating politics from money.

Additionally, Joshua Cohen argues that a society with political democracy, but without economic democracy, has a constrained democracy because those with the capital are able to leverage that investment potential as a veto against democratic decision making (Cohen, 1989). For example, should a sincere and well-meaning politician win an election on the promise of raising taxes on the wealthy, they may be unwilling to fulfill such promise once in office despite their democratic mandate. This is because even the threat of increasing taxes may discourage those in control of the majority of wealth from investments in the near future. Consequently, this may damage the economy as well as the reputation of the political party in power. Cohen argues that the threat of capital flight, or "investment veto," is therefore a constraint on political decision-making. This is, in more specific guise, the threat that William Edmundson calls "the fact of domination" (Edmundson, 2017, p.60). The investment veto in this case in a structural problem, and particularly an issue within welfare-state capitalism that primarily attempts to remedy inequalities through *ex post* taxation.

I invoke Cohen's "structural constraints" argument for diagnostic purposes: when a small class holds coordinated control over finance and investment, major democratic choices can be informally vetoed by capital flight, credit rationing, or investment strikes. That is a real problem for any egalitarian project. Where I part with Cohen's more democratic-socialist approach is over the remedy. My liberal-republican view does not require—though may be permitted assuming the priority of POD—that investment decisions themselves be democratized across the board. Instead,

following the liberal-republican property-owning-democracy approach, I aim to remove the veto at its source through: (i) disperse productive assets (universal/citizen equity, social wealth funds with strict fiduciary duties, anti-monopoly rules); (ii) build macro-prudential and transparency regimes that make exit/collapse games costly and visible; and (iii) constitutionalize these background rules so capital cannot reconcentrate. I argue Cohen properly identifies the vulnerability; the POD strategy answers it by making the pool of investors broad, rule-bound, and replaceable, so no narrow group can credibly threaten a society-wide veto.

"Widespread ownership" in POD must be seen as a legal architecture. Codifying certain property norms that turn assets into capital will determine, not only the distribution of capital, but the "money-making" property of it. In other words, it is not only the quantity of capital distributed throughout the society, but also the quality of capital. Cohen often points toward democratic control over investment as an institutional guard against investment veto. I adopt his diagnosis (the investment veto is real), but I reject the necessity of that remedy—insofar as POD is the priority and the rest can develop within that encasement. A POD background can neutralize the veto without mandating democratic control of all investment decisions. It can do so by (a) broadening the investor base (citizen funds and widely dispersed private ownership), (b) governing public capital through independent, rule-constrained fiduciaries (with public reporting and limited, contestatory oversight), and (c) enforcing contestability in finance (anti-cartel, lender-of-last-resort design that punishes weaponized investment exit).

3.6 POD first, then plural economic forms—why not mandatory market socialism is in the wrong order

Rawls leaves open two institutional routes for realizing justice as fairness: a property-owning democracy (POD) or a liberal market socialism (LMS). Thomas argues this "or" is ambiguous and must be disambiguated in an order-sensitive way. If we mandate market

socialism before constitutionally entrenching the POD background (wide asset dispersion, fair background markets, and, non-domination safeguards), predictable pressures toward exploitation and illiberal drift re-emerge. Hence the priority thesis: POD comes first. With POD in place, a plural ecology of enterprise forms, including worker cooperatives and other democratic workplaces, can arise organically and remain compatible with basic liberties. The critique here is not of liberal market socialism as such, but specifically of mandatory market socialism (capital monopoly or centralized leasing), which misaligns incentives and weakens exit rights.

Rawls's claim that justice as fairness can be realized by POD or LMS can be read (i) as an exclusive choice between two incompatible systems, or (ii) as a nested compatibility claim. Thomas presses the latter reading but insists on sequence: first constitutionalize the POD background that secures the fair value of liberties and fair equality of opportunity; then let civic preferences, market discovery, and associative experimentation generate more cooperative and participatory forms within that just background. This sequencing treats POD as the baseline that disciplines market power and prevents domination regardless of the enterprise form that later predominates.

The republican stake is straightforward: domination is power that is arbitrary, unchecked, and inescapable. Mandatory market socialism concentrates strategic control of capital in a public principal (e.g., the state as lessor/allocator of productive assets). That structure reduces each worker's effective right of exit, because occupational options and capital allocation are mediated by the same centralized power. By contrast, when capital is widely dispersed (POD), individuals face many viable exit options: diverse firms, cooperative ventures, and partnerships can compete for their labor and their capital. The result is a productive order where no single actor, public or

private, can arbitrarily set others' terms. In short, POD scales exit while mandatory MS compresses it.

Mandatory MS invites distinctive principal–agent problems and time-horizon mismatches on at least three levels: Firstly, at the state–firm level. When the state owns/leases capital, the public principal and enterprise agents face weak residual claimancy and blurred accountability. That architecture creates new opportunities for exploitation (e.g., by local insiders who can game allocation rules, or by enterprises that offload costs back to the public balance sheet). Secondly, at the firm–worker level. In cooperative-by-mandate regimes, insiders can exploit outsiders (e.g., preferential hiring, wage compression that disadvantages new entrants, under-investment in general human capital). With dispersed capital and competitive entry/exit, these rents are harder to sustain. Lastly, at the intertemporal level. Without genuine equity stakes that persist across leadership cycles, long-term investment can be sacrificed to short-term distributive claims. POD's emphasis on citizen equity (universal holding vehicles, diversified funds) aligns incentives with long horizons and reduces scope for insider capture.

Thomas highlights a further liberty cost, that a mandatory shift to a single dominant firm form thins the labor market. If most jobs are restricted to one organizational template (e.g., worker-managed cooperatives by law), the fair value of the liberty to choose one's occupation/contracts is impaired. POD, alternatively, thickens markets. With capital diffused, more types of firms can sustain themselves, such as public corporations, partnerships, co-ops, and social enterprises—so occupational choice remains substantively free.

Insulation-only strategies (keeping money "out of politics") are fragile when asset concentration remains high. Thomas's claim is that constitutionalizing a POD, through durable rules that disperse capital and prevent reconcentration, functions as the real fair-value guarantee

for the basic liberties. Mandatory MS bets on administrative vigilance and moral persuasion or compulsion; POD re-allocates structural power so liberties do not depend on officials' or elites' "accidental mildness."

Another reason for POD's priority is practical and informational. Predistributive institutions diversify risk across the whole economy and lower information burdens on the center. By comparison, a mandatory MS order that must continually fine-tune sectoral allocations or equalize returns across heterogeneous enterprises faces chronic knowledge and incentive problems. POD reduces the policy system's required precision.

None of this argues against workplace democracy. Indeed, one would expect a great deal of cooperatives in a POD because citizens with assets and security can take employment risks and choose autonomy-enhancing workplaces. The liberal-republican claim is modal, not moralistic: make cooperative and non-cooperative forms compete on a fair field, and let civic preferences and local knowledge decide. Cooperatives emerge where they add genuine value, and they are not imposed where they may not.

My normative commitments then are in prioritizing POD, which first anchors justice as fairness in a non-dominating economic constitution. With that anchor in place, richer democratic forms of production can flourish without inviting the exploitation and liberty costs that may follow when market socialism is made mandatory. The resulting order is more stable, freer, and it secures the fair value of liberties, makes opportunity real, and lets the difference principle operate without reproducing the very domination it is meant to answer.

3.7 Robust economic liberty inside a liberal-republican order (Tomasi vs. Thomas).

A further advantage is that a liberal-republican POD robustly protects individual economic liberties—but does so stably, because it also guards citizens against domination by unusually

powerful private actors. Thomas's discussion of Tomasi's "market democracy" argues that if we want lasting protection of economic liberty analogous to religious liberty, egalitarian POD is actually the only stable implementation over time. In short: robust economic freedom plus dispersed capital; not laissez-faire on a background of concentrated power.

3.8 Liberal-Republicanism as the ends, Democracy as the means

The liberal-republican conception defended here sets the ends and constraints of justice—equal basic liberties with their fair value, fair equality of opportunity, and the difference principle—implemented together under a property-owning democracy. The point of POD is to structure markets and ownership so capital cannot reconcentrate and convert economic advantage into political domination. As Thomas explains, only a POD "places a limit on capital-based inequalities," and the commitment to POD follows from Rawls's liberty and opportunity requirements.

The goal is a stably egalitarian society that is technologically and economically dynamic. By 'stability' I mean the right kind of stability—a background that resists domination—not political hush or passivity for the sake of an abstract equilibrium. In the next chapter I specify neo-Machiavellian democratic mechanisms—sortition-based offices, plebeian tribunates, and political courts—that institutionalize class antagonism as a regular feature of constitutional life, precisely to keep elite capture at bay. My own account emphasizes that formalizing the "popolo–grandi" conflict reduces extra-institutional friction and makes response to oligarchic pressure politically available.

The fit is thus functional: POD first secures the material preconditions of non-domination; contestatory or Machiavellian democracy secures the political preconditions. Within a POD, the state aims at a balanced associational ecology—neither coercive corporatism nor laissez-faire

resignation—so that plebeian checks and civil associations can work in tandem. The next chapter develops this framework further by turning from justice to democracy, showing why a Machiavellian lens is indispensable for understanding the instability of republican orders.

Chapter Four: A Normative Framework for Assessment – Democracy

Introduction

This chapter presupposes the POD background defended in Chapter 3. Without dispersed ownership and rules that pre-empt oligarchic reconcentration, "insulation" strategies are fragile; with POD in place, citizens confront many viable exit options and contestation is credible.

I therefore adopt a neo-Machiavellian[4] approach that institutionalizes antagonism (tribunates, sortition, political courts) to channel conflict within constitutional politics rather than outside it, making response to elite pressure a routine capacity of the people. Consistent with Thomas's pluralistic commonwealth, the aim is not a single mandated firm or civic form but a balanced associational ecology in which civil groups and contestatory bodies reinforce the fair value of liberties and reciprocity over time.

I here turn to the identification of a specific political tradition that, I will argue, is particularly well-adapted to harness the strengths of the innovation economy while handling its inherent dynamism and destabilizing threats. That is the tradition of Machiavellian republicanism which represents one strand within an historically complex republican tradition.

4.1 Why Machiavellian Republicanism?

A common theme throughout Machiavelli's writings, particularly in *the Discourses*, is the question of stability. Stability is not only important to achieve a well-ordered society, but also for that society to then remain resilient. This is particularly true today when innovations in technology and

[4] The Machiavellian emphasis on endemic antagonism does not negate Rawlsian "stability for the right reasons." With a POD background, class animosity is reduced because the basis of oligarchy—monopolistic control of capital—is dismantled; contestatory institutions then handle the residual conflicts that any free society will continue to generate.

finance accelerate the dynamism of our social, economic, and political context – acting as endogenous causes of instability within the economic system.

Camila Vergara's understanding of corruption highlights the idea of stability that is prominent in ancient political theory, as well as in Machiavelli's writings (Vergara 2020). Our contemporary understanding of what constitutes corruption is often centered around a "discrete set of expressions," such as acts of bribery, fraud, or nepotism (Vergara 2020). Under this understanding of corruption, "systemic corruption" would be narrowly understood as the sum of these discrete expressions of *illegal* activity within a given political system. However, this understanding of corruption makes it difficult to assess whether the laws themselves are corrupt; there is no independent standard in which to judge the law (Vergara 2020). The definition of "corruption" is constrained by its legal positivism and individualism. This juridical view of corruption contrasts with the view of corruption implicitly taken by Machiavelli and ancient thinkers such as Aristotle and Polybius, which is, simply put – understands corruption as the decay of good government (Vergara 2020).

According to Vergara, the etymology of "corruption" provides some insight into the term; "[t]he Greek ancestor of the word corruption has been traced to phthora (φθορά), which meant destruction, decay, and 'passing away' as correlative to genesis – the beginning of a processes (Vergara 2020, p. 15)." The ancient understanding of corruption is similar to our contemporary understanding of the second law of thermal dynamics in physical systems.

> Degradation occurs because internal energy is transferred within different bodies in a given system, and in this inevitable transfer process, energy is transformed and wasted until the process ends at a certain temperature in which there is no difference of heat between the inside and outside of a body. The only way to reverse this process of decay is by applying "work" through an external energy source (Vergara 2020, p. 18).

Plato understands political corruption as the gradual decay of his aristocracy of philosopher kings to timocracy to oligarchy to democracy – and the absolute inverse of aristocracy, and epitome of bad government – tyranny. Aristotle and Polybius understand political corruption also as the decay of good government into bad. What constitutes good government in their view include various forms, such as kingship, aristocracy, and *politeia*[5] (Vergara 2020). Each good government has its corresponding corrupted form, those being tyranny, oligarchy, and democracy[6]. While these ancient philosophers have varying ideas of what good or bad government is, their understanding of corruption is similar – it is decay of the political system.

According to this ancient understanding, corruption is seen as a system-level shift away from an *ideal* form of government towards its inverse along a spectrum of possibilities. To provide a contemporary example borrowed from Vergara, we can assume liberal democracy to be commonly understood as a form of good government. We can define liberal democracy as a system in which the majority view is upheld by a group of political representatives, so long it does not interfere with certain individual rights. If so, we can say a liberal democracy is corrupt if it begins to approximate its opposite, which may be one of several forms – such as, oligarchic democracy, liberal oligarchy, or illiberal democracy (Vergara 2020). By defining corruption as system decay, it becomes possible to develop a standard with which one can judge whether the laws themselves are corrupt. This is a marked advantage over current commonly understood strictly juridical definitions that is too restricted by its legal positivism and individualism.

[5] Sometimes translated as "republic" or even "democracy" for contemporary readers.
[6] Alternatively, if *politeia* is translated to "democracy," which a contemporary reader might understand as some form of structured deliberative process, then its corrupt counterpart may be instead be best understood as "ochlocracy" or rule by mob.

The value of these ideas, for me, is that when we assess dramatic claims about the influence of Big Tech – such as Yanis Varoufakis' claim that it has propelled us beyond capitalism into a rent-extracting utopia that is worse than the worst forms of capitalism – we can usefully assess them from the Machiavellian perspective of social stability. The question then becomes: can republican ideas stabilize the disruptive effects of digital technology?

4.2 Stability of what? The "good republic?"

I am concerned about the stability of an egalitarian republicanism according to Rawls's principles of justice, with a republican conception of liberty. Rawls's two principles of justice are lexically ordered;

1) Each person has the same and indefeasible claim to a fully adequate scheme of equal basic liberties, which scheme is compatible with the same scheme of liberties for all.

2) Social and economic inequalities are to satisfy two conditions: first, they are to be attached to offices and positions open to all under conditions of fair equality of opportunity; and second, they are to be to the greatest benefit of the least-advantaged members of society (the Difference Principle).

In regards to the first principle, I will interpret it in the light of Philip Pettit's definition of freedom as non-domination (Pettit, 2012)[7]. Pettit contrasts the republican conception of freedom from the liberal conception of freedom. According to Pettit, the liberal understanding of freedom is as non-interference. Under this liberal view, a person can be said to be free so long as no other person interferes with her choices.

[7] In *A Critique of Phillip Pettit's Republicanism*, Charles Larmore argues that in demanding "a scheme of equal basic liberties compatible with the same scheme of liberties for all," it could be argued that Rawls is endorsing a kind of Pettit view of freedom. If Rawls endorsed a mere "non-interference" understanding of liberty, it would not be clear why he would insist on an equality of liberties. Larmore believes that Pettit still falls within the purview of liberal political thought, despite Pettit's insistence that his republicanism represents a radically different tradition.

By contrast, Pettit argues that republican freedom is equivalent to non-domination. Pettit makes it clear that someone can be dominated without interference by another. To illustrate this point, Pettit provides an example of an enslaved person (person A) with a benevolent master (person B). Through kindness or indifference, B may never actually interfere with the affairs of A. Despite this fact their relationship is still of that of slave and master. If B so chooses, she can arbitrarily interfere in the affairs of A. So long as this relationship holds, A is perpetually under this threat of being interfered with on B's whim. This may encourage deference, meekness, and sycophantly on the part of B towards A. Republican freedom would produce relationships in which A and B can look each other in the eye as equals - neither is submitted to the other. Non-interference is insufficient for this. Non-domination eliminates the possibility of arbitrary interference. I will interpret the Rawlsian notion of a basic liberty as implying this robust degree of counterfactual protection of an agent's essential interests. I will not, however, enter into the exegetical arguments over whether or not Rawls is committed merely to the negative conception of liberty as non-interference. Pettit insists that this is the case; as I have noted, other philosophers have seen sufficient convergence between Rawls's views and Pettit's to speak of a hybrid "liberal-republicanism" (Thomas, 2017).

4.3 Republican Causes of Corruption: Time

If we define *order* as being within specific narrow parameters, then there are only so many permutations of a system that fall within that definition. Alternatively, given the number of variables and possible relationships between them, there are approximately infinity permutations that fall outside of any given narrow definition of a "well-ordered republic." There are a finite number of ways to order a good republic, while there is a near infinite number of ways of deviating from it.

As a kind of Platonic ideal political principles remain static. However, concrete systems are within a dynamic and persistently changing context - a season might be unusually harsh or mild, and affect agriculture yields; a new piece of technology can revolutionize multiple industries, such as the printing press, cotton gin, or the personal computer; or the murder of an archduke can trigger a cascade of defense treaties, leading to a world war. While change need not be as dramatic as the examples provided, enough change given enough time is bound to present a significantly altered context. In other words, we must take time into account.

Firstly, it is important to understand the causes of corruption within a republic. The ideal republic, broadly speaking, must uphold freedom as non-domination for its citizens. However, there are certain dynamics that naturally play out that might corrupt a republic and lead to domination rather than non-domination. Machiavelli's observations into the causes of corruption provide valuable insights. According to Vergara's reading of Machiavelli, people are prone to pushing boundaries or breaking the rules if it is perceived to be in their own self-interest, and will take advantage of their social and political positions to advance these ambitions (Vergara 2020).

John McCormick understands Machiavelli as describing a fundamental dynamic between the *popolo* (the people) and the *grandi*, *ottimati*, or *nobli* (the economic or political 'greats'). His interpretation considers self-interested classes of people rather than individuals specifically. Here the conflict between the popolo and the grandi is at the center of the corruption of the republic. This dynamic is inevitable, because of their contrariant natures.

According to Machiavelli, the grandi operate on the desire to dominate (*Discourses* I.5). Machiavelli attributes these "humors" to each class in accordance to several key observations. Those who already own a great deal of possessions are often motivated by a fear or losing what they have. In order to protect what they already have, it is necessary to accumulate more. The

reason for further accumulation is that greater resources allow one to bring about changes with greater effect and with greater speed" (*Discourses* I.5). Therefore, the implication is that the grandi's appetite for accumulation is unending, as they will perpetually seek more possessions to guard the possessions they have previously gained, and so on.

While causes of corruption can be framed cynically, such as the "desire to dominate," Machiavelli observes that corruption is also driven by fear. The desire to simply hold on to what one already has can motivate further accumulation of wealth and influence, fearing that those with access to greater resources might leverage their superior power to take what they want. Accumulation can therefore also act as a form of security, providing the recipient with more resourcse to deploy in defense of their wealth. The popolo and the grandi are both motivated by the same thing, to protect their material standing, and if possible, to improve it (Pedulla 2018).

On this basis, we can identify which political forms optimally allow us to resist corruption and maintain republican freedom. McCormick compares two broad kinds of republics, aristocratic republics and democratic republics (McCormick 2011). Machiavelli's contemporaries broadly supported the former republics and their influence echoes into much of contemporary republican political theory (McCormick 2011; Pedulla 2018). Aristocratic republicanism (henceforth AR) are generally characterized as having unqualified elections, governance through representatives, and anti-majoritarian measures. In the following sections I will how these features are aristocratic and why they might pose a danger to the republic's stability. Afterwards, I will explain democratic republics and why they are more likely to encourage stability.

4.4 Republican Policy: Why Unqualified Elections are Aristocratic and the Corruptibility of the Electoral Procedures

Characterizing elections as aristocratic may be considered counter intuitive as elections are generally regarded as democratic and empowering for the general citizenry. Most elections today are formally open to any citizen - they are unqualified. This is often considered proof of its democratic and egalitarian character. Elections also require candidates to pursue the largest coalition possible in order to win. The candidates must therefore appeal to a diverse range of people and interests, including those of vulnerable minorities, and develop a political platform accordingly (Pettit, 2012; McCormick, 2019). Formal equal opportunity and coalition-building by candidates, combined, look like a strong argument in favor of its democratic character. However, there are at least two reasons why this is not the case.

Firstly, if all citizens are de jure equally allowed to run in election, then the most well-resourced individuals will have a de facto advantage. It is more difficult for a common citizen to differentiate herself from her peers than it is for someone who already has fame or access to outsized wealth. She may therefore be perceived as less interesting, less capable, or simply go on unnoticed altogether. However, the endeavors of wealthy or famous individuals are more likely to be the subject of discussion. In our current context this means they are more likely to be recognized within popular culture or media than the average citizen. Access to vast resources also enables the candidate to cultivate their public image through a mass public relations campaign and through grand projects that win popular favor.

In Machiavelli's own time, for example, the Medici were great patrons of the arts and helped finance Florence's grand cathedral. Among the reasons for financing such projects was that it was effective for the Medici's popular image, presumably displaying their bone fides both as humanists and as patrons of the Church (Martines 2006). Greater wealth also allows people to

further develop their public speaking skills through formal training and education, as well as dressing and presenting oneself in a more distinctive manner (McCormick 2011). While procedurally an elite candidate is equal to a non-elite candidate, an unqualified election in this case systematically advantages the elite candidate. This systemic advantage effectively maintains an aristocratic tendency in governance, disproportionately installing elites to govern the republic.

Secondly, wealth also enables individuals to "fund, groom, and/or bribe non-wealthy candidates to serve their interests at the expense of broader constituencies (McCormick 2011). During elections candidates make themselves and their intentions known some time in advance. This is necessary for the public to become familiar with the candidates and their positions in order to make a more informed decision. This period it opens a wide window for money to influence the candidate. The resources of wealthier citizens allow them to achieve greater access to all identifiable would-be officeholders. While it is certainly possible that the wealthy overtly bribe candidates, the structural advantage that their wealth or reputation provides allows them outsized access and proximity to the candidate or their staff – this is sufficient to distort the electoral process. Money can also go to fund background political apparatuses or ecosystems, such as think tanks or certain publications, from which potential candidates may emerge. This too is a purchasing of a proximity of sorts, which can influence candidates' ideas and policies. Unqualified elections are therefore aristocratic in nature, because of the structural advantages that they provide wealthy or reputable citizens in election and in governance.

4.5 Republican Policy (ii): Why Representation is Aristocratic, and the Corruptibility of Governance through Representatives

While I stated that unqualified elections are aristocratic in nature, I have yet to argue clearly why that is necessarily a problem. One justification for aristocratic representation is as a form of political division of labor. In a complex society that requires a deep division of labor to function

as an economy and as a polity, the aristocratic class is that class which specializes in politics, governance, and law. With access to passive income, would-be rulers are able to dedicate their time to the study and development of the skills necessary for statesmanship. Aristocracy in this context is not necessarily simply a hereditary system, but a kind of technocratic ideal; it is the "rule of the best," or those with the skills, knowledge, and ability to govern. Therefore, according to aristocratic republicanism, wealth inequality, if not outright necessary, is at least compatible with republicanism, given that it enables the division of labor for proper governance.

The ancients and many of Machiavelli's contemporaries believed that unchecked and competing desires could lead to the downfall of the republic. Licentiousness is considered pernicious to liberty as people seek to dominate others for their arbitrary personal benefit. To preserve liberty, barriers must be placed against these impulses. The ancients and late medieval humanists believe that "philosophical therapy" is needed to tame the appetites and develop good habits (Pedulla 2018). Educated men[8] learn to restrain their "avarices," properly order their values, and govern themselves – they learn virtue. In doing so they are more able to discern the common good, and thus more able to govern the republic. These people constitute the best within the republic due to their knowledge and merit.

In an aristocratic republicanism elections serve at least two functions. Firstly, they are an institutional check on aristocratic power so that no aristocrat consolidates too much power in relation her peers. Secondly, they also allow the people some say in the matters of governance, should any particular representative stray too far from the people's interests. Political positions are firmly in the hands of an elite specialized in ruling well, which is for the common good. I will

[8] While for much of history it was thought that only men could gain this virtue, we could still imagine a contemporary proponent of aristocratic republicanism as expanding the argument to all educated peoples.

argue, as did Machiavelli, that this is insufficiently stable and likely to decay into an oligarchy within few generations (McCormick 2011).

While the political and social elite are meant to specialize in ruling well, presumably for the common good, conflict remains an inescapable reality. This is where Machiavelli breaks from the ancients and his humanist contemporaries. While they all agree that licentiousness can lead to the downfall of the republic, only Machiavelli doubts the taming effects of "philosophical therapy" (Pedulla 2018). Machiavelli, as a political realist, believes that fear is what gives people their virtue. People avoid bad consequences and choose good ones. Given a lack of laws and institutions which generate severe consequences for abusing the plebians, ruling patricians have very little to fear in regards to their actions toward them.

The grandi will still feel it necessary to protect what they possess, and therefore feel the necessity to accumulate more. Similarly, the popolo continue to desire to be left alone. AR provides the grandi as a class with institutions in which they can pursue their interests, but it fails to provide the popolo with the same. Even if it is assumed that the grandi are indeed more qualified for public office by virtue of their education and training, there is no guarantee that this will ensure the stability of the republic. The stability of the system is still questionable, given that the grandi feel an imperative to protect what they possess, while simultaneously granted near-exclusive access to political seats. In other words, they may possess the technical competencies, but do not necessarily possess the temperament or will to deploy them for the common good.

The only institutional barrier against corruption into oligarchy in an aristocratic republic are elections, which are rather weak and insufficient barriers to oligarchic power. While elections under an aristocratic republic are meant to maintain a sense of competition and equality between aristocratic peers, it is not a barrier against grandi oppression of the popolo. It may only serve to

further encourage solidarity amongst the elite at the expense of the general citizenry. The rule of an elite few, in their own interest, is the very definition of oligarchy. Should the grandi simply lose their sense of loyalty to the common good in favor of the good of the few, the republic is corrupted and lost. As elections are an unlikely means for response by the popolo, they would likely have to respond through extra-institutional means, which, as previously argued, also comes with its risks of corruption.

A common feature of aristocratic republican theories is a concern about the tyranny of the majority (McCormick 2019). In order to avoid majority tyranny, indirectly accountably senatorial, judicial, and contestatory bodies are instituted as a way to "temper the authority of majoritarian assemblies" (McCormick 2019). An argument in favor of anti-majoritarian measures is to protect vulnerable monitories, such as religious, ethnic or cultural minorities within the borders of the state. According to this argument, anti-majoritarian measures are designed to guarantee freedom as non-domination should the prejudices of a majoritarian movement ever threaten to dominate a particular minoritarian group.

This view fails in two ways. Firstly, it fails to consider in equal measure the possibility its inverse, that of minority tyranny (McCormick 2019). Wealthy and famous people tend to represent a minority of the population, yet their wealth and reputation potentially enables them to exercise outsized influence on the political process. If this is overlooked, there is a danger that the institutional design of the political system provides little to no recourse against this kind of influence. In fact, if institutions are solely and intentionally designed to amplify minority opinion against majority opinion, then it is likely to also further amplify the wealth and reputation advantage which already provides elites with systemic advantages.

Secondly, contestatory bodies designed for minorities to challenge majority consensus will likely be difficult to access due to factors such as the availability and supply of adequate and competent legal advice (McCormick 2019). So while designed with the intention to protect vulnerable minorities, it is likely again to empower privileged minorities who can afford access to the information, resources, and legal skills necessary for legal challenges to majority consensus (McCormick 2019). Alternatively, this view may fail to consider the possibility of the majority also having access to contestation against any unpopular law that may have been passed by the legislative due to privileged minoritarian influence.

4.6 The Upshot: Machiavellian Democracy

The alternative to aristocratic republicanism is democratic republicanism, or Machiavellian Democracy. McCormick develops Machiavellian Democracy based on Machiavelli's initial insights about aristocratic republicanism, and its instability, with the intention of applying them to contemporary republics. The objective of Machiavellian Democracy is to provide the people with greater resources in order to respond to the kind of elite pressures on the political system in the discussions on aristocratic republicanism.

The intent of Machiavellian Democracy is for the conflict between the popolo and the grandi itself to be formally institutionalized, and thus reduce the likelihood of extra-institutional friction that can undermine the stability of the republic. Democracy is necessary in this context in order to politically empower the popolo, when historically they have mostly lacked political power, and therefore forced to perpetually engage an asymmetric conflict. Whereas unqualified elections provide formal equality, but de facto inequality, certain institutions of Machiavellian Democracy are designed as formally unequal in order to provide de facto equality. To achieve this McCormick suggests several institutions. Firstly, the distribution of public offices by sortition rather than by

election. Secondly, the instituting of public offices exclusive to members of the popolo. Thirdly, political courts designed to decide what political crimes are and what their punishments should be.

Given the advantage that the wealthy and incumbent politicians have in unqualified elections, McCormick suggests distributing legislative and representative offices by lot. Sortition does not allow candidates to benefit from reputation and fame, as may happen under an electoral process, given its randomness. The funding, grooming, or bribing of candidates by the elite is easy in unqualified elections, because the pool of candidates is small and easily identifiable. Distributing public office by lot expands the pool of candidates to potentially every citizen, and therefore makes the identifying and corrupting of individual candidates nearly impossible. This is the first shield against corruption. Class-Specific Offices: The second of McCormick's reforms is the instituting of offices that explicitly exclude members of the grandi from eligibility. Among these offices is the People's Tribunate. The tribunate is picked exclusively among the popolo by lot. They will serve a brief term, so as to avoid the possibility of undue influence by elites. Political and economic elites are not eligible. People who have previously held office are also not eligible for the tribunate. All this is to ensure the tribunate's proximity to the popolo and to avoid leaving opportunities for the tribunes to be influenced to behave as anything but representatives of the popolo (McCormick 2011). Though these rules may seem formally restrictive, they actually ensure inclusion – particularly when compared to unqualified elections.

Tribunes will have the ability to propose legislation, the power to veto legislation, the and they will be able to call for political trials. The veto is to ensure that there is a way for the majority to contest a privileged-minoritarian legislation. Even supposing that legislation is initially proposed by tribunes of the people, the process of drafting it, including all the details, can often get complicated. There are opportunities in the process of drafting legislation to insert laws that

may favor an elite minority at the expense of the majority. The power of veto ensures that the majority remain represented in legislation from start to finish.

Political trials are also an important role for the tribunate. For the tribunate to be taken seriously, it must have the power of impeachment. Elites may feel like they can look for loopholes or otherwise game the system to still maintain an advantage in government. Therefore, the tribunes must have the power to call for political trials, and enforce the outcomes, in order to discourage bad behavior on the part of elites (McCormick 2011). The popolo's desire for revenge for elite wrongdoing can often overcorrect and pass into unjustified violence. If provided an outlet, such as the ability to call a political trial and enforce its outcome, people are more likely to follow procedure and proceed with a level head. The popolo can then form a more reasonable and even-tempered judgment. Therefore, political trials help maintain stability by both calming popular passions, and by punishing bad behavior by political or wealthy elites.

Many of Machiavelli's contemporaries, and the thinkers they admired, believe in a theory of political and civic concord. Cicero, Augustine, and Aristotle see harmony and concord as the key to a stable republic. To these philosophers, discord and conflict are considered signs of a state in crisis. Guicciardini, a contemporary of Machiavelli's, argued on the side of concord. While reviewing Machiavelli's writings, he took issue with Machiavelli assigning the "guard of liberty" to the Roman people in the *Discourses on Livy* (Pedulla 2018). Guccidarini's view is like that of republicans centuries later in that his idea of republicanism was as a system of checks and balances. The role of "guard of liberty" is not assigned to just one group among the republic, but rather it is assigned to many groups. The people have their role as guardians, but so does the dictator, the consuls, and other magistrates. No faction is to gain the upper hand. The republic establishes an equilibrium between factions.

The theory behind Polybius's and Aristotle's idea of combining monarchy, aristocracy, and democracy to create "mixed government (republic) was that each "pure" government alone is quickly corrupted, but the mixed government holds itself in equilibrium as each faction or branch prevents the other from its excessive impulses (Pedulla 2018). This line of thinking has stuck with most republican thinkers to this day.

Machiavelli, on the other hand, is the first major thinker to break with this tradition (Pedulla 2018). According to Machiavelli, conflict can be healthy for the long-term viability of a republic. Tumults are a good thing, so long as they are appropriately adapted to.

There are two broad benefits to tumults that Machiavelli identifies; there are the psychological benefits and there are the institutional benefits. The psychological benefits are that of fear. Machiavelli's preference for fear has earned him a reputation for being amoral, cynical, or mischievous. However, Gabriele Pedulla highlights the role that fear has according to Machiavelli in motivating political affairs (Pedulla 2018). In particular Pedulla cites the concept of *metus hostilis*, which is a kind of "fear of the enemy" that encourages virtue. Unlike many of his contemporaries, Machiavelli does not think that virtue comes from "good breeding" or even a proper humanities education. An educated or aristocratic man was just as willing, and perhaps even more capable, of doing evil things as an ignorant lowborn. Instead, virtue is "forced" through circumstance. This fear is not necessarily imposed in a cynical "Machiavellian" way, but rather is a product of social, political, or economic dynamics and the natural push and pull between multiple rational self-interested parties.

The institutional benefit is illustrated in the example of the Tarquin exile from Rome. Fearing the Tarquins return from exile, the patricians treated the plebians well, so as to discourage the plebians from siding with the Tarquins should they return to take back the city. Once the

Tarquin threat was gone, the patricians felt free to oppress the Roman plebians. Eventually the plebians were able to firmly establish the tribunate, a government representative of the people, and a position that gradually gained greater powers such as veto power and the ability to call any citizen for a political trial (Pedulla 2018; McCormick 2011). The plebians were able to replace the exogenous threat of the Tarquins with the endogenous threat of the tribunate, successfully "forcing" virtue on Rome's patricians in order improve their treatment of the plebians. Ultimately the tribunate proved to be an enduring institution in the Roman republic. It tempered the worse excesses of the elite, likely prevented equally violent responses on behalf of the plebians, and thus Machiavelli credits it as a source of stability and strength of the republic.

The guardians of liberty for Machiavelli are partisans of the popolo, the people. This is because the people are the least likely to usurp the liberty of the republic (McCormick 2011; Pedulla 2018). This is not because the people are particularly virtuous, but rather because they are the weakest faction. As plebians, their access to wealth, reputation, and other resources is limited. Therefore, their ambition is materially limited. On the other hand, should the grandi wish to usurp the republic's freedom and turn it into a private tyranny (oligarchy), their access to vast resources significantly increases the likelihood of their success.

As evidence of the people's superior capacity as guardians of liberty, Machiavelli cites the multiple secession of the plebians from Rome. Rather than resort to violence against the gandi for a perceived or real injustice perpetuated against them, the people simply withdrew from the city – thus removing access to their labor and the manpower necessary to defend the city if sieged. This is not too different from contemporary strategies of work stoppages or civil disobedience when protesting bad working conditions or unjust laws. This shows the people's prudence, when they otherwise may have enlisted a prince of their own to help them exact revenge on the grandi

(McCormick 2011, p.60). The great danger in this alternative scenario is that the people's prince is also now empowered with outsized political influence and great reputation. The people's prince may resort to demagoguery and use the people as a bludgeon against his enemies for his own private and self-interested reasons, and public interests and public reasons; the republic is ruined. While the desire for revenge may be satisfied through the people's enlistment of their own prince, the popolo risk usurping their own republican liberty through these actions. The inherent risks in enlisting a people's prince are why the popolo tend to opt for the refraining from action, such as draft refusal, walkout, or industrial action.

4.7 Why, Under Republicanism, Political Equilibrium is Impossible

According to Pedulla, Machiavelli does not mention equilibrium or balance once, with exception of referring to a hypothetical state "outside the flux of history" (Pedulla 2018 p.124). Machiavelli wants a republic with "checks but no balances" (Pedulla 2018). The natural inclinations of each faction should not be eliminated. Rather, there are separate but unequal factions, the popolo, as the materially weaker party and guards of liberty, representing the greater faction.

Equilibrium represents a stalemate and assumes a stasis. As I will clarify later in this thesis an innovative economy is dynamic by its very nature. The incentive of the entrepreneur is to become a rentier and find a profit. This is achieved, for however long or brief, with each innovation as the rest of that firm's competitors play catchup. At the same time, the boom and bust of the business cycle is a product of innovation financing. Lastly, innovation can invent whole new methods of production and entirely new markets. The process of creative destruction can be devastatingly disruptive. The invention and commercialization of the internet, for example, has transformed the way we related to one another and generated a plethora of niche new markets. The consequences have ranged from benign, to beneficial, to extremely harmful. Communication has

never been quicker or easier, but this has also coincided with the proliferation of fake news and declining mental health of young adults. Advances in artificial intelligence and robotics also threatens a clash of both wonderful and terrible consequences.

Innovation has also necessitated innovation of finance as it requires larger pools of funding in order to maintain enough cash to hedge against the inherit risk involved in innovation. However, financialization is now cannibalizing the real economy. Profit is increasingly a function of speculative investments, rather than a function of productive investments like research and development. As a consequence of these dynamics, vast quantities of money accumulate among fewer people and fortunes change quickly. Money translates easily into political power, which is then used to change the law to secure even greater wealth. The consequences are an erosion into an oligarchy—government deployed to advance private interests rather than upholding the common interest of republican freedom.

Machiavellian Democracy provides a framework in which institutions are designed to be adaptive and responsive to its evolving social, political, technological, and financial environment. A republic with institutions designed to maintain a state of static equilibrium is not likely to be capable of responding appropriately to a dynamic non-equilibrium context. According to evolutionary economics, innovative economies are always changing. The implications of this are that a potentially destabilizing force may emerge, for example a new technology that may change the employment status of a whole sector of the economy. An entrepreneurial state, interested in maintaining its political legitimacy, the stability of its principles, and widespread support for - and participation in – the economy, ought to consider ways of instituting widespread participation through sortition as a check on otherwise destabilizing forces. The sortition method makes it less likely that that emergent technological change disrupts too severely the standard of life of citizens

who may otherwise stand to lose from its deployment. They may have a hand in legislating regulation, allocating funding, or deciding how exactly the technology is deployed, to be to the greatest benefit of the least advantaged. The goal of the Machiavellian entrepreneurial republic is to reduce the conflict between the parties, whose lives were for better or worse affected by innovation.

4.8 Conclusion: Machiavellian Democracy and Economic Governance

To foreshadow what is to come: by setting out my normative framework in these opening two chapters I aim to have set out the basis of my critique of the technology sector. It is also the basis for my positive proposal for a reformed sector that brings societal benefits without the costs. In particular, when I turn to Schumpeter's arguments for the dynamic efficiency of a disruptive form of capitalism, in my view the Machiavellian tradition has deep resources for explaining how we might politically control such processes. Current concern over Big Tech is a symptom of a deeper concern that we cannot combine robust democracy and a commitment to justice with capitalist economic organization.

To address this problem, it seems to me that the Machiavellian tradition has the deepest resources. It is essentially concerned with the temporal dimension of politics: systemic drift and institutionalized corruption. It represents a political response to the fact of inevitable change in our political circumstances. I have argued, and will continue to expand on this notion in chapter four, that capitalism as a whole and a dynamic innovative economy in particular also faces the problem of how to put in place institutional safeguards to protect us from the downsides, while harnessing the upsides, of the constant change that characterizes the Schumpeter-Minsky conception, which will become clearer in chapter four, of a financialized innovation economy.

The Schumpeter-Minsky model challenges the neo-classicist's commitment to modelling an economy as a static general equilibrium that is periodically disrupted by exogenous shocks. The Machiavellian approach to politics, when applied to the economy, recognizes that dynamic change is endogenous. The Machiavellian recognizes that one can legislate well against incumbent elites. However, the dynamism of our economy produces new elites: we have moved from robber barons to tech oligarchs in a century. We have moved from the real economy to the intangible economy dominated by the technology and finance sectors. These sectors have been notably innovative in escaping what they take to be the constraints of law and capture regulatory oversight at great speed – quicker than the current ability of the political system to respond. This is why the Machiavellian focus on political change in the flux of time represents such a valuable resource for the regulation of the current commanding heights of our tech and finance dominated economies. In the following chapters I will explain the agility of our elites in escaping regulation and how new forms of political economy will allow us pre-emptively to contain these threats.

This chapter lays out the general framework used throughout the thesis. It describes broad macro trends in politics, economics, and economic theory. The following chapters are dedicated to presenting the problems in greater detail, to better understand the structural mechanisms at play, as well as exploring solutions to counter the structural mechanisms that undermine republican principles.

Institutional Proposals

Chapter Five: A Labor Republicanism for a 21st Century Knowledge Economy

Introduction

In classical Rome it was believed that freedom required an number of resources only made possible through receiving the surplus output of a subjugated class, therefore freedom was understood in contrast to slavery or bondage (Gourevitch, 2014). The freeman was known as a *liber*, while the

bondsman was known as a *servus*.[9] The liber had legal status that constituted formal membership in the republic. The *servus* had no legal status and therefore "no public existence" (Gourevitch, 2014). Roman republican freedom, therefore, is understood as non-domination as it presupposed the domination of others. As the United States sought to solidify its commitments to its republican aspirations in the 19th century, a debate began to emerge about how to apply republican principles to contemporary issues. Some, particularly in the slave-owning south, argued in the vein of classical roman republicanism, that the subjugation of a peoples opened the possibility for the freedom of others. At the same time there were those who argued for free labor - which was characterized as distinct from both chattel slavery and from wage labor – as the principled way to ensure republican freedom. In this paper I will discuss what free labor might look like in the 21st century. First I will provide some background on Philip Pettit's definition of republican freedom. Second, I will continue with Pettit's ideas on markets. Third, there is a summary of the 19th century movement in the United States known as "labor republicanism." Fourth, I will discuss the current knowledge economy and what free labor might look in this economic regime.

5.1 Non-domination in the market

According to Pettit, the effects and consequences of social structures, such as markets, do not in themselves qualify as arbitrary interference. Pettit considers the effects of these social structures to be of the nature of "unforeseen effects" of actions, being neither intentional nor a necessarily product of negligence. Assuming that a market absent fraud or theft still produces inequality, it cannot be said that freedom is hindered simply on the grounds of being inegalitarian (Pettit 2006). Pettit makes the analogy between markets and natural obstacles; natural differences in physique

or intelligence do not necessarily impede one from having the status of an undominated individual, likewise inegalitarian distributions of wealth need not compromise one's status as being an undominated individual.

While it cannot be said that freedom is hindered simply on the grounds of an inegalitarian distribution, in the event of extreme inequality and poverty the likelihood of dominating relationships may increase. According to the second and third condition of agency-freedom, freedom as non-domination must be accorded to everyone in equal value (Pettit 2006). In the event that the wealth distribution has the causal effect of permitting the unequal value of freedom as non-domination, adjustments to institutions may be justified. Upon interference by the state, a justification must be provided as to why the interference qualifies as non-arbitrary. If regulation or redistribution is necessary, it must be done so that inequality in non-domination is minimized.

Pettit justifies state interference in two significant ways. First, assuming the state is a democratic one, it presumably is under the control of the interests of those who it governs. If so, state interference does not qualify as arbitrary. Second, the intervention of private parties is often arbitrary and cannot hoped to be curbed by the weaker of the two parties unless aided by the power of the state. Regulation reduces private access to arbitrary interference (Pettit 2006). The purpose of state regulation, ideally, is to not only reduce or eliminate arbitrary interference, but promote non-domination.

Alex Gourevitch's work explains the importance of this republican ideal in the labor politics of the late nineteenth century USA: a pivotal moment in envisioning a modern market economy freed from domination. In 19th century United States some defended the old Roman republican view that freedom without bondage was impossible. In Pettit's formation of republican freedom, the first condition states that agents must be shielded from the interference of others. For

the defenders of slavery in 19th United States, independence was a "condition of property-owning leisure such that the citizen had the time for self-cultivation and participation in public life" (Gourevitch 2011). It is this condition of property-ownership, particularly property in persons, that is, according to the defenders of slavery, the shield necessary for the freedom of others.

Many Southerners defended the contemporary use of slave labor, while other intellectual currents within republican thought sought to resolve the paradox between freedom and bondage (Gourevitch 2011). Labor republicans emerged to offer the solution. In the republican tradition freedom and bondage in particular have historically been tied to notions of work. Naturally the solution offered to resolve the paradox between freedom and bondage was free labor as opposed to the dependent labor of slavery.

For labor to be free in the republican sense, it must be undominated labor. The free laboring individual is able to exercise his own option-freedom without the interference of others, allowing him agency over his work. Free labor is also not dependent labor; adequate resources for shielding against interference is necessary for self-sufficiency. Thus, the free laboring individual is developed through his own agency and self-sufficiency (Gourevitch 2011). Under these conditions, chattel slavery or indentured servitude cannot be free labor, as the laborer is dependent on a master who has the ability to interfere arbitrarily with the work involved.

United States in the 19th century was shifting from an agrarian society to an industrial society. The republican ideal in agrarian society, espoused by the likes of Abraham Lincoln, was to own a plot of land or a set of tools so that the laborer work on his own account, with his own agency, and in a self-sufficient way (Gourevitch 2013). Though ownership of persons is not necessary for the agrarian ideal, a consistent theme is that property-ownership is necessary to guarantee free labor in the context of an agrarian society. Upon achieving property-ownership in

land or tools, the individual is free to labor as his own master and work to as much or as little as he wishes to render as much value from his property as possible.

According to Gourevitch, Lincoln's conception of free labor is based on the presupposition that society is more agrarian rather than industrial, and that land is available in great supply (Gourevitch 2011). The agrarian ideal of free labor expressed by Lincoln is focused on the idea of homesteading, where an individual cultivates his own plot of land in a manner necessary for self-sufficiency; subsistence farming and small-scale production of goods is typical of homesteading. Changes in the structure of the economy soon made the kind of self-sufficiency associated with the agrarian homesteading ideal less plausible.

As society in the United States shifted from an agrarian society to an industrial society, a federation of unions known as the Knights of Labor began to consider the implications of this shift on the notion of free labor; wage labor is the focus of their critique (Gourevitch 2013). Lincoln considered wage labor to be a form of dependent labor, as with slavery. The benefits of wage labor over outright slave labor for Lincoln was that a wage laborer could save enough money to then purchase a plot of land or tools and begin to labor freely. Wage labor was considered as a path towards free labor (Gourevitch 2011). Further industrialization expanded the practice of wage labor and the supply of cheap land decreased, particularly in cities where industry is generally concentrated. Free labor under the agrarian ideal was increasingly difficult to attain and outright unattainable for most.

Formally wage labor allows for the worker to quit should he feel his rights are violated at work, unlike in labor relations of outright slavery. Presumably the worker can exercise his option-freedom and seek new employment. Despite the formal legal rights associated with wage labor, the Knights of Labor consider wage labor to be a form of dependent labor for at least the two

following reasons; there is domination in the workplace and there is domination by the social structure. Taylorism dictates the workplace of industrial society. Labor is divided such that owners and managers plan objectives and workers are tasked to execute the plans of others (Gomberg, 2007; Murphy, 1993; Pagano, 2014). The workers labor, but by the agency of another. More importantly under wage labor the worker is dominated by his relationship with his employer. The relationship is asymmetrical. If a worker has an objection to the work conditions, the employer has the threat of firing that worker. If discharged from work, the wage and other benefits attached to the position are no longer available. The employer is allowed to attach a potentially severe penalty to the worker's options, thus interfering with the worker's option-freedom.

Wage labor in industrial society also presents the issue of structural domination. The agrarian ideal of free labor has become nearly obsolete. Industrial society has seen a significant majority of people permanently engaged in wage labor (Gourevitch, 2014). Property-ownership as a means for self-sufficiency is not viable for a considerable amount of wage laborers, where they now instead permanently rely on selling their labor for an income. Long run disparities between income generated by capital versus that of labor make inequalities in wealth more likely to solidify (Piketty, 2014). Due to the distribution of the social structure, domination is highly probable for a considerable amount of people.

As the agrarian ideal of free labor and the kind of self-sufficiency associated with homesteading fades as industrialization progresses. Meanwhile workers' fates become more intertwined when confined within factories, workplaces and cities. An industrial ideal of free labor must reflect the kind of co-determinacy seen in industrial society. The Knights of Labor propose several solutions, including; public power to regulate employment, maximum work hours, nationalization of transportation and communication, and a redistribution of land. For interference

to be compatible with republican liberty, it must be non-arbitrary; on this basis republicans often defend some form of democratic governance (Pettit 2006). A democratic state must have the consent of the governed and it must work to advance the interests of its citizenry, therefore interference done by a state that acts in accordance to these principles does not qualify as arbitrary. It is along similar lines that the Knights of Labor defend co-operative governance in the firm and the collective governance over key resources, such as transportation or communication technologies. Rather than the kind of property-ownership Lincoln espouses in land and tools, the Knights of Labor define free labor as democratic governance of a shared property, be it in a cooperative firm or a nationalized one.

5.2 What is the Knowledge Economy?

In what follows I use the term "knowledge economy" to describe an asset regime in which value creation is anchored in the ownership and control of intangibles such as intellectual property rights, trade secrets, proprietary data, and the algorithms that organize them. This distinguishes it from two related but narrower phenomena. On the labor side, we see the rise of gig work or shadow work: forms of unpaid, low-paid, or otherwise precarious labor that depend on digital intermediation. On the business model side, we see the platform economy, in which firms position themselves as indispensable intermediaries between users, workers, and producers. Both of these dynamics are important, but they derive their structure and durability from the underlying fact that intangibles are the decisive source of value and leverage.

Concrete examples of the knowledge economy as an asset regime are Google Search, which relies on propriety algorithms and vast databases. The control of this knowledge asset allows the company to shape access to information globally. On the labor-side, shadow work is

excemplified by data labeling for AI, including paid and unpaid contributions, as well as user-generated content moderation, such as community moderators on Reddit.

This matters for the republican argument because it makes the risks of domination less visible but more pervasive. A worker who performs shadow work to train an algorithm, or a consumer locked into a platform's ecosystem, may appear formally free. But in practice their opportunities are mediated by the exclusionary control of knowledge assets held by a small number of firms. The republican concern, then, is not simply the distribution of income but the structural dependence created when knowledge is monopolized. To respond to these risks requires institutions that disperse control over intangibles, so that access to work, innovation, and social participation does not hang on the contingent restraint of those who own the key knowledge assets.

5.3 Can Non-Domination Apply to the Knowledge Economy?

As society evolved from an agrarian society one to an industrial one, the notion of free labor evolved with the economic circumstances. In many countries today the industrial economy has been replaced by the knowledge economy. As circumstances in society continue to evolve away from the industrialism of the 19th and 20th centuries due to new technologies, it is worth reconsidering the implications on free labor. In industrial society a vast amount of work was being done in factory floors. Workers labored in close proximity; the socio-economic circumstances led to extensive union membership and collective action on the part of workers. The context surrounding work in the knowledge economy is no longer the same. Computers are conducive to work that can be done in a cubical, closed office or even at home; workers are often no longer in close proximity, producing a barrier to unionization or collective action. Furthermore, new technologies have been deployed by employers to more closely monitor employees in order to discourage the possibility of unionization. The threat of moving jobs abroad along with advances

in artificial intelligence and automation have had a disciplining effect on the workforce as well. As society evolved from an agrarian society one to an industrial one, the notion of free labor evolved with the economic circumstances. In many countries today the industrial economy has been replaced by the knowledge economy. As circumstances in society continue to evolve away from the industrialism of the 19th and 20th centuries due to new socio-economic circumstances and new technologies, it is worth reconsidering the implications on free labor.

While in industrial economies intellectual property and knowledge of processes are important, tangible assets, such as land or machinery, are more often regarded as the primary objects of value. Value in the knowledge economy lies primarily in intangible assets (Ramlogan and Metcalfe 2006; Pagano 2014). Intangible assets include knowledge processes, brands, copyrights, patents, trade secrets, and even things such as goodwill or public trust in a company. Intangible assets are also increasingly playing a larger role in the economy. In 1975 seventeen percent of the market value of the S&P 500 was in intangible assets. The other 83% of their market value was in more traditional tangible assets. In 2015 eighty-four percent of the S&P 500 market value was held in intangible assets. A 2020 interim study in July is shows that ninety percent of the S&P 500 is in intangible assets.[10] Intellectual labor is often turned into a patent, trade secret, or some other form of intellectual property belonging to the firm in which it was developed. Even physical labor is frequently surveilled, turned into data, analyzed, and converted into an intangible asset as well. In the knowledge economy labor adds value to intangible assets; the notion of free labor must be recontextualized with intangible assets in mind.

[10] Numbers taken from a study by Ocean Tomo, a capital management firm specializing in intellectual capital.

I propose that in order to enable citizens a realistic option to be freely laboring individuals that the state or some public entity establish a knowledge commons. By "knowledge commons" I mean an institutional arrangement in which certain knowledge assets, such as datasets, scientific findings, or basic software code, are held in common rather than enclosed as private intellectual property. A commons is not an absence of rules but a different form of governance. Access and use are open in principle, yet subject to collectively agreed norms that prevent depletion or capture. In practice, this can take the form of open-source licensing regimes, publicly funded research repositories, or shared digital infrastructures managed by cooperatives or state agencies. The point is to treat certain foundational knowledge resources as shared inputs to innovation, rather than as exclusive property of a small number of firms.

The knowledge commons must be established in such a way that allows citizens access to some intangible asset that they then can use as a tool to labor through their own agency and use the surplus they produce for their own self-sufficiency. Among other legally protected rights and liberties, access to this knowledge commons will provide citizens shielding against the arbitrary interference of others, particularly that interference that emerges from the asymmetric relationship between individuals and large entities such as private firms.

One clear already existing example is open-source software and the licensing rules attached to it. Coders are free to access an extensive library of existing code upon which to build new code for whatever purpose the coder has in mind. In turn the coder contributes something new into the commons as well. The knowledge acquired and contributed by coders has enabled new commercial applications of technology which contributed to the success and financial self-sufficiency of many contributors. As part of the knowledge commons, the state may have to reconsider details about current intellectual property rights, including the longevity of exclusive rights and whether certain

intellectual property is actively preventing innovation rather than promoting it (Pagano 2014). A central question, then, is how to determine which intellectual property rights are conducive to innovation and which are not. It is important to be clear about what can and cannot be provided within the bounds of this argument. I do not aim to supply a full economic model of optimal patent length or breadth, that remains the task of specialist law-and-economics scholarship. What this thesis can provide is a set of principled criteria, grounded in a liberal-republican framework, for distinguishing intellectual property regimes that support innovation from those that undermine it.

From a liberal-republican standpoint, the relevant concern is not only efficiency but dependence. Intellectual property rights are justified when they disperse innovative capacity and lower barriers to entry. Most crucially, they are justified when they permit cumulative development, and when the benefits of such protection can be squared with the demands of the difference principle so that they work to the least advantaged in society. They are unjustified when they lock up foundational resources, entrench oligopoly, and render citizens or firms dependent on the arbitrary will of incumbent rights-holders. The distinction between foundational and downstream layers of knowledge is important here. Basic research, general-purpose data, and core protocols are best governed as commons, while higher-order applications can more justifiably generate temporary rents. In this layered model, the question is not whether IP exists, but where in the innovation stack exclusivity is tolerable and where it is domination-inducing.

In policy practice, this distinction can be operationalized by reference to proxies rather than abstract principle alone. Metrics such as concentration indices (Herfindahl–Hirschman or equivalent), licensing accessibility (the affordability and non-discrimination of license terms), cumulative use (the ease with which rights can be pooled or built upon), and time horizons (whether exclusivity periods exceed what is required to recoup public and private investment) all

provide ways to evaluate whether a given IP regime is serving innovation or suppressing it. These are not exhaustive, but they illustrate how normative criteria can map onto measurable policy design and governance procedures. The dense patent thickets that have formed around smartphone technologies illustrate how intellectual property, when concentrated in a few hands, can function less as an incentive to innovate than as a barrier to entry—with potential entrants overwhelmed by having to license overlapping patents on relatively incremental features (e.g., swipe-to-unlock, camera autofocus, or antenna design). In such cases, rights designed to reward invention instead serve to entrench incumbency. Concentration indices and other metrics mentioned, can serve to identify such scenarios in order to prevent the use of IP in preventing innovation and access.

The point, then, is that the distinction must be drawn in normative terms. A property-owning democracy demands that legal institutions of innovation be structured predistributively, so that access to knowledge assets is widespread and robust. Intellectual property rights that serve this aim—by dispersing capabilities, safeguarding cumulative development, and aligning with the difference principle—are consistent with republican freedom as non-domination. Those that undermine these ends by entrenching oligopoly and fostering dependence are not. The framework advanced here is therefore not an econometric rule but a principled basis for discriminating between intellectual property rights that enable innovation and those that entrench oligarchy, upon which a more empirical economic standard can subsequently be developed. Additionally, as the following section will argue, this framework must also be embedded within institutional procedures that are themselves contestatory. Intellectual property is not only a matter of legal design but of public oversight, and the allocation of rights should be subject to scrutiny by citizen bodies operating under clear normative standards. This anticipates the proposals to follow,

including the rule that publicly funded knowledge be made openly accessible and that the oversight of such rules can be entrusted in part to assemblies constituted by sortition.

Beyond reexamining certain intellectual property rights, it is also worth examining other sectors of the economy, their use of intangible assets, and how it may relate to free labor. With the invention of the smart phone and applications came the advent of the "gig economy." In the gig economy technology platforms work to connect supply and demand for services such as transportation or room and board. What is most significant about the gig economy is that rather than connect businesses to clients or businesses to businesses, it is more rather often used to connect individuals with other individuals. AirBnB, for example, allows home owners to operate their property as a hotel of sorts in which guests are allowed short stays for some amount of money. Uber and Lyft allow people to use their privately owned vehicles to conduct transportation services, much like a taxi service. A common argument in favor of platforms such as AirBnB and Uber is that it allows one to be their own boss. Home owners and drivers, it is argued, are free to choose their own hours and to work as much or as little as they please. The arguments run presumably along republican lines by emphasizing the agency of the gig worker. The implication is also that the gig worker is free to use his property, such as his home or car, to produce surplus for his own self-sufficiency. What is hidden in the relationship between the platform technologies and the gig workers is that the company that owns the platform owns the intangible asset enables the gig worker to find work. Normally it would be unexpected for strangers to sleep in another stranger's home or accept a ride in a stranger's car. What many platform technologies provide is the intangible asset of trust. Without this trust, it is unlikely that this model could have commercial success.

Gig workers for Uber use their own vehicles for their labor, but Uber charges rent on its intangible asset. Uber dominates gig workers in much the same way the factory worker is dominated by wage labor. Firstly, if a gig worker is unsatisfied with work relations, Uber can threaten to block their access to trust; the asset enables the labor to make money. Secondly, the structure of gig work also enables this domination. Gig workers are isolated from other gig workers. They can be totally unaware of the identity of their peers. Along with the same kind of structural domination that industrial workers experience, gig workers also have a more difficult time to organize any sort of collective response to their being dominated. Gig workers use their own labor and often their own property, but remain unfree.

Along these lines the state can establish an Uber public option of sorts. Upon identifying key intangibles, such as trust, the state can provide a platform in which to universally allow access to the intangible asset, but without extracting rent on the asset. Following the republican tradition of property-ownership as a means to self-sufficiency, citizens are then free to labor on their property-ownership in a car, for example, to shield themselves insofar as they can from the interference of others. While I provided an example with Uber, there are potentially an innumerable amount of ways in which contemporary technologies, upon an initial investment by the state, that can establish universal access to intangibles that enable citizens to work freely upon their own property.

5.4 Why Prioritize a Knowledge Commons over Cooperatives?

While the focus in this thesis is primarily on intellectual property regimes understood through the lens of liberal-republican justice, Gourevitch advances a republican case for worker-cooperatives and a co-operative commonwealth that targets a real and important site of domination: the subjection of workers to hierarchical authority within the firm. By democratizing

firm governance, cooperatives reduce the scope for arbitrary managerial power and give workers standing in decisions that shape their lives. Additionally, Martin O'Neill argues that worker-cooperatives offer more than a remedy for managerial arbitrariness. They align control with tacit, shop-floor knowledge (from the "learning-by-doing"); they tend to internalize quality and safety concerns otherwise externalized by absentee ownership; and they spread surplus more broadly across members. O'Neill adds two further routes, taking a Rawlsian register (O'Neill 2008). First, a "democratic character" route: participation at work helps cultivate the psychological capacities citizens need for the stability of a just constitutional order; extending self-government into production can support the habits and orientations that sustain wider democratic life. Second, a "democratic equality" route, in which the difference principle ranges over powers and prerogatives and the social bases of self-respect, not only income and wealth; that supports ex ante dispersion of economic power and authority. O'Neill's upshot is that, even without elevating workplace control to a basic liberty, democratization of the workplace can both stabilize a just regime and realize the difference principle's demands.

These considerations sit comfortably with the liberal-republican aim of non-domination. They also clarify the division of labor with this chapter's emphasis on the knowledge economy's asset regime. The civic and productive gains of worker cooperatives bite hardest where access to foundational intangibles—data, core standards, pre-competitive code and patents—are not monopolized. Otherwise, even democratic firms remain structurally dependent on gatekeepers. The strategy, then, is complementary: constitutional reform at the foundational layer (commons, open standards, fair licensing) predistributes capabilities, while cooperative (and other) firm forms translate those dispersed capacities into non-dominating production. Cooperatives make sense in a property-owning democracy, and opening the knowledge base through a knowledge commons

makes them fully viable within it. In this sense, co-operatives could sit comfortably within a liberal-republican commitment to securing the fair value of the basic liberties through dispersed control and contestation in economic life.

Alternatively, I argue—in parallel to Thomas—that there is a background/foreground division of labor in institutional design. My present argument concerns a different (and in the asset regime of the knowledge economy, prior) locus of domination: the legal constitution of intangible assets—intellectual property rights, data, standards, and code. Control at this upstream layer structures not only relations inside firms but also who may enter markets, innovate, and participate at all.

Consider a simple contrast. A democratically governed firm that lacks access to proprietary datasets, essential patents, or platform interfaces remains dependent on large incumbents. Its ability to organize production becomes contingent on licenses it does not control and on gatekeepers it cannot contest. As developed in the earlier diagnostic chapters on merchant capitalism, workers may win a local victory over managerial control yet remain dominated by intermediary firms that command strategic chokepoints—positions typically secured by control of intangible assets such as IP, data, and standards. By contrast, when the background rules disperse control over knowledge assets, co-operatives and conventional firms alike can operate without seeking permission from private oligopolists. Without altering the asset regime, workplace democracy risks remaining structurally dependent on private monopolies of knowledge.

Accordingly, there is a division of labor between institutional reforms. Background institutions determine the ownership, access, and interoperability of knowledge assets—the constitutional layer of the economy. Foreground institutions determine who governs firms—the corporate or cooperative layer. A property-owning democracy prioritizes the former, because

predistribution of productive assets ensures that any admissible firm form (including cooperatives) can operate without subjection to another's arbitrary will. As Thomas argues, forms of market socialism may be permissible, but only when encased within a property-owning democracy that secures the fair value of the basic liberties. Similarly, cooperative governance may be desirable, but must not be constitutionally mandatory—instead it must be grounded in an institutional order that disperses control over knowledge assets at the foundation.

This explains the focus on intellectual property. In the knowledge economy, IP regimes are the principal legal machinery by which control over intangibles is allocated and defended. Reforming those regimes directly addresses (i) the barriers to entry that sustain oligopoly, (ii) the dependence of innovators and workers on gatekeepers, and (iii) the drift toward political capture that concentrated economic power enables. Moreover, IP reform is constitutional in character: it specifies the baseline terms on which knowledge is created, shared, and built upon. Getting these terms right creates an infrastructure to better (pre)distribute capabilities across society, aligning Schumpeterian dynamism with the republican aim of non-domination.

None of this excludes cooperatives. On the contrary, once core contestation mechanisms, datasets, standards, and pre-competitive IP are placed under open, non-exclusive governance, cooperatives have a wider field in which to compete, innovate, and grow. Policy can also preferentially integrate cooperatives within the package sketched here: procurement preferences for cooperative bidders using open assets; representation for worker-owned firms on the boards of data trusts and standards bodies; and codetermination requirements for firms commercializing publicly funded knowledge. These measures can be complementary to IP reform, not substitutes for it, and they are most effective when the base-layer constraints of enclosure have already been relaxed.

For these reasons, the remainder of the chapter turns to the constitutional plumbing required to encase the knowledge economy within a liberal-republican order. The proposal that follows—open-by-default rules for publicly funded knowledge—does not pre-judge the internal governance form of firms. Rather, it constructs the common infrastructural layer on which diverse firm forms, including co-operatives, can flourish without dependence on oligarchic control of knowledge assets.

5.5 Potential Examples of Concrete Knowledge-Commons Proposals

At first glance, the idea of a knowledge commons seems to cut against the very Schumpeterian logic of innovation outlined in the earlier chapters. If disruptive activity is driven by the temporary rents secured through intellectual property, then to "commonize" vast amounts of IP appears to abolish the incentive structure that fuels entrepreneurial risk-taking. Yet this objection misreads the scope of what is at stake. The proposal is not to dissolve all intellectual property, but to distinguish between layers of knowledge. Foundational resources—datasets, basic scientific research, pre-competitive technologies—are best governed as commons, precisely because their enclosure entrenches oligopoly and raises barriers to entry.

The Human Genome Project illustrates this point. By making genomic data openly available, it provided the basis for a flourishing downstream biotechnology sector where firms could still compete for profits in diagnostics, treatments, and commercial applications. Likewise, the open-source Linux operating system has underpinned entire industries in cloud computing and enterprise software, with companies such as Red Hat—and open-source enterprise software company—or or IBM building successful business models around support, customization, and complementary services. In both cases, the commons at the foundation enabled more actors to innovate, while rents and competitive advantage shifted to higher-order applications. This layered

approach shows that Schumpeterian dynamism can be preserved, and even enhanced, when the basic building blocks of knowledge are shared rather than monopolized.

Higher-order applications, products, and services, by contrast, can still generate the temporary rents that drive Schumpeterian dynamism. In this way, a commons regime does not defeat the principles of a Schumpeterian economy but recalibrates them. It keeps the competitive process open by ensuring that no single actor can monopolize the knowledge inputs on which all further innovation depends. The knowledge commons act as fertile soil in which further innovation can grow and flourish. By keeping foundational resources accessible, it ensures that the competitive process remains open and that innovation is not smothered by incumbents who monopolize the inputs on which all others depend. For republican theory, this point is crucial. When access to knowledge assets is locked behind exclusive rights, citizens and firms alike are left dependent on the arbitrary will of those who control them. The commons functions instead as a structural safeguard against domination, dispersing both the risks and rewards of innovation. In effect, it allows the Schumpeterian process of disruption to continue without sliding into oligarchic stagnation, aligning the dynamism of the economy with the liberal-republican aim of securing non-domination for all. The following are some more concrete proposals on how a knowledge commons can be institutionalized and executed.

One keystone that can enable other downstream elements of the institutional package to function well is that publicly funded knowledge ought to be open by default. This is particularly crucial given Mazzucato's observations that a lot of the basic research that then leads to huge commercial successes is actually funded by the state, putting down the most risk in the venture. In a property-owning democracy, the point of predistribution is to build capabilities and disperse control over productive assets ex ante, so that basic liberties have fair value and citizens are not

left dependent on the contingent restraint of incumbents. In the knowledge economy, the decisive assets are intangible, such as data, code, model weights, protocols, and benchmarks. Making publicly funded knowledge open by default therefore functions as constitutional plumbing for non-domination. It widens the base of participation in innovation, pushes Schumpeterian rents up the stack toward applications and services, and blocks enclosure of foundational inputs financed by taxpayers.

This may include publications, datasets (raw, processed, and documentation/metadata), source code, trained model weights and evaluation artifacts, protocols, and technical documentation produced with public funds. Any project receiving direct grants, contracts, prizes/advanced market commitments, tax credits, or in-kind public resources (compute credits, access to public datasets, lab infrastructure). Mixed funding projects are covered proportionally—the public share must be open, while private co-funders retain their share in later-stage, higher-order applications.

The obligation applies to pre-competitive assets, such as general-purpose data, code, and models that constitute inputs to further research and productization. Downstream applications can still seek time-limited exclusivity consistent with competition law. This is paired with a statutory default rule—a short statute or enabling act establishes that outputs of publicly funded research are "open by default," subject to narrow, enumerated exceptions. Additionally, grant or contract conditions may be enforced in which funding agreements incorporate: (i) open-by-default clause; (ii) a data/code/model management plan; (iii) deposit deadlines; (iv) license selection from an approved list; (v) compliance as a condition of close-out—the formal wrap-up at the end of an award when all deliverables and conditions are met.

Public procurement provides a powerful complementary lever. Where vendors supply core digital systems to the state, procurement terms can require adherence to open standards and the timely deposit of non-sensitive components and accompanying documentation in approved repositories. Procurement does not micromanage product design, rather, it sets constitutional conditions for participation in publicly funded ecosystems. Vendors remain free to compete on performance, security, and service, but the infrastructural layer they deliver with public funds must be auditable, interoperable, and ultimately reusable by others. This aligns public purchasing with the predistributive aim of widening access to foundational knowledge assets and prevents the quiet re-enclosure of state-financed infrastructure through trade secrecy or proprietary formats—the dynamism of Schumpeterian innovation remains, but allowing more people in on the process itself, and thus the economic upside is spread out a more generously.

Because the covered outputs are heterogeneous, a single license cannot do all the work. Textual materials and documentation should be released under standard Creative Commons terms, with metadata dedicated to the public domain where feasible. Source code is best governed by licenses from an approved open-source registry; for infrastructure code, agencies may recommend either a permissive option (to maximize reuse) or a reciprocal option (to require the sharing-back of improvements), depending on the policy goal. Datasets require open data terms that clarify rights in compilations, incorporate robust privacy safeguards, and prevent re-enclosure of the dataset as such while permitting broad reuse. Additionally, there must be tools that facilitate automated compliance and auditing.

An open-by-default regime is still compatible with short embargo periods—or public release delays—ordinarily six to twelve months, to allow orderly publication and initial competitive positioning. This allows some of the Schumpeterian dynamics to play out. However,

embargoes must be publicly justified and sunset automatically. Privacy and security exceptions could apply where sensitive information is at issue. These can be satisfied by de-identification, the use of synthetic data, or access via secure data enclaves. A narrow commercialization delay may be granted where a concrete, time-bound productization plan demonstrably increases public value—according to justice—subject to approval.

The regime should be reinforced by positive incentives. Commons-weighted research and development credits (or cash rebates) can reward the release of datasets, code, and models into the commons, with clawbacks if those assets are later enclosed. When the state uses prizes or advance market commitments, deliverables at the foundational layer should be released openly so that firms capture returns at the deployment and service stages rather than by monopolizing inputs. Compliance histories should be scored in future grant panels and used as a positive factor in public procurement decisions, thereby aligning long-run incentives with the objectives of predistribution.

To secure the fair value of the policy and to limit capture, the allocation and oversight of publicly funded research can be partially delegated to citizen assemblies constituted by sortition. The point is not to exclude expertise but to disperse agenda-setting power and introduce a publicly accountable check, or veto, on incumbent interests. A two-chamber design is appropriate. First, a random sample of citizens (with compensation, training, and screening for conflicts of interests) deliberates on a docket of proposals using a transparent rubric keyed to this chapter's aims: public value, openness at the foundational layer, privacy safeguards, and downstream feasibility. Second, a rotating pool of subject-matter assessors—who themselves may be chosen through sortition so as to avoid the pitfalls related to elections—reviews technical soundness and technical risk. The citizen chamber produces a ranked recommendation; the assessor chamber may return a reasoned veto only on grounds of manifest technical infeasibility or safety risk which will have to be

communicated to the citizen chamber to their satisfaction. A joint conference committee—balanced between lay members and assessors—issues the final award list and terms.

Several safeguards are important. Memberships rotate with short, non-renewable terms. Recruitment is stratified to reflect geography and socioeconomic diversity—with weighted lottery preference for the least economically advantage. This provides the cohort with additional public veto power should they feel that the additional privileges given to the most or mid-advantaged are not at the expense of the least; briefings are written in plain language alongside technical summaries; and deliberations are facilitated and recorded. All rationales, scores, and minority reports are published, with necessary redactions where they apply—such as in cases of personal or national security or in protecting sensitive information, like with healthcare. Exceptions to the open-by-default rule (e.g., time-limited embargoes) require a recorded supermajority of the citizen chamber—which would suggest that the exception must constitute some greater social benefit than without it. However, exceptions must also come well argued, with publicly available reasons. The exceptions themselves may be vetoed or repealed at another point by assemblies in the legislative process. Appeals are limited to procedural defects, such as required disclosures were not provided or conflict-of-interest rules were not followed. The aim is not to substitute lay judgment for expertise but to embed a republican check against oligarchic drift in the governance of public knowledge.

Open-by-default does not abolish innovative rents, but rather relocates them. Temporary advantage accrues to those who combine common inputs with superior execution, design, and complementary assets such as manufacturing capability, brand, distribution, and support. By lowering entry barriers, the policy increases the number of potential innovators while limiting oligarchic lock-in at the foundational layer. This ensures public access to the foundational tools

necessary to operate in an innovative economy—a tool in the arsenal of self-sufficiency against domination. And as such, this structure also helps reinforce the logic of predistribution, allowing greater wealth-generation during each period rather than relying on too many ex-post corrections.

Implementation should be phased. Priority sectors (for example, health, climate, and basic AI research) can transition over a reasonable given period. Each funding agency should publish a registry of approved repositories and licenses and mandate persistent identifier and metadata standards. Model data/code/model-management plans should be provided, with funded technical support to ease compliance. Public dashboards should display deposits, licenses, and embargo expiries and be linked to award close-out. This combination of clarity, support, and transparency keeps burdens to a minimum while making evasion difficult.

Open-by-default is the keystone that allows other elements of the institutional package to function well. Patent pools, data trusts, and interoperability mandates, and all depend on an assured supply of foundational assets that cannot be quietly re-enclosed. Procurement, competition remedies, and audit requirements then have something open to point to, ensuring that the benefits of public investment are broadly shared rather than captured by a few incumbents.

5.6 Conclusion

In giving citizens a fair opportunity to engage in free labor, they are allowed greater option-freedom. Working for an employer will be an option that citizens will be reasonably allowed to reject, as the knowledge commons provides them with a basis for freely laboring on their own projects. Even relatively small property-ownership, such as car-ownership, will be able to generate income that is independent from the agency of another. Given reasonable alternatives to working for an employer, workers' bargaining power when signing a labor contract will be considerably

stronger; ideally any wage henceforth offered will not approximate anything like what the Knights of Labor labeled "wage slavery." With this account of labor republicanism in the knowledge economy in place, the following chapter turns to the broader question of how innovation itself might be democratized, including whether workplace democracy and deliberative mechanisms can secure non-domination in practice.

Chapter Six: Democratizing Innovation

Introduction

In this chapter I will begin my arguments for a liberal-republican conception of a digital economy, or sector within an economy, which harnesses the benefits from innovation from the common good while protecting against the potential for domination. We can clearly see, from the evidence of our collective experience, that technological change has contributed to income and wealth inequality. If we want to retain the benefits of innovation, what practices and institutions do we need to ensure that it does not generate new forms of domination? I begin, in this chapter, with the necessity of democracy within the workplace.

6.1 Does a Fair, Innovation Based Economy Demand Workplace Democracy or Economic Democracy?

A recurring debate in political philosophy concerns whether justice requires workplace democracy or whether a wider architecture of economic democracy suffices. The two terms refer to different levels of analysis, and the distinction is crucial for a liberal-republican account.

By workplace democracy I mean the micro-level participation of workers in firm governance, which may include voting rights, co-ownership, or other institutional firm-level forms through which employees can contest managerial authority. This view holds that domination within the workplace, and perhaps society more broadly, can only be avoided if workers exercise democratic control over the decisions that govern their daily labor.

By economic democracy, in contrast, I follow Hsieh's usage: the macro-level question of who controls investment and capital flows in society. On this view, domination arises not only within firms but also through the structural power of concentrated capital to threaten "exit" or "veto" over public policy. Cohen's "investment veto" diagnosis, which will be expanded on later, is paradigmatic. If investment decisions are monopolized by a narrow class, then even a society with democratic politics and partial workplace democracy remains vulnerable to oligarchic drift.

My position is that the priority must lie with economic democracy, understood not as centralized plebiscitary control of all investment, but as the institutional encasement provided by property-owning democracy. A liberal-republican POD disperses capital ownership widely and embeds rules that neutralize investment veto power.

Within the POD encasement, workplace democracy can flourish as one form in a plural ecology of associations. Justice demands the institutionalization of property-owning democracy as the framework of economic democracy, but it does not demand universal workplace democracy. Rather, workplace democracy is permitted and may well become the dominant form of association within that ecology, contributing powerfully to civic virtue and non-domination. Its role, however, is complementary rather than strictly demanded. It expresses justice in particular organizational forms once the background conditions of economic democracy have already been secured.

This distinction also matters for how we conceptualize innovation. In high-innovation sectors, workers may enjoy more and better opportunities for participation, but absent economic democracy they could themselves wield an investment veto over and above workers in low-innovation sectors. In an economy organized solely around workplace democracy without macro-level economic democracy, these apex firm workers would retain disproportionate structural power within the greater society. In low-innovation or peripheral sectors, workplace democracy alone

offers little defence against the systemic power of investment capital. Only when capital is broadly dispersed and institutionally constrained can workplace democracy then contribute to a genuinely deliberative culture of innovation. Economic democracy, in other words, is the condition of possibility for workplace democracy to realize its civic and republican promise.

Thomas's justification for prioritizing property-owning democracy over mandatory market socialism, which I follow, is instructive here. Mandatory market socialism, interpreted as mandating universal worker control of firms, risks becoming illiberal—as would a centralized, rather than dispersed, democratic command of investment. Either one collapses the plural ecology of associations into a single prescribed form. Moreover, it treats workplace democracy as the primary institutional guarantee of justice, while leaving the deeper structural issue of concentrated capital and investment veto unaddressed. Property-owning democracy, by contrast, constitutionalizes economic democracy at the macro level by dispersing capital ownership and embedding rules that neutralize the investment veto. This avoids the risk of domination without dictating a single organizational model for all firms. In short, my view is that justice requires the systemic dispersal and encasement of capital through POD, not the universal imposition of worker-run firms. The relationship between economic democracy and workplace democracy, therefore, is that the former is demanded by justice, while the latter is not—though it can still play a complementary role within that framework.

The case for workplace democracy has real force. Participation in firm-level governance can protect workers from arbitrary managerial authority, provide them with greater autonomy in their daily lives, and serve as a training ground for civic virtue. By engaging in collective decision-making, workers not only secure non-domination in the workplace but also cultivate the habits of deliberation and reciprocity that strengthen democratic culture more broadly.

This positive case can be acknowledged without treating workplace democracy as the primary institutional guarantee of justice. Its value lies in enriching civic life and providing workers with autonomy, but it cannot by itself prevent systemic domination. That role belongs to economic democracy secured through POD. Once those conditions are in place, cooperative and participatory firms may thrive as part of a plural ecology of associations, contributing to republican aims without bearing the entire burden of securing justice

Joshua Cohen sketches out four broad arguments in favor of a democratic workplace. The first argument is the parallel case argument. According to this argument if we already accept that there is a moral right to democratic governance in political matters, then a parallel case can be made for a moral right to democratic governance in the workplace. There are many variations of this argument. Some have argued that particular companies, such as multinational corporations, resemble autocratic centrally planned regimes (Slobodian, 2018). Corporations may restrict movement with such things as non-compete clauses. Failure to obey, exercising free speech, or freedom of association are also often points of tension within the workplace (Ricoy, 2014). Nien-He Hsieh argues that the central value of political democracy is to protect against arbitrary interference from the state (Hsieh, 2008). If political democracy is justified on the grounds that the state can be autocratic, and firms have all or many of the morally relevant features of a state, then workplace democracy is justified as well.

The second argument is the psychological support argument, which states that practicing democracy through other associations, even non-political ones, help in building or improving one's democratic character. Under this view, democracy does not necessarily have to be the goal of economic life, but workplace democracy may be crucial in developing the skills necessary to be an effective participant in political democracy (O'Neill, 2008). Cohen also makes reference to J.S.

Mill here about cultivating an "active character," where active participation in political life and deliberative practices encourages the healthy development of an individual.

The third argument for workplace democracy is the resource constraint argument. Arguments made along these lines often focus on how unequal distribution of wealth and resources tends to "undermine equal access for citizens to the political arena and their capacity to influence outcomes in that arena," or what John Rawls refers to as fair value of political liberties. Equality and equal access to public positions may be formalized into law, but without proper institutions or a relatively low disparity in wealth, it would be difficult to guarantee equality and access in actuality. Workplace democracy may function as at least one kind of institution that helps guarantee equal access to the political arena and their capacity to influence outcomes in that arena.

Lastly there is the structural constraints argument. Investment decisions must be made democratically. Cohen argues that private control of investment "significantly limits the democratic character of the state because it [subordinates] the decisions and actions of the democratic state to the investment decisions of capitalists (Cohen, 1989). Political decisions are constrained because of the fate of parties and governments depend on the health of the economy, which itself in turn depends on the "animal spirits" of private investors. Parties which may be given a democratic mandate for a certain policy, like raising corporate taxes, must be wary of market reactions. Would-be investors may be less likely to invest, given they expect a larger share of their earnings will be taxed away. Low investment leads to a weak economy, which will likely cause the party in power to lose popularity. There is also an argument to be added here in regard to Schumpeter's idea of the ephor of the exchange economy, particularly when the "ephor" is the state. It is generally assumed that the state should operate under democratic control. If it is using public resources to finance innovation, then perhaps certain projects or innovation "missions" can

be put to a vote. Rather than democracy in the workplace, what Cohen is advocating here is economic democracy, which applies at the macro level rather than the micro.

6.2 Implementing a deliberative democracy

Cohen endorses Deliberative Democracy, which he defines as "rooted in an ideal of a form of social order in which the justification of the terms of association proceeds through public argument among equal citizens" (Cohen, 1989). Deliberative democracy has four main features, four main aspects of deliberation, and four main procedures to deliberation.

The formal conception of deliberative democracy has four main features: The first feature is that the basis of legitimacy is on the free deliberation among equals. Deliberative democracy is an ongoing and independent association whose members share (and it is common knowledge that they share) the view that the appropriate terms of association are those that provide a framework for or the results of their own deliberation. The second feature is that deliberative democracy should be a pluralistic association. Members have diverse preferences, convictions and ideals concerning the conduct of their own lives, but remain committed to the first feature. Despite the variety of preferences, no one thinks they are mandatory. Rawls expresses similar notions with the concept of "reasonable pluralism." The third feature is that, because members regard deliberative procedures as the source of legitimacy, it is important that the rules of association should not *merely* be the result of their deliberation, but that it be manifest to them that this is so. There should be a degree of transparency and the creation of institutions in which the connection between deliberation and outcomes are evident. The fourth feature is that members recognize each other as having deliberative capacities.

There are also four main aspects of deliberation: the first is agenda setting; the second is proposing alternative solutions to the problems on the agenda; the third is supporting those solutions with reasons; and the fourth is concluding by settling on some alternative.

The ideal procedure for deliberation goes as follows: firstly, deliberation is free because participants see themselves bound only by their agreed upon object and by the preconditions for that deliberation. Secondly, deliberation is reasoned in that the parties to it are required to state their reasons for advancing proposals, supporting them, or criticizing them. Reason, not coercion through power, should settle matters. Reasons are offered keeping in mind reasonable pluralism in regard to diverse preferences, convictions, and ideals. Thirdly, parties are formally and substantially equal. The rules should not single out specific individuals (similar to Rousseau's explanation of the General Will). Everyone capable of deliberation has equal standing and can put forth issues on the agenda. Fourthly, the aim is to arrive at a rationally motivated consensus. Participants must attempt to find reasons that are persuasive to everyone. If no such reasons exist, the deliberation is concluded by voting. In making a sincere attempt at producing reasons that are persuasive to everyone, deliberative democracy remains distinct from a simple aggregate of non-deliberative preferences. The institutional consequences are likely to differ.

Reasonable pluralism, along with the idea of a rationally motivated consensus, link the notion of deliberative democracy to the common good. Deliberation, then, focuses debate on the common good. And the relevant conceptions of the common good are not composed simply of interests and preferences that are antecedent to deliberation. Instead, interests are shaped by deliberation itself and, "on public reflection, we find it legitimate to appeal to in making claims on social resources." Rousseau and Rawls also suggest that institutions can shape our political character, and so should be constructed in order to best foment it in a positive manner.

Autonomy plays an important role in the ideal deliberative scheme as well. According to Cohen, "actions fail to be autonomous if the preferences on which agents acts are given by circumstances and not determined by the agent" (Cohen, 1989). There are at least two fundamental dimensions of autonomy. Firstly, there must be conditions that permit and encourage the deliberative formation of preferences. If preferences are formed passively and merely adapt to the changing external circumstances, the first condition is not met.

Secondly, there needs to exist favorable conditions to the exercise of the deliberative process. If an agent deliberately cultivates their desires to match their power, they are not autonomous. A "stoic slave" who shapes his desires and preferences to be a good slave, because he realizes he lacks the power to achieve preferences related to freedom, fails to meet the second condition. The stoic slave suffers from an absence of alternatives and a denial of scope for his deliberative capacities.

If we consider the four main aspects of deliberative democracy, the first is setting an agenda. The scope of possible agendas within a firm in a commoditized industry would be rather narrow relative to an innovative firm. The material nature of the industry the firm participates in produces an absence of alternatives. In virtue of this, it fails to meet the second condition of autonomy. External circumstances within the market limit possibilities. Issues on pricing, quantity of production, what to produce and how to produce it have largely already been resolved. This is not to say that such an industry or firm is perfectly static. Occasionally there may be opportunities to decide on a new form of governance, how to respond to unforeseen circumstances or the adoption of new general-purpose technologies. Opportunities to set an agenda and propose new alternatives will be few and far between. The relative lack of alternatives within the firm may lead

participants to deliberately shape their preferences according to their power within the economy, running into the stoic slave problem.

However, though opportunities to deliberate about future outcomes may be limited, there are still good reasons to still endorse democracy in a low-innovation firm. The resource constraint argument still applies. Given that revenue tends to be low, and that alternatives for profit-seeking are hard to come by, one likely way to increase profits is to decrease costs, specifically labor costs. This may lead to increasing intra-firm wage gaps. In regard to equality, wage compression can be argued as a democratic ideal (Plass, 2016). Democratic workplaces, such as cooperatives, are generally successful at wage compression (Burdin, 2009; Pencavel, 2013). Though governance structures may vary between firms, and some workplace democracies may choose to allow for a range of different salaries, workplace democracy has been shown to function as a successful means to secure greater levels of inter-firm equality.

The parallel argument may still apply as well, particularly in regard to Hsieh's framing of democracy as a means to safeguard against arbitrary interference from the state. An institutional arrangement that includes some form of democracy in the workplace may also be a useful tool in regard to arbitrary interference by a manager. Hsieh defines interference as arbitrary when "little or no justification can be given for that interference in terms of the interests of the individual upon whom the interference is visited (Hsieh 2008). Hsieh argues that a lot of economic activity that goes on in the firm is subject to a great deal of discretion on the part of management. Without the ability of management to exercise discretion on an array of intra-firm activities, it seems unlikely that the firm can properly function. Given that it is necessary for management to be able to issue a wide range of orders, not all of which could have been laid out explicitly in a contract, there exists a potential for arbitrary inference.

There are three categories of decisions that can affect workers during economic production that Hsieh specifies. Firstly, some decisions involve task-specific directives, where a worker is instructed to carry out particular tasks or faces explicit limitations on their actions within the scope of their employment. Secondly, other decisions concern broader aspects of employment, such as working conditions, compensation, or opportunities for promotion. Thirdly, there are decisions that, while not directly addressing the worker, nonetheless affect them significantly by shaping the environment in which they work or influencing outcomes that impact their well-being.

All three categories of decisions may imply a considerable amount of interference in a worker's life. The examples that Hsieh gives are excessive overtime, which may take time away from a worker's social life and other obligations that make life fulfilling. Hazardous working conditions may physically harm a worker, and possibly even lead to loss of life or limb. Lastly, a worker's life may be affected should her place of employment choose to outsource its labor, which will lead to communities losing their whole livelihoods. Without institutional safeguards, workers will always face the possibility of arbitrary interference; workplace democracy can serve this role as a check on arbitrary power.

Low-innovation firms may also benefit from workplace democracy as stated in the psychological support argument. Through discussion, deliberation and the process of decision-making within the firm, workers may develop their own character and feel more engaged and self-fulfilled. Refining these civic skills at work, which is where most people spend a large part of their lives, may also make them more likely to engage in political democracy.

My purpose in rehearsing these deliberative democratic proposals is not to endorse one blueprint, but to emphasize their shared contribution to a republican agenda: they show how democratic contestation can be institutionalized within innovation governance. In the terms of this

thesis, deliberative mechanisms are valuable insofar as they reduce domination by dispersing decision-making power and giving affected citizens structured opportunities to contest. The subsequent sections build on this insight to develop proposals that democratize the high-innovation firm and guard against oligarchic drift.

6.3 Democratizing the High Innovation Firm

Whereas decisions in less innovative industries are less likely to have a significant impact on the direction of economic development, decisions made in a highly innovative firm may have wider implications outside the firm or industry itself. Decisions early in the innovation process -- such as during basic research, applied research or development -- may largely determine the future allocative and creative functions that the new combination serves.

Early decisions on how to design or deploy a new technology, and to what end, have a considerable impact on future iterations of that technology. The QWERTY keyboard design is a popular example (Liebowitz and Margolis, 1995). The QWERTY keyboard arrangement that exists today is based on a relatively early construction of the typewriter. Despite later improved keyboard layouts such as the model with the sequence DHIATENSOR in the home row, which was named the "ideal" keyboard, the QWERTY design won out because it already had become known as "the universal" keyboard (David, 1985). Though this is a relatively benign example, it serves to illustrate the power behind the concept of path dependence in the innovation process. If decision-making on innovation is restricted to those within the particular innovative firm or industry, then any biases of those voters may be exacerbated in time as the biases may become "locked in."

In a highly innovative firm, the implications of deliberative democracy are much more significant. The ramifications of setting an agenda in this context are capable of having a profound impact across multiple firms, industry sectors and in the political sphere. Deliberation about the

agenda of innovation will set its initial conditions, setting the direction on its course. Assuming the agenda was set through deliberation and reasoned consensus, the agenda represents the idea of the common good arrived at by the workers in the particular firm. There exists the possibility of latent biases, given that each participant has an interest in their particular firm or industry to do well. Restricting decisions about innovation to a particular firm fails the condition of being compatible with a diversity of preferences, conditions, and ideals, which requires a reasonably pluralistic association. Limiting the number of participants to a single firm effectively turns the decision-makers in that firm into the "ephors" of the economy. In turn, this may unfairly impose structural constraints on people external to the firm.

There are good reasons to support workplace democracy, particularly as a means for wage compression and a check against the arbitrary use of power. Without economic democracy, defined as democratic control of investment into innovative processes, workplace democracy falls short of the deliberative democracy ideal. Economic democracy ensures that workers in low-innovation firms have an opportunity to deliberate on issues beyond their limited powers at work, and that workers in high-innovation firms participate in a sufficiently pluralistic association and are exposed to multiple alternatives. Maintaining a market socialist system, without the POD encasement, would effectively be crowning workers in high-innovation firms as the "ephors" of economic development, which could impose its own structural constraints on political democracy. In this case fundamental issues that democracy is meant to address would go unaddressed.

6.4 The Meritocratic Response

I anticipate, at this point, an objection to the explicit democratization of the innovation process. It comes from the Lockean-libertarian idea that my proposal interferes with the pattern that arises when we reward individuals in accordance with their market merits. My proposals, pitched at the

level of institutions, is another (for my critic) misplaced rejection of a meritocratic ethos. This argument is so influential I think I need to present my response to it.

Meritocrats argue that economic inequalities are fair because individual workers in the tech industry have both chosen careers relevant to the job market, and worked hard to achieve their current position and income. I will refer to this as the meritocratic argument. I argue against this for two significant reasons. Firstly, in regard to the idea that hard work merits greater reward; measuring individual contributions with a complex system is an incredibly difficult, if not impossible, task. Secondly, what careers count as "relevant to the job market," particularly in the face of technological change, is a product a corporate and legal structure which impact – not the merit or demerit of particular positions – but rather the bargaining power in regard to negotiating their corresponding slice of the value-chain pie. The interplay between the first and second points reveal that social and economic rewards attached to certain positions are not politically neutral because the positions themselves are not politically neutral. Markets are not neutral grounds on which innovation and competition take place.

On my first point against the meritocratic argument, Paul Gomberg has explored how the division of labor currently operates (Gomberg, 2007). The development of scientific firm management has successfully divided large complex tasks into smaller simplified tasks. One craftsman dedicated to chairmaking requires extensive training through apprenticeship and development of many interrelated skills necessary to achieve the final product from beginning to end. Alternatively, with Taylorization and standardization, the whole craft of chair making is instead divided into a myriad of smaller and individually less complex tasks. Workers on the chair-making assembly line require training only in a specific simplified task, like notching the wood, hammering nails, or upholstering.

Any job, no matter how complicated, can therefore be interpreted as a bundle of tasks; the job of the chair craftsman may seem complicated as such, however, we have seen it can be broken down into digestible tasks. Particular bundles are assigned greater or lesser prestige or corresponding salary. How and which particular tasks are bundled, and by whom, are important questions to answer to before assessing whether or not particular social and economic rewards are fairly assigned and distributed. Related to this idea of jobs as task bundles is the Moneyball principle coined by Thomas, Archer and Engelen (2024). The Moneyball principle makes reference to the book and movie "Moneyball," which recounts an innovation in baseball recruitment strategy from the early 2000s. It was discovered that one superstar player with many outstanding talents could be replaced by several competent people with or one or two talents complementary to their peers – who together may equal or even surpass the superstar talent. Using this principle, a team with relatively little resources can compete with larger and richer teams by successfully recruiting people with talents that complement their peers or team.

Today it is generally acknowledged in sports that an extremely talented player, while "great" in the abstract, is often not the best choice for a particular role in a particular team. Team chemistry plays an important role in the overall performance. The decision to recruit a new player must be done, not on the best fit for the role, but on the best fit for the team *system*. What goes on behind the scenes, in the locker room so to speak, may have a significant impact on the outcome. This may also include relationships with the first team, the substitutes, the reserves, and team staff. At the same time, people – or even one person – are multi-varied; meaning that they cannot easily be reduced to a handful of talents, skills, or characteristics.

"Team chemistry" may seem like a nebulous concept, only because it is hard, if not impossible, to fully quantify. This is because these systems are nonlinear. Each person, with all

their variables, is involved in a web of interactions in a system of other people and institutions all with their own variables. The number of permutations of when and how all the variables interact may be potentially so large that it is, for all intents of purposes, infinite. This is what many evolutionary economists mean when they refer to "complexity." While it certainly is possible to identify particularly salient variables, it is often the case that unexpected things, such as a team member's hobbies, may end up having a significant impact on the overall chemistry. Any model of these systems will, at best, be an approximation, and given that variables may be given different weights at different times, there are second and third order complexities as well. The particular individual contribution of a person within the team network is therefore incredibly difficult to properly assess.

Building models and quantifying the complexity implicit in the Moneyball principle, when applied to a limited context, such as a particular sports team within a particular league, is relatively doable. The variables at play are large, but much more contained. The rules of the game and the skills necessary for something like baseball, help in reduce complexity. However, even in limited contexts, quantifying such a system is an imperfect science. When the Moneyball principle is applied to a macro society-wide point of view, the problem of quantifying individual contributions increases exponentially with the system's complexity – as society can be seen as a system of systems, adding multiple orders of complexity. Perfectly identifying the contribution of one individual within that web, in order to assess merit, is a daunting task—particularly when certain meritorious traits may have been unmeritorious had the web of surrounding variables been different. In other words, where exactly does their talent end and the network's collective talent begin?

To sum up the argument so far, complex jobs can and often are divided into smaller more simplified tasks. Similarly, the powers of a superstar talent may also be replicated or even surpassed by a team whose individual competencies in specific areas sum up to a super-competent complex whole. Lastly, actually understanding the individual contributions of someone within a complex system is an extremely difficult task, if not impossible to fully quantify, given the number of non-linear relationships. Finally, the difficulty of discerning individual contributions increases as complexity increases.

A meritocrat may respond to all of this my pointing out that this argument does not discredit the notion of merit. Perhaps it is still true that the meritocrat has made the right choices relevant to the job market, and that they have worked hard for their role. However, my argument so far is not meant to understate the importance of making good decisions or of making an effort, but it does introduce strong reasons to suspect that current meritocratic claims over the lumpsum of social and economic rewards are outsized and overstated.

My next response to the meritocrat asks which careers count as "relevant to the job market" and the political nature of this question. Beyond the problem of the difficulty in properly assessing individual contributions to the economy and society in general, there is also questions about how task-bundles are formed and how their corresponding social and economic rewards are assigned.

The meritocratic argument argues that economic and social inequality is fair if it is based on differences in skill and effort. However, there are at least two key points to keep in mind. Firstly, technology-driven "skills gaps" are dynamic – meaning that as technology changes, so do the kinds of skills that count among the high or low value-add within the value-chain. While this is not a knockdown argument, it is worth considering the increasing speed at which technological change has occurred in recent history. Secondly, "skills gaps" are just as much products of political-

economic changes as they are technology-driven, if not more so. Taken from a long-term macro point of view, it is not simply the case that skills are monopolized by the most deserving, nor that merely that skills go obsolete as technology advances while other skills become more salient. Rather, *decisions* in the development of technology and of the law also have a significant effect on the monetary worth of certain skills – therefore we must not only ask what devalues skills, but also *who* devalues skills and how this happens.

As discussed in the introductory chapter, the exponential growth of the speed and capability of computer chips—known as "Moore's Law"—the development of new (and resurrected) business models enabled by the growth and commercialization of the internet, and recent advancements in artificial intelligence, among other developments, have all contributed to a constant and rapid shifting labor landscape. In this evolving environment, skills once considered "high-value" may swiftly lose their earnings potential. There are natural constraints on persons that do not exist for technology – such as aging, geographic ties to specific communities, and path-dependencies in career choices; it is a lot harder to retrain if you have already developed a highly specialized set of skills honed in for decades which is now considered obsolete. However, even for workers who can successfully retrain, this represents a problem.

During the late 2000s and early 2010s, computer coding emerged as the quintessential high-earning skill. This period witnessed a proliferation of opinion pieces and even endorsements from politicians, all advocating for individuals in low-earning positions or within low-margin industries to undertake the acquisition of coding skills and adapt to the evolving landscape of the digitalized economy. However, it is noteworthy that in less than a decade, a substantial number of coding-related jobs underwent a transformation. They either relocated to countries where expected wages were significantly lower or have been automated through increasingly sophisticated artificial

intelligence. Consequently, the market value of the hard-earned and recently acquired coding skills for many workers has become tenuous within an inherently dynamic ecosystem. This predicament presents meritocrats with a profound question regarding the limits, if any, of the frequency associated with individuals' capacity to retrain, as they find themselves perpetually playing catch-up with advancing technology.

In response to the skills gap problem there are proposals that suggest that the aim of technological development ought to be to augment, rather than replace, human labor. Brynjolfsson argues that since Alan Turing proposed his test for evaluating machine intelligence – using human intelligence as the standard for intelligence - artificial intelligence (AI) has been geared towards mimicking human intelligence – thus making machine automated labor a more natural substitute for human labor (Brynjolfsson, 2022). One possible solution is to design automated systems and other technologies away from mimicking human intelligence and to instead double-down on the strengths of machine-type thinking. This way technology is designed toward augmenting human capacities rather than replacing them (Brynjolfsson 2017; Pasquale 2020).

Under this view, AI, or technology more broadly, is framed within the dichotomy of either augmenting or replacing human labor. However, if we assume a more macro and long-trend point of view, technological innovation perpetually oscillates between the two. There is a wealth of literature spanning multiple generations from Adam Smith to Harry Braverman to contemporary economic theory on the pattern of technology led up-skilling and down-skilling. Current advances in AI are already stirring fears of automation of certain jobs. Already we see the automation of check-out counters and tellers in retail, as well as the increasing automation of warehouse work. Often, such as the case with warehouse work, increased technology does not outright automate a certain job away, but instead contributes to a more Taylorized work environment. This entails

heightened supervision of work and less complex tasks, contributing to the tediousness of the work. At the same time, this same technology is just as likely to enhance the skills and potential earnings of a different subset of jobs, for example, supervisors, doctors, and lawyers will be able to accomplish more tasks and pull up salient information with greater ease.

A meritocrat need not deny these realities. After all, part of the decision-making in choosing the relevant training and career to pursue involves assessing the market's demands and strategically choosing the most in-demand and profitable paths. A prudent meritocrat will also save her earnings while her labor remains a lucrative commodity, so that when technological changes make new demands on the labor force, she is insured against the possibility of de-valuation or becoming obsolete. However, which jobs get down-skilled and de-valued, and which gain in value due to technological change is not a politically neutral or fully organic development.

Economic inequality is often framed as a skills gape issue according to the market and technology-driven demand. Those who lose out are therefore implicitly perceived as either poor decision-makers, imprudent planers, lazy workers, or both – and the modest economic and social rewards they receive are merited on this basis. However, if we assume a more macro lens which observes movements in the macro-economy and society more generally, a different picture emerges.

According to Herman Schwartz, it is not individual success or failure that explains growing household inequality, but rather trends in industrial organization and intellectual property rights which are the explanatory factor (Schwartz, 2021). In other words, economic inequality is driven by institutional and legal design – both of which are subject to political decision-making and therefore also subject to the principles of justice.

Due to pressure from financial markets to maximize shareholder value, firm structure has evolved in recent decades (Schwartz, 2021, p.3). As previously discussed in chapter three on the return of merchant capitalism, whereas all kinds of jobs, including manufacturing and custodial services, were once kept in-house, firms are increasingly shifting labor and physical assets outside their legal boundaries. Shifting labor outside the legal boundaries of the firm produces individual-level inequality and weakens consumption growth rates. Shifting physical assets outside the legal boundaries allows certain firms to accumulate monopoly rents, through strategic ownership of intellectual property, without any significant incentives to invest back into the real economy (Schwartz, 2021). The firms that adopt these strategies typically rely on intellectual property rights (IPR) for their business model.

While IPR firms outsource most of their labor, they keep a minimal skeleton crew of workers who engage in whatever labor is left that remains necessary to keep in-house. Typically, this is labor that help create and maintain critical IP, such as product engineering/design or marketing. As a general rule, firms with greater profits pay their workers higher wages. However, unlike the old model of industrial organization which kept more labor in-house, IPR firms offload a great deal of their labor. At the same time, IPR firms remain among the most profitable companies existing today. This means the most profitable firms are, at the same time, those who have comparatively the fewest employees. In recent history this would not have been the case, as some of the most profitable and most market capitalized firms historically were car manufacturers. Today, platform rideshare companies such as Uber, which employ a fraction of the workers and do not themselves own physical factories or produce commodities, have a significantly larger market capitalization than companies like Ford or Honda. The combined macro trend of IPR firms being

the most profitable as well as employing comparatively few employees therefore reproduces an increasingly unequal household income.

According to Schwartz, these trends create a twofold divide. One on side there are firms which exist in highly competitive markets whose profitability depend on depressing wages. These firms tend to be commodity-producers, as characterized in chapter three – given that commodity production is inevitably both capital and labor intensive. On the other side of the divide are the IPR firms which accrue monopoly rents - what Mazzucato may characterize as "extractive rents" – and are sharing these rents with a diminishing slice of the total workforce.

As explained in chapter three, merchant capital firms are positioned strategically within global value-chains such that they are able to exert outsized control over commodity-producing firms and, indirectly, over the labor employed by commodity-producing firms. Viewed through this lens, household inequality is not necessarily a product of individual success or failure, prudence or imprudence, or effort or slothfulness. Instead, household income is best understood as a function of their employer's ability to negotiate a greater or lesser percentage of the wealth of the corresponding value-chain. The market is not an equal and reciprocal medium of exchange, instead intellectual property rights are government granted monopolies which certain firms can leverage to gain outsized bargaining power by offloading labor and capital-intensive processes on others, while maintaining control over key bottlenecks within the value-chain – such as distribution, design, and branding. The consequences of this structure are fourfold (Schwartz, 2021).

First is interfirm inequality, which dampens investment as firms reliant on extractive rents do not require significant investment to remain competitive. Second is interpersonal inequality or household inequality, which reduces demand. This is because those with less income are unable to

afford goods and services, and higher income households can only spend so much before they rather save. Third, one and two combined creates an economic environment of secular stagnation – there is nothing that is driving growth. Fourth, slow growth puts pressure on politicians to cut costs, which further reduces investment and impacts growth. Together this generates a low growth equilibrium with a high degree of household inequality.

While this low growth equilibrium puts pressure on politicians to induce budget cuts and other austerity measures, which actually exacerbates household inequality, one possible way to break the low growth equilibrium is for the government to invest where IPR firms and households do not (Schwartz, 2021; Mazzucato, 2013; Janeway, 2018). However, the state as investor/entrepreneur, while once a common occurrence in the United State and in leading developed nations, has since been delegitimized through a long process starting around the late 1970s and early 1980s. The remainder of this thesis will be dedicated to outlining two possible alternatives to the current paradigm of technological change driven by IPR firms which both seek to break the extractive power of these firms. The first proposal, suggested by Jame Muldoon, is platform socialism. The second proposal, which is what I outline and endorse, is platform republicanism – which seeks to break extractive rents and to legitimate the entrepreneurial state.

6.5 Toward Institutional Detail

To deepen the account given in this chapter, several institutional innovations illustrate how economic democracy can be realized in practice. The aim is two-fold: First, to disperse effective control over capital in line with property-owning democracy, and second, to embed durable, institutionalized avenues for contestation so that no actor (public or private) can exercise an unchecked investment veto.

One proposal are citizen funds, which are publicly owned but independently managed vehicles that hold diversified assets on behalf of citizens, paying periodic dividends and/or endowing individual capital accounts across the life-course. They are seeded by sovereign assets, IPO and merger levies, spectrum and rights auctions, and excess-rent recapture (see chapter seven on digital Georgism). Their payout rules are non-discretionary, while investment mandates prioritize broad diversification and insulation from political cycles. By converting concentrated capital income into citizen-level returns, they widen the investor base without requiring centralized command of every investment decision. Contestatory safeguards are built in through independent boards with fiduciary duties, statutory transparency requirements, citizen ombudspersons, periodic citizens' review panels, and binding disclosure and audit obligations.

Another proposal are fiduciary public investment institutions, which are rule-bound entities that manage large public pools of capital, such as national development or innovation funds, under clear fiduciary mandates. Their objective is to ensure financial sustainability while advancing public-interest goals such as innovation and regional inclusion. To maintain integrity, they are subject to conflict-of-interest rules, limited tenure for directors, staggered boards, performance audits, and ex-ante policy rules that guard against ad hoc political interference. These institutions provide a non-oligarchic "public option" for investment, reducing dependence on a narrow class of private financiers. They also incorporate contestatory safeguards, including statutory reporting to citizens' assemblies, public dashboards of portfolio allocations, and justiciable duties that allow for legal challenges when mandates are breached.

A third proposal is sortition-based grant panels (see chapter five) which allocate defined tranches of innovation funding through randomly selected citizen bodies. Panels are short-lived, demographically stratified, and supported by independent experts. They resist elite capture by

using blinded review processes and must publish reasoned decisions. In dispersing decision-making power over innovation finance, these panels diversify perspectives on social value and risk. They also embed contestation by granting applicants rights to written reasons and limited appeals, ensuring the process remains transparent and challengeable.

A fourth proposal involves the design and exit penalties of lenders-of-last-resort. Emergency support for firms is conditioned on commitments that prevent "weaponized exit." Firms accessing central bank liquidity or bailouts must accept governance conditions, clawbacks, or partial public ownership. Exit levies discourage threats of relocation intended to blackmail governments. Counter-cyclical public capital facilities offer credible alternatives, limiting private veto power. Transparency of terms and ex-post review by citizen oversight bodies ensure contestatory accountability.

Another proposal are contestatory republican institutions. Drawing inspiration from Machiavelli, McCormick, and Vergara, tribunate-style bodies provide citizens with powers of veto and delay over major changes in capital allocation rules. These assemblies are chosen by sortition and can compel disclosure of economic impact assessments, veto legislation, or censure politicians. Their presence inserts a channel of contestation into economic governance without collapsing decision-making into plebiscitary command.

Knowledge commons and open-licensing policies are additional proposals that can ensure that publicly funded research outputs are licensed openly after a defined exclusivity period. Commons clauses prevent enclosure of foundational knowledge, broaden the base of innovators, and reduce entry barriers. To safeguard against capture, independent registers of licenses are overseen by a commons authority subject to review by sortition-based citizen assemblies. These assemblies are empowered to audit compliance, recommend adjustments to licensing rules, and

compel disclosure when necessary. This integration of citizen oversight makes the commons not only a legal category but also a site of contestation, embedding democratic checks into the governance of publicly funded knowledge.

Finally, institutional supports for cooperatives and worker-run firms can connect economic democracy to workplace democracy. Preferential access to capital from citizen funds, conversion finance for firms transitioning to cooperative models, and technical assistance programs allow these organizations to thrive within POD conditions. Oversight by mixed expert and citizen bodies ensures fairness and guards against cronyism, embedding contestation into the allocation of supportive resources.

Each mechanism either disperses ownership/control of capital, democratizes capital allocation, or embeds avenues for contestation. Together they specify how a property-owning democracy achieves economic democracy without collapsing into centralized command. They also explain why workplace democracy, while valuable, should be seen as a complement that thrives once the macro-level architecture blocks structural domination.

6.6 Conclusion

Chapter six argues that workplace democracy may be an important part in upholding republican principles of non-domination within an innovation-driven economy. By establishing that political democracy's rationale against arbitrary state interference can be extended to the workplace or the economy more generally, the chapter highlights how participatory structures may empower workers and distribute decision-making more justly. This democratization ensures that technological advancements and economic growth do not lead to entrenched forms of power that dominate individuals. While exploring possible practical procedures of workplace or economic democracy and addressing meritocratic critiques, the chapter affirmed that justice must include

systems that allow workers to share in the governance and benefits of their labor, or at the very least reasonably opt-out of a bad deal, aligning with broader republican values.

In chapter seven the focus turns to the unique challenges posed by platform-based economies and their implications for maintaining a just, innovation-oriented society. Here, I will introduce the concept of platform republicanism as a solution to counteract the dominance of Big Tech and contrast it with James Muldoon's platform socialism. This upcoming chapter will examine how historical republican ideals—such as non-domination and self-sufficiency—can be reimagined to fit the digital age. I will argue for practical strategies like open-source models, digital Georgism, and widespread access to digital infrastructures as means of ensuring that digital technologies serve the public interest and do not become instruments of concentrated power.

In assessing these approaches, chapter seven aims to present a liberal-republican framework that supports innovation while fostering democratic accountability and preventing the monopolization of economic and political power. This sets the stage for evaluating how a modern republican model can ensure technology continues to empower rather than subjugate, extending the ideals of non-domination into the realm of digital governance.

Chapter Seven: Evaluating Platform Republicanism

Introduction

In this final two chapters of the thesis, I will argue for a republican solution to the current political and economic problems of technological innovation. I will contrast my republican solution with James Muldoon's proposal of platform socialism in order to emphasize differences as well as show points of agreement between us

In his book *Platform Socialism*, Muldoon offers a compelling argument for restructuring digital platforms and digital infrastructure arguing that they ought to be cooperatively owned and

democratically governed. Muldoon's vision is rooted in a socialist tradition, advocating for collective ownership as a means to counter the monopolistic tendencies of Big Tech companies, so as to ensure that the benefits of digital economies are fairly distributed. While Muldoon's critique of the current digital economy is insightful, his proposed solution raises several challenges from a liberal-republican perspective. As I have set out earlier in my argument, liberal-republicanism, as developed from John Rawls's idea of a property-owning democracy and expanded by Martin O'Neill (2008, 2009, 2012), Alan Thomas (2017) and others provides alternative frameworks that emphasizes economic independence, the decentralization of power, and the prevention of oligarchic domination. Central to this framework is the principle of countervailing power, which ensures that no agent in the market can coerce others through deprivation of key goods or services or by the exclusion from markets. A liberal-republican economy requires the diffusion of power among all market participants, preventing any entity from accumulating unchecked economic leverage. In this chapter, I outline a liberal-republican alternative to Muldoon's Platform Socialism, demonstrating how a property-owning democracy, combined with a digital Georgist approach, and radically democratic governance, can produce a digital economy that ensures freedom as non-domination.

A liberal-republican approach to economic governance in the digital age seeks to ensure freedom as non-domination by emphasizing self-sufficiency, the widespread distribution of capital, and robust democratic oversight. Unlike Muldoon's vision of platform socialism, which primarily focuses on collective self-determination and collective ownership, a liberal-republican framework integrates both economic decentralization and democratic safeguards to prevent new forms of domination from arising.

On this view, economic dependency renders individuals susceptible to domination, given that those on whom they depend can arbitrarily withdraw essential goods. Therefore, the republican concept of freedom as non-domination historically been closely tied to the idea of economic self-sufficiency. Self-sufficiency ensures that citizens do not depend on the will of others for their material needs, safeguarding their autonomy. This notion has often revolved around the ownership of tools essential for one's trade, and at times, land ownership as well. By securing material independence, individuals are able to resist economic pressures that might subject them to domination. Ben Jackson has summarized the history of property-owning democracy and how it connects into a liberal-republican economy (Jackson, 2012) . Republicanism and the history of the ideas behind property-owning democracy are broadly characterized by three phases: agrarian, commercial, and industrial.

In its earliest formulation, agrarian republicanism saw tool ownership in addition to the widespread distribution of land as essential for self-sufficiency. Abraham Lincoln, exemplifying the American agrarian ideal, in his 1859 address to the Wisconsin State Agricultural Society stressed the importance of owning one's own tools and a parcel of land as essential for "free labor" (Lincoln, 1859). In this view land ought to be widely distributed such that citizens have a material basis in which to remain relatively autarkic, reducing or totally eliminating external economic dependencies. Agrarian republicanism is "the ideal epitomized by a landed aristocracy [but] generalized to all citizens" (Thomas 2017, p.149). As a result, agrarian republicanism promoted policies of land redistribution and small-scale production, believing that a society of independent landowners would foster both political stability and freedom. Freedom is embodied in the homestead. This is why, although never realized, "forty acres and a mule" was first promised to freed black families during the American Civil War. The fundamentally agrarian republican

assumption was that the formal freedom that was promised could not be fully realized without the material basis of land (forty acres) and tools to work the land or work a trade (the mule). Homesteading and free labor were the agrarian ideals for free citizens.

Commercial republicanism is exemplified in thinkers like Adam Smith and Thomas Paine, and it takes a less skeptical view of the interdependency of markets (Thomas 2017, p.149). The division of labor and commercial interdependencies are seen as boons to productivity rather than – as the agrarian republicans see it – as burdens and obstacles to freedom. However, commercial republicanism preserves some of the logic of its agrarian counterpart in regard to dispersed asset ownership as a means to freedom. Instead, the material basis for citizenship requires, not land, but programs like "demogrants, free education, public pensions, and employment of last resort [which] all feature in Paine's program" (Thomas 2017, p.149).

However, with the advent of industrial capitalism, the agrarian model of republicanism became increasingly difficult to sustain. Urbanization, the rise of large factories, and the division of labor undermined the ideal of homesteading as the primary means to self-sufficiency. Workers now had to sell their labor in markets dominated by a comparatively small number of industrialists who owned the tools of production and factories. This new economic structure gave rise to what critics called wage-slavery—a form of dependency where workers were subject to the arbitrary control of employers because they lacked independent access to the tools of production (Gourevitch, 2014). This leads to a situation in which, as pointed out by Marx, while workers may switch between particular employers, they remain bound to the employer class as a whole.

The structural changes of the industrial era revealed the limitations of agrarian republicanism. In industrial capitalism, labor becomes collectivized—not through formal legal or political channels, but in practice—as the agrarian economy of small, dispersed production shifts

to centralized factory floors. What was once a holistic craft, performed by one or a few individuals, is now divided and systematized through Taylorism. However, while the labor process was collectivized in this procedure, the economic upside was not collectivized. Additionally, urban environments became essential to supply the workforce, driving up demand and prices for nearby land. This shift made it difficult for most people to acquire enough land to maintain self-sufficient homesteads, further undermining the viability of agrarian independence.

Interdependence became a structural inevitability if society were to take advantage of the kind of scale that industrial capitalism enabled. The agrarian ideals of individual ownership of productive assets became increasingly impossible or impractical for most citizens. In response, some republican thinkers of this era turned toward models of collective ownership of factories and other productive assets as a way to recover a material basis for freedom. By pooling resources, cooperatives aimed to ensure that workers could exercise control over their labor and reduce their vulnerability to economic domination. However, even these collective models were unable to entirely replicate the self-sufficiency once promised by land ownership, as individuals remained embedded within interdependent market systems.

Neither the homesteading model nor the cooperative model are currently sufficient for the task. In the context of the "4th or 5th industrial revolutions" with the rise of the internet, digital platforms, and artificial intelligence, it is open-source – with decentralized access to 21st century tools – that provides part of a liberal-republican model for free undominated labor. An added advantage to this model over or in addition to cooperative enterprise is that individuals who wish to opt out of the firm or cooperative are free to do so while maintaining access to crucial tools they may need for personal wants or needs, or to engage in or commercial activity. In the following sections I will summarize the criticisms of Muldoon's platform socialism from a liberal-republican

perspective. Then I will outline my proposal for digital republicanism which includes open source, digital Georgism, and citizens' governance.

7.1 A Critique of Platform Socialism

James Muldoon's *Platform Socialism* is a response to the growing concentration of economic power in the hands of a few tech giants that control digital platforms. Muldoon's recent proposal is an important intervention in debates on the digital economy. By advocating for publicly or cooperatively owned digital platforms, Muldoon aims to counteract the concentration of wealth and control within today's platform monopolies. His proposal belongs to a family of socialist strategies that emphasize common or collective ownership as the remedy to domination by private firms.

My framework shares Muldoon's egalitarian motivation, but differs in its ordering of institutional priorities. Following Alan Thomas's interpretation of Rawls, I defend a liberal-republican approach that gives priority to the establishment of a property-owning democracy. The rationale is straightforward. The dispersal of capital and productive assets is a necessary precondition for securing citizens' independence and protecting them from structural domination. Without this predistributive foundation, platform socialism risks taking the form of a "mandatory" market socialism—one in which the state enforces cooperative or public ownership as the dominant mode of economic organization.

Such compulsion carries dangers. As Thomas argues, mandatory market socialism can generate new forms of domination: it restricts occupational choice, narrows exit options, and weakens the pluralism of economic forms that sustains non-domination. In a digital economy, a system that mandated cooperative or public platforms across the board could, paradoxically, reproduce the very concentration of power it seeks to overcome.

This critique does not reject Muldoon's insights outright. On the contrary, I argue that platform socialism is best understood as nested within a liberal-republican POD framework. Once capital is widely dispersed and digital rents are subject to republican predistributive measures, cooperative or publicly owned platforms can flourish as one option among many in a diverse economic ecosystem. In that context, Muldoon's proposals become not coercive replacements, but voluntary complements to a pluralist order. However, platform socialism taken alone, withint the POD encasement, could lead to serval issues.

Muldoon argues that these companies operate as monopolistic gatekeepers, extracting vast amounts of economic value while exerting significant control over the social and economic lives of billions of people. His proposal for platform socialism seeks to address these concerns by advocating for a shift towards collective ownership, democratic control of digital platforms, and collective self-determination.

At the heart of Muldoon's argument is the idea that digital platforms should be understood as public utilities, given their pervasive role in shaping modern social life and their near-monopoly status. He suggests that these platforms be transformed into cooperatives or publicly owned entities, where decision-making power is vested in the users and workers, rather than in corporate executives or shareholders. By democratizing digital infrastructures, Muldoon believes we can create a fairer distribution of wealth and power, countering the current exploitative dynamics of platform capitalism. While Muldoon's *Platform Socialism* rethinks the governance of digital platforms from a particular socialist perspective, it presents several challenges from a liberal-republican perspective. These challenges center around the concepts of oligarchy, centralization, and the fundamental republican idea of freedom as non-domination.

One of the core concerns of liberal-republicanism is the prevention of oligarchic domination, where a small group holds disproportionate power over the economic and political lives of others. Muldoon's model of platform socialism, while aimed at redistributing power and wealth, risks creating new forms of domination. For example, while the governance structures of cooperatives or public entities may appear more democratic on the surface, they can easily become dominated by small groups of stakeholders or bureaucrats who can exercise control over the decision-making processes. More particularly, there is a danger that self-determination is prioritized too heavily over individuals' preferences. This is the old question of "who guards the guardians|"? It is one version of the principal-agent problem: while the democratic citizenry as a whole are the public owners of these socialized platforms, in their role as principal they must delegate management to appointed agents. A transfer of ownership from public to private, per se, need not in itself solve the problem of actual managerial control being exercised in the public interest. This is a particularly acute problem in the case of de facto monopolies, where network effects lock in place the monopolistic nature of digital platforms.

Unless participation in collective self-determination is mandatory, there is a danger that decision-making becomes concentrated in the hands of a few, either due to a lack of participation by ordinary members for whatever reason, or because of the possibility of complex -and therefore opaque- administrative structures required to execute certain tasks. While many instances it may be that non-participation is voluntary and therefore expresses a certain kind of preference, the danger is that, given enough time, small subtle changes accumulate to constitute a major difference in status or power. In such cases, the principles of non-domination central to republican thought are undermined. Related to this last point is the fact that collective self-determination, if prioritized

too strongly, may take too much precedence over individuals' preferences. A minority or dissenting opinion may not have much recourse beyond waiting until the next assembly.

Lastly, and perhaps most significantly, the potential for oligarchic drift is also exacerbated by the inherent economic dynamics between innovative and non-innovative firms and industries - as mentioned previously in chapter six. Innovative firms—those at the cutting edge of technology, such as a hypothetical cooperative version of Google—tend to receive significantly larger returns and profits than firms in less innovative sectors, such as a cooperative version of McDonald's – due to Schumpeterian rents, first mover advantage, and other structural advantages. Even if both firms were cooperatively owned, the workers in the "Google" cooperative would have a considerable economic, and likely also political, advantage over those in the "McDonald's" cooperative. In the background to the platform socialism proposal, then, the state must constantly monitor and redress such inevitable inequalities in market power.

Additionally, wealth and income inequality between firms is directly related to inequality between households (Schwartz, 2016). These structural inequalities would not only affect the distribution of wealth but also the distribution of power within society. Workers in high-margin, innovative industries would accumulate more resources, influence, and access to decision-making platforms, both as workers and as households, potentially leading to an "innovative-worker" oligarchy. In contrast, workers in low-margin, low-innovative industries would remain relatively disempowered, both as a member of a firm and as a member of a household. So, while cooperatives may encourage less intra-firm inequality, there is no guarantee that it will prevent or even discourage greater inter-firm inequality. Thus, in time, this can drift into a more centralized oligarchy.

From a liberal-republican perspective, this scenario raises concerns for the potential for new forms of domination. Even in a cooperative economy, the economic leverage of innovative sectors could distort democratic governance and lead to a system where the interests of "innovative workers" overshadow those of others. A republican approach would require mechanisms keep economic power decentralized and prevent any single group or industry from having unchecked influence over the broader economy and society.

7.2 Freedom as Non-Domination

From the standpoint of republican freedom, the distinction between liberal republicanism and platform socialism is decisive. Freedom as non-domination requires that citizens are not dependent on the arbitrary will of others, whether public or private. This condition is met when citizens possess sufficient independence to exit relationships of subordination and to participate in shaping the basic structure of society.

A mandatory form of platform socialism may unintentionally undermine this ideal. By constraining the range of permissible economic arrangements, it risks placing citizens under a new form of domination—the domination of a single mandated institutional model. Even if such a system is well intentioned, it would deprive individuals of the pluralism of exit options that a robust conception of non-domination requires.

By contrast, a liberal-republican POD strengthens non-domination at its root. Through the constitutional dispersal of productive assets, citizens are secured in their independence. They can resist domination by firms, states, or even cooperatives that overreach. Once this predistributive baseline is secured, platform socialism can be embraced without risk. Worker-managed or publicly owned platforms can then emerge as freely chosen forms of economic association, supported by, but not imposed by, law.

The relationship, therefore, is not one of rivalry but of containment: platform socialism is compatible with liberal republicanism, provided it is encased within a POD architecture in order to then guarantee freedom as non-domination. The liberal-republican order establishes the conditions of independence and pluralism. Platform socialism then becomes one institutional form among many that can contribute to the democratic governance of digital infrastructure. This ordering preserves the non-domination of citizens while allowing the cooperative aspirations of platform socialism to enrich, rather than constrain, the economic ecosystem.

In the next sections, I will explore how the concept of a liberal-republican property-owning democracy provides a more balanced approach to preventing both economic and political domination. Furthermore, I will explore into the idea of digital Georgism, which proposes that digital real estate be taxed by a similar principle to the land tax in the Georgist tradition, as a way to ensure a fairer distribution of resources and opportunities in the digital economy.

7.3 The Digital Era and a New Model of Republican Self-Sufficiency

In the context of the contemporary digital economy, new models for self-sufficiency must emerge that are both distinct from past models, but at the same time informed by them. With open-source technology we can draw an analogy to earlier republican ideals. Just as land and tools were the basis of self-sufficiency in earlier economic systems, access to digital tools, platforms, and infrastructure—without which one cannot adequately participate in the digital economy—are now essential for citizens to maintain their freedom. Open-source software, with its decentralized development and distribution, allows individuals to access the tools they need without relying on corporate gatekeepers or proprietary platforms. This resonates with the republican ideal of undominated labor—where individuals have control over the means necessary to pursue their

livelihood and are not subject to the whims of monopolistic institutions. This free access to pooled capital returns us to an historical situation prior to the "enclosures" of early capitalism.

Much like land reform programs, cooperative enterprises, demogrants, or other past republican proposals required a framework of governance and the state to be effective, open-source technologies can only empower individuals if accompanied by institutions that ensure citizens have the knowledge, skills, and resources to use these tools. Without these supportive structures, the promise of self-sufficiency risks devolving into the myth of bootstrapping—the belief that individuals can achieve economic stability through effort alone, even in the absence of supportive systems. The metaphor of bootstrapping—pulling oneself up by one's bootstraps—reflects an impossible expectation that personal success can be achieved in isolation, without acknowledging the importance of social and institutional contexts. A liberal-republican approach to self-sufficiency rejects this bo individualism, recognizing that autonomy flourishes only when individuals have access to tools and education within a well-ordered institutional framework.

The bootstraping approach can be exemplified by what Thomas refers to as the inegalitarian variant of property-owning democracy. A historical example is the privatization of the social housing stock in Britain (Thomas 2017). The logic behind the privatization was to "respect the ideals of self-sufficiency." However, this also included a strong skepticism in regard to the state. While this gave the opportunity for more people to become homeowners, the lack of institutional support for these households to keep and maintain their homes eventually led to a situation in which housing consolidated within the hands of a few private owners—leaving renters to actually now pay more rent than was required under social housing, and no more in charge of their destinies.

My liberal-republican proposal also differs from welfare state capitalist solutions. Welfare state capitalism in theory allows for a quite large amount of consolidated private ownership of productive assets, but remains committed to a degree of egalitarianism with a progressive tax that is then used to redistribute wealth and address concerns for those who are not as well off. However, this undermines reciprocity (Rawls, 2001, p.138). It also potentially turns those receiving welfare as objects of pity, and may undermine their own sense of co-equality and self-worth. Given that welfare state capitalism "permits a small class to have a near monopoly of the means of production" it also indirectly provides this group with outsized political power (Rawls, 2001, p. 139). Therefore, related to these objections is that welfare state capitalism undermines non-domination and self-sufficiency, as most citizens will remain dependents of this small class, and will have to simply trust that this class does not use their political influence to erode the progressive tax system that is the backbone of the welfare state.

Instead, I propose a liberal-republican approach to the digital economy which follows much of the logic of the history of republicanism and property-owning democracy. While it is meant to promote a certain degree of self-sufficiency, property-owning democracy is distinct from a bootstrapping approach. It is also distinct from a more conventional welfare-state capitalist approach. And while I make some distinctions between, or additions to, Muldoon's proposal, this liberal-republican approach and Muldoon's approach are not entirely mutually exclusive. Indeed, many of the proposals are compatible and may perhaps work best together. This proposal takes the Rawlsian property-owning democracy approach which focuses on pre-distribution rather than redistribution – meaning that productive assets are widely distributed such that, "all citizens [are in] a position to manage their own affairs on footing of a suitable degree of social and economic

equality," and that the real-time distribution of wealth is more homogeneous, rather than fixing a skewed distribution *ex post* like in welfare state capitalism.

7.4 From Agrarian Republicanism to Digital Republicanism

The material means of self-sufficiency have changed—from land in agrarian societies to tools and machinery during the industrial era, and now to digital platforms and open-source technologies. Yet the core principle remains constant: republican freedom as non-domination depends on individuals having control over the tools of their trade, free from dependency on others. Each economic transition introduces new challenges to achieving self-sufficiency, requiring novel institutional responses to maintain the republican ideal of freedom.

In my view, Rawls's concept of a property-owning democracy offers an alternative to both laissez-faire capitalism and state socialism. Rawls argues that a just society requires more than just a welfare state; it necessitates institutional structures that prevent the concentration of wealth and power in the hands of a few by ensuring the widespread distribution of productive assets and human capital. Thus, not only ensuring fairness and relative economic equality, but also reinforcing independence from both a paternalistic state and from oppressive workplaces.

A property-owning democracy is built on two fundamental principles of justice: the Liberty Principle, which guarantees basic liberties for all, and the Difference Principle, which allows social and economic inequalities only if they benefit the least advantaged. Rawls contends that for these principles to be realized, it is essential to create a system where not only income but also capital is broadly owned. For the liberal-republican, this ensures that all citizens have the means to participate fully in the economic and political life of society, thereby preventing oligarchic domination and ensuring non-domination. The ideal institutional structure ought to encourage pre-

distribution as opposed to redistribution of resources – therefore the goal is that income is more fairly dispersed during economic activity rather than after the fact.

In a property-owning democracy, the control of capital or productive assets is not centralized in the hands of a few; rather, it is widely distributed among the population. This differs from state socialist models of centralized control and from the prevalent contemporary capitalist model of concentrated corporate ownership. The decentralization of capital allows for more democratic control over economic life and prevents any one group or sector from wielding disproportionate power.

This concept aligns closely with the liberal-republican concern for non-domination. By ensuring that all citizens have access to productive capital—whether in the form of shares in productive enterprises, intellectual property rights, or access to education and skills training—a property-owning democracy creates a society where power is diffused and where the capacity for arbitrary interference is minimized.

In his book *Republic of Equals*, Alan Thomas extends Rawls's idea of a property-owning democracy by incorporating explicit safeguards against oligarchic domination. Thomas argues that the rise of economic oligarchies poses a fundamental threat to democratic values and freedoms. He critiques Rawls for not giving enough attention to the "fact of oligarchy"—the inherent tendency of wealth and power to concentrate in capitalist societies, even those committed to justice as fairness. To counter this tendency, Thomas proposes a more robust set of policies that ensure not only the distribution of capital but also the prevention of its reconcentration. He argues for the importance of universal access to capital and proposes institutional designs that would make it harder for wealth to accumulate disproportionately among a small elite. In doing so, he brings the

liberal-republican tradition closer to addressing the structural inequalities that can arise even in democratically governed economies.

7.5 Capital Access for All Citizens: Preventing Inter-firm Economic Segregation

Thomas's extension of Rawlsian principles highlights the need for a proactive approach to economic distribution. In a property-owning democracy, access to capital must be universal. This includes not only traditional forms of capital, like land or industrial equipment, but also digital and intellectual capital. In the digital age, where intangible assets such as data, algorithms, and intellectual property play a critical role in generating wealth, ensuring universal access to these forms of capital becomes crucial.

This approach also addresses the concerns raised about economic segregation between innovative and non-innovative sectors. A property-owning democracy would require policies that prevent the disproportionate accumulation of digital capital in high-innovation firms like a cooperative "Google" while ensuring that workers in less innovative sectors like a cooperative "McDonald's" are not left behind. Mechanisms such as tax incentives for innovation-sharing, public funding for skills development, and regulations preventing the monopolization of digital assets would help balance the distribution of opportunities across different economic sectors.

These proposals can address the divide between high innovation and low innovation sectors in an economy. A core aspect of a liberal-republican approach to digital economy governance is recognizing and addressing the inherent inequalities between innovative and non-innovative industries. Even in a system of cooperatives, as discussed earlier, innovative firms like a cooperative "Google" would naturally accumulate more wealth and resources than a non-innovative cooperative like "McDonald's." This creates a structural imbalance that can lead to new forms of domination and undermine freedom as non-domination.

Additionally, we can recall the argument laid out in regard to the return of the putting-out system that puts the problem plainly, as well as the issue explained in the introductory chapters on franchising and other IPR-heavy business models. Increasingly, IPR is deployed, not as a positive mechanism that encourages innovation, but rather as a way for the tail to wag the dog. IPR heavy firms that control design, branding, marketing and other IPR-heavy activities are able to push out "non-core" labor to the center of the smile curve (Schwartz, 2016). By doing so they are able to minimize liabilities while maximizing the value extracted within the greater value chain. Additionally, this leads to a heightened division of labor as the use of "putting-out," gig or contract work for non-core work increases. These dynamics contribute to a negative feedback loop of increased economic inequality and domination.

To compound the issue, Schwartz thinks we have reason to believe that modern innovations, such as software and digital technologies, offer diminishing returns in productivity compared to past innovations (Schwartz, 2016). This view contrasts with more optimistic takes, such as those of Erik Brynjolfsson and Andrew McAfee, who argue that current technological innovations have the potential to drive significant economic growth. However, Schwartz points out that despite high profitability for firms, particularly those that control IPRs, there has been a lack of corresponding growth in productive investment or significant increases in productivity. This creates a paradox where technological advances contribute to profitability but fail to show up in broader economic growth or productivity statistics.

Schwartz suggests that much of this issue lies in how profits, driven by monopoly control over IPRs, are distributed and used. Rather than being reinvested in the economy to spur growth, profits are often accumulated by a small number of firms and concentrated in financial holdings, contributing to income inequality and a lack of broad economic dynamism. Combined with

weakened government spending and low levels of corporate investment, these dynamics contribute to secular stagnation, with innovation unable to fully drive economic growth in the way it once did . This indicates a kind of "tragedy of the anti-commons" as suggested by Pagano (Pagano 2014). This is a reversal of the commonly understood "tragedy of the commons," where instead there is a situation in which the existence of too many property rights leads to the underuse of a resource.

A property-owning democracy would address these issues by implementing measures that more widely distribute, not only wealth, but also opportunities for innovation. While collective self-determination within firms is compatible with the liberal-republican perspective, there must also be a way in which the individual can veto or opt-out if they are so inclined. With sufficiently distributed assets, there ought to be a sufficient material basis in which the individual may do so.

Intellectual property rights (IPR) are a significant contributor to the division between innovative and low-innovative firms, and a significant contributor to household inequality. To help bridge this gap, I propose expanding the use of open-source solutions. By promoting open-source innovation, we can reduce the barriers that individuals and low-innovative firms face, providing them with access to the tools and technologies they need for personal, community, or commercial use. As noted earlier, in Schumpeterian literature, innovative firms already maintain a monopoly of sorts by innovating, that is until other firms catch up. Furthermore, by protecting technological advancements through patents and copyrights, IPR extends the inherent competitive advantage in innovation by prolonging the time competitors or low-innovative firms have to "catch up." As a result, the advantages of cutting-edge firms accumulate disproportionately, reinforcing a cycle of inequality.

Open-source can provide a model for democratizing intellectual property and other "intangible assets" such that the opportunity to access and make use of this capital is broadly

dispersed. I take "open-source" to refer broadly to software, technologies, or systems made available to the public with a license allowing for unrestricted use, modification, and distribution. By removing the proprietary restrictions commonly found in IPR-heavy models, open-source encourages collaboration and transparency—and in comparison to the IPR-heavy model, open-source rewards labor more over IPR monopoly rent extraction.

Open-source not only provides people the tools needed to engage in commercial activity, but also allows both individuals and firms to drive innovation by providing them with the tools to modify, improve, and implement already existing tools and products. The barriers to innovation are therefore lowered as there is greater room for both collaboration and even for competition—insofar as it dislodges the tragedy of the anti-commons. Open-source innovation is often user-led, meaning that the products developed more closely match the specific needs of users. Users are empowered to modify and adapt products to fit their own needs in real-time, rather than waiting for manufacturers to develop new products or features (von Hippel 2005).

This generates at least two significant interrelated ways in which the dynamics of innovation are changed and encouraged. Firstly, there is a more niche way of innovation in which tools may be built and modified for specific local needs which may be particular and not as generalizable or easily commercialized – in other words software, technologies, or other systems are significantly more modular and customizable. Secondly, open-source encourages a more organic ecosystem for innovation that does not rely entirely on the Schumpeterian theory of pursuit of monopoly rents as a driver for innovation. As hobbyists, firms, cooperatives, hospitals, universities, and other institutions build and improve open-sourced tools for their niche wants or needs, they are also contributing back into wider the open-source pool. If it turns out that these niche wants or needs are more broadly applicable, niche customizations can turn into widely

adapted innovations in an organic way. Open-source encourages this kind of playful and creative way of collaborating

The logic behind the promotion of open-source has parallels in the 19th and 20th century labor republican logic of "free labor" – that labor in which a person who owns their own tools of their trade, land, and general means to "self-sufficiency." However, as noted by Gourevitch and explained in earlier chapters, this idea of freedom was based on an agrarian society where homesteading was the typical aspiration. As industrial capitalism took shape, the ideal became more difficult to sustain, particularly in the context of urbanization, large factories, and Taylorism. In this new context, the agrarian ideal of homesteading as the key to self-sufficiency was made obsolete. In other words, while labor was in some sense collectivized or socialized in practice (workers sharing the factory floor and collectively contributing a piece in the wider production line), the economic benefits were not. This leads to a structural form of domination then commonly understood as "wage-slavery." Individual or small-scale ownership of the tools of industry became impossible for the majority of these urban factory workers, which is why collective ownership under a cooperative model became the ideal for many in this time. Muldoon's solution to the challenges we face in the digital economy are similar to those solutions proposed by the industrial republicans who advocated a collective ownership of the factory. While the liberal-republican alterative allows for cooperatives, the primary focus is to first ensure a robust degree of self-sufficiency through widespread capital ownership.

A liberal-republican appeal to self-sufficiency is not a naïve appeal to an impossible bootstrapping of oneself over substantial systemic hurdles. A robustly self-sufficient citizenry requires a background of well-ordered institutions that enable this. For open-source to be widely accessible such that it allows citizens to be free of certain dependencies, there ought to be

complementary institutions that enable easy access and widely distribute the necessary "human capital" to make use of such tools.

Many open-source solutions currently exist, but there are many barriers to its use that prevent it from becoming even more widely adopted to the point at which it can become a much more emancipatory tool. These barriers include; a lack of institutional support and funding; integration issues; difficulty of customization without specialized skills; market dominance of proprietary systems; and concerns about specifics and terms of open licensing. A liberal-republican proposal must address these issues to maximize the potential of open-source over the IPR dominant system that exists today.

To address these concerns, open-source as a means to non-domination requires basic institutions to enforce certain open-source standards allowing for universal or near-universal modulation or transformation. These standards would ensure at least five things to guarantee equal rights and access; first is accessibility. It ought to guarantee that open-source technologies are available and usable by a wide audience, regardless of their technical skill levels to whatever extent possible. By creating universal guidelines, such as ensuring compatibility and ease of use, the standards would make it possible for various individuals and organizations to access, modify, and deploy open-source solutions. Second is interoperability, ensuring that various open-source technologies can work seamlessly with each other and with proprietary systems when necessary. This would promote a more interconnected ecosystem where users can combine different tools and software without compatibility issues, fostering collaboration and innovation.

Third, it must be secure and reliable. Establishing security protocols within open-source standards would ensure that these technologies are safe to use, even for critical applications. Standards could dictate practices for regular updates, vulnerability management, and transparent

auditing processes, enhancing trust in open-source solutions. Fourth, transparency and accountability are important. Standards should require that code, development processes, and modifications remain open and accessible for review. This would not only facilitate collaboration, but also hold developers accountable to users and the community, ensuring that technologies align with the principles of freedom as non-domination. Fifth, support for innovation and adaptability are crucial. Ideally these standards encourage innovation by allowing users to freely modify and adapt technologies to fit their specific needs. This modular approach would make it easier for individuals and organizations to innovate without being tied to the limitations or commercial interests of proprietary systems.

As part of the wider liberal-republican project a strong and robust education system is required as a means to widely distribute human capital. Currently, the lack of digital literacy is a barrier to making full use of open-source alternatives to proprietary systems. Education is therefore important in regard to the digital economy, as citizens will likely require formal training in how to access and use open-source. This could involve creating public funds to support innovation in traditionally low-margin sectors, ensuring fair access to digital resources, and taxing monopolistic digital rents to fund public goods. By encouraging cross-sector collaboration and innovation-sharing, the system would aim to reduce the disparities between different economic sectors and prevent the emergence of an "innovative-worker" oligarchy.

7.6a The Case for Digital Georgism

Henry George was an American economist during the late Gilded Age, and is best known for his proposal to address poverty and inequality through a distinctive tax policy outlined in his influential book “Progress and Poverty” (1879/1934). George believed that society should reform the way it generates public revenue by focusing on the value derived from land and natural

resources, rather than taxing labor or productive capital. His proposal, commonly known as the Single Tax, sought to reduce economic inequality by capturing the unearned wealth that accrues from landownership and redistributing it to benefit society as a whole.

George's argument begins with a fundamental distinction between land and labor. Land, in his framework, encompasses all things that exist independently of human effort, such as land minerals, forests, and rivers. In contrast, labor represents human effort and value created through productive activities. George believed that only income derived from labor or capital investment—such as wages and profits—was just, as it reflected human creativity and enterprise. Income from landownership, by contrast, was unearned, since landowners benefit from rising land values that result not from their own efforts, but from external factors, such as population growth, urban development, or public infrastructure projects.

This unearned income, or economic rent, lies at the core of George's criticism. He argued that landowners accumulated wealth passively by speculating on rising property values. George believed that this practice was a major cause of poverty and inequality. As wealth became concentrated in the hands of landowners, the working population faced rising rents and lower wages, limiting their ability to benefit from economic growth. For George, this dynamic was fundamentally unjust, as it allowed landowners to profit from value that was created by society at large, and not by the individual owners themselves.

George proposed the Single Tax—a tax on the value of land that would replace or sharply reduce all other taxes, including those on income, wages, and capital investments. By taxing only land values, George believed that society could both discourage speculation and encourage the productive use of land. Land that was held idle or hoarded for speculative purposes would become more costly to maintain, forcing owners to either develop it or sell it to those who would.

Meanwhile, individuals and businesses could engage in productive work without the burden of income or profit taxes, thus stimulating economic activity and innovation.

A key advantage of the Single Tax was its potential to generate significant public revenue. Because the value of land rises with societal improvements—such as new infrastructure, public services, and urbanization—taxing this value would provide a stable and growing source of funding for public goods. George envisioned that the proceeds from the land value tax could support essential services such as transportation, education, and healthcare, thereby directly benefiting the community and reducing the need for other, more regressive taxes.

By taxing the unearned income from land and allowing workers to retain the full fruits of their labor, society could become both fairer and more prosperous. George did not think that poverty was an inevitable result of scarcity, but a consequence of the unequal distribution of wealth from natural resources. His land value tax would realign economic incentives, ensuring that wealth derived from land flowed back to the community rather than accumulating in the hands of a few, fostering both economic justice and sustainable development.

In summary, the key to George's proposal is his distinction between income from labor—which reflects human effort—and income from land or natural resources— which accrues without effort. For George, a just economy must reward work and ingenuity, while ensuring that the value of the earth's resources is shared fairly among all members of society. In the context of the digital economy today, George's Single Tax is worth reconsidering, while extending the land metaphor to extractive rents and digital space.

Digital Georgism is a complementary measure to ensure fair wealth distribution in the digital economy. This proposal is inspired by the economic philosophy of Henry George, who

advocated for a land value tax to prevent monopolization and ensure fair access to natural resources. Digital Georgism applies the principles of the land value tax to digital space and infrastructure. The money earned from this tax can then be used to fund digital literacy and citizen governance programs.

To understand the justification behind applying a Georgist-style tax to digital spaces, it is important to consider George's analogy of the "unbounded savannah" from his seminal work (George 1934, pp. 235-242). George presents a thought experiment involving an unbounded savannah, where every acre of land is perfectly equal in value and utility. As the savannah begins to be settled, the first to arrive and can choose any plot of land arbitrarily, as every piece is as good as the next. As he starts using the land, the value of that land remains low due to the limitations of isolation—there is no infrastructure, market, or network to make the land particularly valuable.

Whereas before the first settler arrived, any plot was just as good as any other, that is no longer clearly the case for the second settler. When the second settler arrives, they are naturally attracted to settle near the first, realizing that proximity offers mutual benefits—social interaction, the ability to trade or share resources, and cooperative work possibilities. As more settlers arrive and cluster around the initial settlement, a network effect begins to take place. This clustering transforms the value of the land emanating from the center, as this plot now offers distinct advantages over the otherwise identical land further away. Over time, the center of the settlement grows into a town and eventually a city, dramatically increasing the land’s value due to the cumulative benefits of proximity, infrastructure, and increased productivity due to the advantages of dived labor. The land is transformed – as town proximity now represents greater opportunities to take advantage of specialization and resource access.

This analogy maps onto the digital economy remarkably well. The internet, much like the unbounded savannah, began as a vast open space where every digital "acre" (web page, domain, or digital platform) was initially equal in terms of potential and access. The “world wide web” was initially popularly imagined as a vehicle of open information and communication with utopian potential. However, just as in George's example, the first settlers in the digital savannah—early platforms like Google, Facebook, and Amazon—benefited from what is often termed a "first-mover advantage." By arriving first, these platforms were able to establish themselves as central nodes in the digital network, benefiting disproportionately as more users and businesses joined the digital landscape, adding to the network effects—the phenomenon where a product or service gains additional value as more people use it.

In economic terms, this first-mover advantage allowed these early platforms to accrue value not just from their own innovations but from the aggregated value created by network effects. The more users and participants a platform attracted, the more valuable it became, not solely because of its intrinsic qualities, but because of its central position within a growing digital ecosystem. As more "digital settlers" arrived, they were naturally attracted to these established hubs, reinforcing their dominance and leading to massive economic rents—the digital equivalent of George’s land rents in the growing settlement. As more users congregated on these platforms, the value of being present on them increased exponentially, just as the value of land in the center of George's hypothetical settlement grew due to the density of population and activity.

In this context, digital spaces such as social media platforms, search engines, and online marketplaces have become the "cities" of the digital savannah. The value generated on these platforms is not solely the result of the platform owner's efforts; rather, it is a cumulative product of network effects created by the presence and activities of millions of users, advertisers, and

developers. Just as the landowner in George's example becomes wealthy, not from their labor, but from the growing population around them, digital platform owners reap substantial economic rents due to the network effects and the user-generated value that accrues on their platforms.

The first-mover advantage in the digital economy reflects an inherent arbitrariness in economic distribution that is inconsistent with principles of fairness and justice. From a Rawlsian perspective, particularly under the Difference Principle, economic inequalities are only justified if they benefit the least advantaged members of society. However, the disproportionate wealth accumulation by early digital platforms often does not meet this criterion. Instead, it results from an initial advantage that later entrants could not have reasonably accessed, thus violating the principle of "fair equality of opportunity."

In the "unbounded savannah" analogy, the first settler who arrives and claims a central spot is not inherently more deserving than the second or third settler; rather, they simply arrived first. Over time, as more settlers arrive and the value of the land increases due to collective development and network effects, the initial settler becomes wealthy not through their effort or innovation but through an arbitrary advantage of timing. Similarly, in the digital economy, early platforms that become dominant are not necessarily more innovative or valuable than potential later entrants; their dominance is heavily shaped by the cumulative network effects and first-mover advantages.

7.6b Justifying a Digital Georgist Tax

The first-mover advantage in the digital economy reflects an inherent arbitrariness in economic distribution that is inconsistent with principles of fairness and justice. From a Rawlsian perspective, particularly under the Difference Principle, economic inequalities are only justified if they benefit the least advantaged members of society. However, the disproportionate wealth accumulation by early digital platforms often does not meet this criterion. Instead, it results from

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Given this dynamic, a Georgist-style tax on digital spaces becomes both logical and justified not only from a Georgist perspective but also from a Rawlsian one. Such a tax would function to mitigate the inequalities that arise from the first-mover advantage, which is essentially an arbitrary factor in economic success. This aligns with Rawls's Difference Principle by ensuring that the distribution of economic benefits is arranged to maximize the position of the least advantaged, rather than simply reinforcing the arbitrary benefits of early arrival.

Furthermore, the principle of "fair equality of opportunity," which demands that individuals have equal chances to access positions and benefits in society, is undermined by the first-mover advantage in the digital economy. By taxing the unearned digital rents accrued by these first movers, society can reduce the disparities created by such an arbitrary distribution of opportunities. The tax revenue can then be used to enhance digital access, fund public digital infrastructure, and provide resources for new entrants, thereby creating a more level playing field in the digital space.

Digital Georgism would thus involve creating a taxation mechanism that levies taxes on digital platforms based on their usage of digital resources—such as bandwidth, data storage, and user data. This tax would be progressive, targeting the largest platforms with the highest digital rents, while sparing smaller players and individual users. The revenue generated would be reinvested in public goods, such as digital literacy programs, the maintenance of open-source resources, and democratic regulating bodies.

Implementing a digital Georgist tax would involve several steps: the first step is to identify what constitutes digital rent. This could include advertising revenue that platforms earn based on user-generated content, the fees they charge for access to markets, or the data they collect from users and sell to third parties. These rents often reflect the network effects and first-mover advantages rather than intrinsic platform value. The second step is that digital rents could be taxed progressively, meaning that the larger the platform and the more significant its network effects, the higher the tax rate. This approach targets those entities that benefit the most from the first-mover advantage and network effects, ensuring that they contribute proportionately to the public good. Smaller, emerging platforms, which do not benefit to the same extent from these dynamics, would face a lower tax burden, encouraging innovation and competition. The third step is that the revenue from digital Georgism could be used to fund initiatives that reduce inequality within the digital economy and to maintain key institutions that support it. For example, funds could be allocated to support firms or cooperatives in low-margin, non-innovative sectors, provide digital infrastructure in underserved areas, or establish public digital spaces that offer alternatives to commercial platforms. This approach not only aligns with the Difference Principle but also promotes fair equality of opportunity by ensuring that all individuals and groups have access to the digital tools and infrastructure necessary to compete fairly.

By combining a property-owning democracy with digital Georgism, a liberal-republican alternative provides a more balanced and fair approach to economic governance in the digital age. It ensures that the benefits of digital innovation are widely shared while preventing any one group from accumulating excessive economic or political power. The analogy of the unbounded savannah also helps highlight how digital Georgism aligns with the liberal-republican concern for non-domination. In George's example, without some form of regulation or taxation, the initial landowner, or digital platform owner, becomes incredibly wealthy simply due to their position as a central node in a network, and not necessarily or primarily, because of their productive activities. This dynamic, left unchecked, can lead to a concentration of economic and political power that undermines freedom as non-domination.

By applying a Georgist-style tax to digital platforms, society can reclaim some of the unearned value generated by network effects and reinvest it in ways that benefit all, rather than allowing it to accumulate in the hands of a few dominant players. This not only promotes a fairer distribution of resources but also ensures that digital spaces remain accessible and competitive, preventing the emergence of a new kind of "digital landlord" oligarchy.

Furthermore, by redistributing the proceeds of such a tax to support less innovative sectors and provide public digital services, we can mitigate the inequalities between high-innovation and low-innovation cooperatives. This would help create a more balanced digital economy where all sectors—regardless of their inherent innovation potential—have the resources and opportunities to thrive. In summary, the analogy of the unbounded savannah provides a powerful justification for digital Georgism as a tool to promote a fairer and more democratic digital economy. It aligns with the liberal-republican emphasis on preventing domination and ensuring that the benefits of digital innovation and growth are widely shared across society. It also aligns with Rawlsian

principles by addressing the arbitrary advantages of first movers and ensuring that economic benefits and opportunities are arranged to improve the situation of the least advantaged, creating a digital economy grounded in fairness and justice.

7.7a Clarifying a Digital "Land" Tax: Base, Scope, Rates, and Rationale

The argument so far has established why Georgism can be reconciled with a liberal-republican conception of justice, and why a tax on digital location rents may be permissible under these standards as well. What remains is to clarify the design of such an instrument. I will expand on what counts as "land" in the digital economy, how rents may be identified and measured, how liability may be assessed, and which firms are in scope. This section provides that clarification, focusing on operational detail and institutional rationale.

In the classical sense, land denoted a factor of production the value of which is derived from scarcity and location, rather than from human effort or reproducible capital. Its central plots appreciate because others cluster nearby. The increment is community-created, and also derivative of the accumulative effects of the division of labor within and between nodes. The digital economy recapitulates this logic. "Digital land" should therefore be defined functionally as bottleneck positions in shared digital networks where network effects and enclosure generate location rents. Some examples of this include: Default placement, the status of being the default search engine in a browser or the pre-installed app store in a mobile operating system; Distribution rails, platforms that others must traverse to reach end-users (e.g., app stores, cloud platforms, ad exchanges); Identity and data graphs, authentication and social login services that aggregate users into a single identity layer, rendered excludable by law and code; and attention gateways, social or content platforms where the aggregation of user attention becomes a scarce access point for advertisers and complementors.

These positions function as the digital equivalent of land in a crowded city center, as with the analogy of the boundless savannah. Their value is generated by user clustering, developer dependence, or legal exclusivities. They are not easily reproducible and they accrue rents that are largely detached from marginal innovation. That is why they count as "land."

The key to Georgism is the boundary between rents (returns to position and enclosure) and improvements (returns to labor and reproducible capital). Only rents should be taxed. In the digital context, the rent base includes: Advertising revenues tied to user-generated content and attention capture, where the surplus value derives from the concentration of users, not from the marginal productivity of the platform; Access and placement fees charged to complementors (app developers, merchants, gig workers) for visibility or market access; and monetized identity/data assets where user data, though non-rival, is rendered excludable and scarce through intellectual property, contracts, and technical barriers. By contrast, improvements (e.g., software engineering, service quality, reproducible capital like servers and compute, and labor) remain untaxed by design. This distinction preserves innovation incentives.

Two complementary approaches can be used to operationalize the rent base. The first is a residual-rent assessment, estimating the normal return to reproducible capital and labor in the sector—using benchmarks from competitive firms, historical industry averages, or cost-of-capital models—then compare this to the observed returns of a dominant platform. The residual surplus above normal returns, attributable to gatekeeper status and network effects, is treated as taxable rent. The second is access-right valuation, where a platform controls a distinct bottleneck or gate (e.g. search default, app store), assess the market value of that access right (via auction benchmarks or comparable access fees) and levy a value-based tax levied as a percentage of assessed value.

Both approaches target the structural advantage of the bottleneck, not productive investment. They are less vulnerable to manipulation than profit-based taxation, since gatekeeper roles and network-effect intensity are visible in market structure rather than accounting statements.

A theoretical Georgist position would allow up to a hundred percent of pure rents to be captured. In practice, a progressive schedule tied to network-effect intensity and gatekeeper power is more feasible. Three design features matter: The first is progressivity, providing low rates for firms with modest network effects, rising sharply for entrenched platforms with systemic gatekeeping functions; Second is dynamic adjustment, as public options or open standards reduce bottleneck rents, assessed rents decline and liability shrinks. The tax contracts as the problem is solved; the third is integration weights, which is higher rates for platforms that control multiple layers (e.g. both app distribution and payment processing), since such integration thickens rents—addressing some issues with patent thickets are barriers for entrants.

This structure ensures that the instrument does not penalize entry or innovation. New firms with weak network effects face little or no liability, while dominant incumbents with entrenched rents face the heaviest burden. In short, the assessment mechanism is designed to protect dynamism at the margins while capturing the positional surpluses that threaten non-domination.

This is not a blanket "technology tax." Liability applies selectively to platforms whose business model rests on rent extraction from bottleneck positions. Scope is determined by two criteria. The first is gatekeeper status, whether the platform controls a default or distribution channel that others must traverse. The second is network-effect dominance, whether the platform's share of users or complementors indicates tipping and lock-in. Firms that do not meet these criteria—small "software as a service" providers, regional platforms, startups—fall outside or face minimal rates.

By sparing marginal players and targeting entrenched incumbents, the design preserves contestability and dynamism.

In sum, a digital Georgist tax targets the rents that accrue to entrenched gatekeeper positions in the digital economy, leaving genuine innovation and improvements untouched. By defining digital "land" as bottleneck positions, measuring and taxing only the residual rents they generate, and applying a progressive schedule that falls primarily on dominant incumbents, the instrument protects contestability and dynamism while curbing domination. The revenues are directed to predistributive investments—open standards, digital infrastructure, and literacy—that reinforce the independence of citizens and sustain a property-owning democracy. In this way, the tax is not a welfare measure but a structural reform: a mechanism that returns community-created value to the community, securing reciprocity and non-domination in the digital age.

7.7b Georgism Inside a Liberal-Republican Architecture

The worry I need to address is straightforward: does the use of Georgism smuggle a left-libertarian foundation into a framework I otherwise treat as liberal-republican—in Alan Thomas's sense of property-owning democracy, countervailing power, and anti-oligarchy? My view is that it does not. In what follows, I reconcile the two by assigning them different jobs: Thomasian liberal-republicanism supplies the normative test and institutional horizon; the Georgist lens supplies a targeting rule for a specific class of rents that undermine those aims.

I begin from the institutional commitments already defended earlier. On Thomas's view (which I adopt), justice as fairness must be realized holistically—equal basic liberties (with their fair value), fair equality of opportunity, and the difference principle together require background institutions that pre-empt the formation of capital-based oligarchy. That is the point of a property-owning democracy. POD places a limit on capital-based inequalities, and the case for POD can be

derived from the fair value proviso and the fair equality of opportunity principle taken together. The upshot is a shift from *ex post* redistribution to predistribution: we constitutionalize the economic background so that domination does not arise in the first place. That is also why I treat property as a legal construction—assets are coded into capital by law, and that legal coding determines who holds priority, durability, universality, and convertibility claims.

Against that backdrop, Georgism plays an instrumental, not foundational, role. The classical insight is a clean boundary between rent and improvement: tax location value—the portion created by community clustering and legal exclusivities—and spare reproducible capital and labor. In the digital economy, "land" is functional rather than literal: it names bottleneck positions and gatekeeper rights in shared networks (defaults, app distribution, search access, identity graphs, ad exchanges) where network effects and enclosure make access excludable and yield positional returns. That is the digital form of "central plots" in the unbounded savannah: early hubs become more valuable because the community gathers there.

Seen this way, there is no foundation swap. The Thomasian aim is to prevent oligarchic drift and protect the fair value of liberties by dispersing control and building countervailing power. The Georgist instrument identifies which revenue streams are structurally suspect—rents from position and enclosure—and therefore safest to capture without dulling innovation. It is precisely because digital rents are produced by institutionalized enclosure (Schwarts's franchise economy) that a sector-specific rent instrument is proportionate to the locus of the problem: IPR-heavy firms monetize club-good rights, sit "above" capital- and labor-intensive suppliers, and extract value by controlling gates rather than by absorbing labor or making deep capital commitments.

What, then, does the Georgist framing add once I've already justified a digital platform tax on Rawlsian grounds (as I do when I connect first-mover arbitrariness and network effects to the

Difference Principle and fair equality of opportunity)? It adds three concrete advantages that matter inside a Thomasian POD: First, it adds a sharper boundary between rents and improvements. Rawls tells us why intervention is permissible, while Georgism tells us where to aim so that we do not penalize innovation. In my terms, the base should be digital location rents—advertising tied to user-generated attention, access/placement fees levied on complementors, and monetized identity/data made excludable by law and code—rather than profits in general. That boundary preserves the dynamism POD needs while draining domination-enabling surpluses.

Second main advantage Georgism adds to the liberal-republican normative frame is administrative neutrality and tractability. Rent bases tied to gatekeeper status and network-effect intensity are harder to game than profit bases and more neutral than payroll or sales levies. Profit measures are vulnerable to accounting practices that shift income across jurisdictions, inflate costs, or reallocate intangibles in ways that disguise underlying rents. By contrast, gatekeeper roles and network-effect intensity are relatively transparent in market structures. Hegemonic status, share of user traffic, and complementor dependence cannot easily be manipulated on a balance sheet. The base is therefore less susceptible to creative accounting and international tax arbitrage. Likewise, rent taxation is more neutral than payroll or sales taxes, which fall on productive activity and can discourage hiring or consumption. In contrast, taxing positional rents removes windfalls that derive from enclosure and network clustering without discouraging genuine innovation or exchange. That design discipline matters for my normative commitments to the fair value of liberties, as well as my commitment to a dynamic economy. The instrument should discipline power with minimal collateral damage to productive effort. My proposed schedule does exactly this, progressive with rent intensity, focused on dominant platforms, and sparing smaller entrants, so that the remedy does not itself entrench dependence by blunting entry.

Third main advantage is the built-in predistributive logic in Georgism. Because these rents are community-created, recycling them into open infrastructure, public digital options, and capability-building is not charity but the constitutionally appropriate return of community value to community capabilities. This is the predistributive loop I emphasize—rent capture on positional surpluses that fund the background conditions (standards, tools, literacy) under which exit and voice are real for workers, users, and complementors. In this respect, the logic of Georgism avoids some of the pitfalls associated with purely redistributive logic. Rawls worried that a capitalist welfare state that redistributed winnings could undermine welfare recipients' sense of self-worth by casting them as dependents and non-contributors to social value. By contrast, a Georgist framing makes explicit that the value being taxed was generated collectively, such as in the case of network effects. Thus, the tax is not merely a means to maintain the difference principle and an ex post correction, but the benefits of the tax are seen as merited as a matter of contribution to social value rather than received as charity.

This division of labor I deploy also addresses the charge that Georgism privileges a single factor of production. While normally it may do so, my used of it does not elevate "land" here for metaphysical reasons. I am identifying a recurrent structural pattern—assets or positions whose value is sustained by network position and legal enclosure and which therefore generate non-competitive, domination-enabling returns. Classical land does this because location value is community-created and non-reproducible, as seen in George's example of the boundless savannah. Digital gatekeeper positions do it because access routes and identity graphs can be made excludable, and network effects tip markets toward hubs. The republican yardstick is domination risk—which assets or positions confer a standing capacity for arbitrary interference? Those are the

ones a POD regime should tame or diffuse, and Georgism sharpens our ability to do that while protecting improvements.

Finally, the Georgism may be seen as in tension with my liberal-republican commitments due to its left-libertarianism and the principles that entails. My proposal does not presuppose self-ownership or a grand metaphysics of initial acquisition. It presupposes a public, institutional view of markets: law codes assets into capital; network effects and legal design create positional advantage; and a free people may, through democratic self-government, structure those institutions to secure reciprocity and non-domination. Interference that flows from democratic self-rule can be non-arbitrary; the point is to reduce private dependence and keep the effective value of our equal liberties intact.

In summary, Thomasian liberal-republicanism sets the aims while Georgism improves the aim. Within a POD, a digital rent instrument targets the "right" surplus—location value at digital bottlenecks—while sparing improvements. It recycles community-created gains into the public capacities that keep markets open and citizens non-dependent. That is why I treat digital Georgism as a coherent and helpful implementation of the liberal-republican program rather than a competing foundation.

7.8 The Role of the State and Public Policy in a Liberal-Republican Digital Economy

In a liberal-republican framework, the state plays a crucial role in maintaining freedom as non-domination by ensuring that no individual, group, or entity has unchecked power over others. In the context of the digital economy, this means implementing policies that promote transparency, democratic oversight, and accountability in the governance of digital platforms. The state must act as a guarantor of fair opportunities and as a regulator that prevents the concentration of power and the emergence of new forms of digital oligarchy.

The rise of digital platforms has created new centers of power that rival, and in some cases exceed, the influence of traditional state and economic actors. To align with the liberal-republican principle of non-domination, it is essential that these digital platforms operate under a framework of democratic accountability. A central function of the state in a liberal-republican digital economy is to establish a robust regulatory framework that ensures digital platforms are subject to democratic oversight. However, to prevent oligarchic tendencies and concentration of power, this oversight should move beyond traditional regulatory models and integrate innovative democratic mechanisms like sortition and "mini publics."

Sortition has been proposed by several authors as a means to counter oligarchic dominance and ensure broad-based democratic participation (McCormick 2011; Vergara 2020). In the context of digital governance, sortition serves as an anti-oligarchic institutional mechanism that can prevent regulatory bodies from becoming capture by professional politicians, economic elites, or other politically or economically privileged classes. Incorporating sortition into the structure of regulatory bodies ensures that ordinary citizens play a direct role in overseeing digital platforms and shaping policies.

We can envision a multi-chambered oversight body for digital governance which is based off the insights from McCormick, Machiavelli, and classical republicanism. In this model, different chambers would have distinct but complementary roles. Firstly, is a technocratic chamber, which consists of appointed experts with specialized knowledge in areas such as data privacy, cybersecurity, platform economics, and digital ethics. This chamber would be responsible for drafting initial regulatory proposals and providing technical guidance. These experts will be appointed through a federated nomination system in which a committee of citizens, also chosen through sortition, from within certain jurisdictions will be able to nominate candidates who qualify

by having some minimum standard of expertise, such as a specialized degree in the relevant field or some minimum amount of time working in some relevant position. Then the second chamber—the citizen's chamber—will vote to officially select technocratic representatives to serve in the first chamber for their term. The second chamber—the Citizens' Chamber—will also be constituted through sortition. It would comprise randomly selected citizens who serve for limited terms. Everyone who was not nominated for the first chamber is eligible to be selected to serve in the second chamber. This chamber would review, amend, or veto proposals from the technocratic chamber.

This multi-chambered model allows for a balance between expert knowledge and democratic legitimacy. The Expert Chamber would bring technical expertise to the table, ensuring that regulations are well-informed and feasible. However, the Citizens' Chamber would act as a check on the potential overreach of experts, ensuring that regulations do not cater exclusively to industry interests or technocratic perspectives.

Citizen assemblies could be established to deliberate on major platform policy changes or new regulatory frameworks. These assemblies would be constituted by randomly selected citizens who receive comprehensive briefings, access to expert testimony, and opportunities for structured deliberation. The outcomes of these assemblies could either serve as binding recommendations or require further deliberation by a broader digital governance body that includes both citizens and experts. Vergara's *Systemic Corruption* emphasizes the importance of continuous power rotation to prevent the entrenchment of influence by specific groups. By regularly rotating participants in citizen assemblies and oversight bodies, this approach keeps governance structures dynamic, resistant to capture, and responsive to public input. The integration of mini publics into the digital

governance framework ensures that the governance of digital platforms remains genuinely democratic, inclusive, and resistant to oligarchic drift.

To ensure that citizen participation in digital governance is not merely symbolic but substantively impactful, citizen chambers or assemblies should be empowered with veto and amendment powers over regulatory proposals. This means that any proposal put forward by the Technocratic Chamber would need approval by the Citizens' Chamber or Assembly. This direct power of veto or amendment would create strong accountability mechanisms, ensuring that the expertise of specialists is balanced by the democratic legitimacy of citizen oversight, thus modeling McCormick's call for institutions that provide direct popular oversight over elite decision-making, as well as Vergara's emphasis on preventing systemic corruption through constant vigilance and public engagement. By empowering citizen bodies with meaningful decision-making powers, digital governance structures can evolve in response to public needs and concerns rather than being dominated by entrenched interests.

Incorporating mini publics, sortition-based citizen assemblies, and a multi-chambered oversight model provides a robust framework for ensuring democratic accountability in digital governance. This approach aligns with liberal-republican values of preventing domination and promoting public participation while balancing expert knowledge with democratic oversight. By drawing on frameworks from McCormick and Vergara, we can envision a digital governance model that resists oligarchic tendencies, remains transparent, and reflects the values of the broader community.

7.9 Conclusion

In this chapter I argue for platform republicanism as a counterbalance to the economic and political dominance wielded by Big Tech. By contrasting James Muldoon’s platform socialism

with a liberal-republican model, I argued for the necessity of decentralizing the infrastructure necessary to innovate and participate in the current economy in order to uphold self-sufficiency, and therefore non-domination. Central to this analysis is the argument that while platform socialism aims for collective ownership, it still risks the concentration of control. In response, I propose a model that leans on historical republican principles adapted for the digital age, emphasizing digital Georgism, open-source infrastructure, and digital literacy. These measures aim to distribute access to technological tools and the wealth they generate, preventing vast political or economic inequality and preserving individual autonomy.

Chapter eight shifts from the structural and economic frameworks of digital platforms to the transformative potential of artificial intelligence, among technologies, in redefining how we labor. The next chapter will explore how AI, when within a liberal-republican context, could move beyond its current trajectory of exacerbating inequalities. Instead, it can contribute to a utopian vision of work. By eliminating or drastically reducing routine tasks, and redistributing creative and cognitive labor, AI holds the promise of enhancing meaningful work and expanding contributive justice. The transition underscores the interplay between systemic economic governance and the individual experiences of workers, tying together the broader question of whether technological progress will serve as an instrument of liberation or further domination.

Chapter Eight: AI and the Utopian Transformation of Work

Introduction

In this final chapter I will consider the impact of digital technology on the nature of work. My focus here is not on workplace democracy, but the genuine concern that automation and digital technology can be used to make workplaces experiences worse for the ordinary worker. In the memorable words of Umair Haque, digital technology can be used to create the “Asshole Factory” where workers are constantly surveilled, have their performance monitored in real time, and are

pitted against each other, or even against customers, with their jobs on the line (Haque, 2015). Following on from my critique of "data as labor", one sphere in which workers cannot resist data being collected about them is in their own workplace. Democratic pushback may not be enough to resist changes in how work is structured in the light of large-scale data collection and feedback about worker performance.

In this final chapter I will argue that, on the contrary, digital technology can play a role in emancipating use from oppressive structures of work. A liberal egalitarian ought to be committed to equal access to meaningful work. Firstly, I will explain what meaningful work is and what it is not. I will then discuss what is meant by equal competitive opportunity and of Gomberg's four main objections to it; the autonomy argument, the abstract argument, the practical argument and the theoretical argument. Following Gomberg's four arguments I will provide counter-arguments for each. Finally, I will provide some concluding remarks.

8.1 The Structure of Work and the Requirement of Meaningfulness

How to Make Opportunity Equal Paul Gomberg provides several objections to equal competitive opportunity, particularly as conceived within the general framework of liberal egalitarianism (Thomas 2020). Meaningful work is a rewarding endeavor that often leads to a sense of accomplishment. Those who engage sufficiently in meaningful work over the course of their lifetime are more likely to feel satisfied with how they have lived. Meaningful projects are often a source of self-esteem, and contribute to the further development of one's innate and trained abilities. To deprive one of the opportunities for meaningful work, then, is to deprive them of a significant source of self-worth and overall satisfaction in life. According to Gomberg, the equal opportunity for meaningful work in monied societies is undermined by two aspects. Firstly, money is a positional good, meaning it is only good relative to how much of it others have. Secondly,

money is attached to positions. As a positional good, not everyone can be equally in the top percentiles. Therefore, positions of advantage, those that facilitate the exercise of complex abilities and are attached to higher incomes, are limited in supply. Equal competitive opportunity is an ideal in how to distribute these positions. It is this competitive aspect, which demands winners and losers, that ultimately unjustly deprives a significant portion of society from an important source of self-esteem, mainly exercising their complex abilities. His alternative proposal to the liberal egalitarian notion of equal competitive opportunity is a moneyless society in which opportunity is non-competitive and certain kinds of labor are shared.

Generally, meaningful work is characterized as "complex and varied, and giving the worker considerable decision-making power" (Moriarty 2009). The Marxian tradition describes work as a process of planning and execution, where "purposive action guided by intelligence" is "the special product of mankind" (Pagano 2014). The division of labor is often manifested through the division of the work process. The process is divided such that people are often tasked with executing what others have planned. Labor that allows for the exercise of both planning and execution, where a considerable amount of work is both planned and executed by the same worker, is what Paul Gomberg refers to as "complex labor" (Gomberg 2007). Complex labor is described as meaningful work as it is varied, complex, and involves a high degree of decision-making power on the part of the worker. In contrast routine labor involves little to no opportunity for the conceiving or planning of work. Routine labor is primarily focused on the execution of plans made by others, such as managers or owners, and the work is often closely supervised (Gomberg 2007).

Certain kinds of work can be considered meaningful according to the Aristotelian Principle which states, "other things being equal, human beings enjoy the exercise of their realized capacities (their innate or trained abilities), and this enjoyment increases the more the capacity is realized, or the

greater its complexity" (Rawls 1999a, p.374). Complex labor involves the realization of both intellectual and physical capacities which are likely to be self-reinforcing.

Complexity is often enhanced by a process, which in economics is referred to as "learning-by-doing," in which productivity growth is explained by putting ideas into practice (Arrow 1974). Whereas knowledge of the physics behind a steam engine may be sufficient for producing one, only after a long process of producing engines, learning from competing designs, and generating gradual improvements can one actually come to know a more perfect engine design. Learning-by-doing is often explained at the macro level, though it may apply to the individual as well (Pagano 2014). Through years of practice, requiring both planning and executing, a lawyer comes to enhance their understanding of rhetorical tools and the nuances of the law. Given the Aristotelian Principle and the process of learning-by-doing, complex labor is likely to continually reinforce the generating and exercise of abilities. Fair opportunity for meaningful work, therefore, is a necessity in any society that wishes to maximize overall human enjoyment as well as increase the likelihood of citizens' satisfaction with their overall life's plan and prospects.

Routine labor is closely supervised and lacks a significant element for planning on the part of the worker engaging in it. There are few opportunities to exercise both intellectual and physical abilities. Routine labor is repetitive, engaging in activities which are already well established and well understood, as such there are also few occasions in which one can learn and push the boundaries of their knowledge by engaging in routine labor as opposed to complex labor. Routine labor, much like complex labor, is self-reinforcing. Adam Smith and Karl Marx saw the daily exercise of supervised repetitive tasks as likely to produce workers who under-develop their abilities to conceptualize and plan, thus increasing the likelihood of blunting their intellectual curiosity more generally (Gomberg 2007; Pagano 2014). Rawls shares this concern stating that,

"no one need be servilely dependent on others and made to choose between monotonous and routine occupations which are deadening to human thought and sensibility" (Rawls 1999a, p.464). Other things being equal, complex labor alone is likely to nurture innate or trained abilities, thus increasing human enjoyment and contentment. In turn, routine labor alone is likely to impede the nurturing of abilities. Due to the self-reinforcing nature of both kinds of labor, all things being equal, maximizing the opportunity for meaningful work should be of concern.

8.2 How Can We Enhance Opportunities to Work Meaningfully?

Equal competitive opportunity is a process in which vacant positions are filled by having applicants compete with each other in some relevant way. Applicants are to be tested according to their ability to perform the tasks relevant to the position, for example a potential nurse must be able to properly administer a vaccine and be sufficiently knowledgeable about healthcare. What makes equal competitive opportunity equal is that it assumes a "level playing field" in which circumstances outside one's control, such as race, gender, religion, ethnicity, or initial socio-economic class, do not determine one's chances in attaining the position.

I will call Gomberg's first objection to equal competitive opportunity the Autonomy Argument, which is outlined here. With equal competitive opportunity circumstances outside a person's control do not determine outcomes. Everyone who wants a particular position, and has the relevant skills for carrying out the responsibilities of that position, should be taken into account. Presumably, what determines a person's outcomes are their autonomous choices (Gomberg, 2007, p.19). Positions of advantage in society, which often involve complex labor and high incomes, are assumed to be in limited supply and high in demand, thus the competitive application processes. Only a few applicants are awarded the position once the application process is over, despite the fact that there were considerably more qualified applicants overall. While equal competitive

opportunity is designed to reward merit, it effectively serves as an ideological justification for why some people have positions of advantage and why others do not, even if those who did not achieve the position could have or do have the relevant skills.

Gomberg argues that this ideological justification emerges from equal competitive opportunity's emphasis on personal autonomy. Considering that circumstances outside one's control are ruled irrelevant in the equal competitive opportunity, success or failure in the competitive process is placed on the individual's choices. In focusing on the autonomous choices of individuals, Gomberg argues that the causal role of social institutions remains hidden. While an individual's choice may seem to explain why a particular person, let's say Mary, works as a custodian, it fails to take into account of the fact that *someone,* if not Mary, must sweep the floors (Gomberg, 2007, p.24). Autonomous choices also cannot explain socio-economic phenomena such as structural unemployment, when things like technological change displace workers. Though a particular person may have reason not to be unemployed, by the structure and dynamics of the economy, *someone* must be unemployed (Gomberg, 2007, p.24).

The second objection raised against equal competitive opportunity is the Abstract Argument. Even if all open positions of advantage in society were made equally accessible to all, it is important to note how many of such positions are available. To better illustrate the point, Gomberg imagines a world called "Meritonia." In Meritonia equal competitive opportunity is successfully achieved. Everyone in Meritonia competes on a level playing field. However, the vast majority of positions in Meritonia require exercising closely supervised routine labor. There are few positions of advantage, high salaried positions involving complex labor, relative to the population. Given the level playing field, every citizen is capable of exercising complex abilities, due to equal access to educational resources and other necessities for maintaining the level playing

field. Despite everyone having the capability to do so, there few who are awarded positions that involve the regular exercise of complex abilities. The appeal of Meritonia is a function of the number of open positions relative to the population. All things being equal, a Meritonia with a hundred positions of advantage may be appealing, though a Meritonia with a thousand positions of advantage is even more so. If equal competitive opportunity were achieved, it does not necessarily resolve issues surrounding the supply of positions of advantage.

The third objection Gomberg raises is the Practical Argument. According to the Practical Argument, there are at least two reasons why some work is more valuable than other kinds of work. Firstly, some work can be valued intrinsically. Some work is more enjoyable, interesting, or safe by the nature of the tasks involved. Secondly, work can be extrinsically valued depending on the prestige and income society attaches to the position (Gomberg, 2007, p.30). Being that some work is nearly universally valued more than other kinds of work, parents naturally try to convey to their children cultural and educational advantages in an effort to secure positions of advantage for their children. The more advantaged the parents are, the more likely they will be able to effectively convey the relevant cultural and educational advantages to their children. Children who inherited more advantages are more likely to be able to leverage these advantages when competing for a position of advantage, thus undermining the equal playing field necessary for equal competitive opportunity. As advantages accumulate the playing field becomes further distorted and social class becomes more rigid.

The fourth objection to equal competitive opportunity raised by Gomberg is the Theoretical Argument based on the socialization principle (Gomberg, 2007, p.35). According to the socialization principle, we are brought up, or socialized, so that our aspirations and talents fit available positions in society. The socialization principle holds because it is assumed that positions

of advantage are in limited supply, therefore it is not reasonable for everyone to expect success in achieving a position of advantage. In order to manage expectations, social dynamics will be such that some children will be socialized to want to develop their complex abilities while other children will not. To illustrate his point Gomberg points to the current education system in the United States.

While there are exceptions to the rule, children born from socially disadvantaged backgrounds are often closely supervised at school. Discipline, rather than intellectual curiosity, is impressed onto the students. A relative lack of funding for schools in disadvantaged communities leads to reduced budgets for creative and extracurricular activities that can facilitate the development of complex abilities. As the children grow up, they will find that they are well prepared for routine work, which is characterized by close supervision and the exercise of repetitive tasks that do not require complex abilities to accomplish.

Students in communities of relative advantage often find that their school is well funded by comparison. Advantaged students have greater access to teachers who encourage their creativity and powers for planning. Extracurricular activities have greater funding, encouraging students to develop complex abilities. Advantaged students will find themselves well suited to positions that offer complex labor as adults. They are more likely to aspire to such positions in their youth as well.

The problem of "sour grapes" provides an explanation as to why the disadvantaged students are less likely to aspire to positions of advantage as adult. The phrase "sour grapes" refers to a parable in which a fox attempts to eat grapes that are just out of reach. After several futile attempts to reach the grapes, the fox declares that they must be sour and therefore undesirable; he abandons any desire he may have had for the grapes. Circumstances can often drive desire rather than desire driving the circumstances. The causal role of social institutions, such as schools, are such that

students are socialized for varying activities. Disadvantaged students often are better prepared for the kinds of tasks associated with routine labor than they are for tasks associated with complex labor. Where a disadvantaged student might otherwise aspire to a position of advantage, being aware that they have been prepared for routine labor and that positions are in limited supply, they adjust their aspirations accordingly.

8.3 Developing an Alternative to Equal Competitive Opportunity

Within a liberal framework it is often argued that because money is an all-purpose good, a liberal conception of justice is neutral towards the good. It allows for a pluralistic society in which individuals exchange money as a means for acquiring whatever objects they personally value according to their life's plan. Gomberg argues, by contrast, that money is also a positional good. Positional goods are only good in relation to how much others have of it as well. Unless perfectly evenly distributed, not everyone can be in the top percentiles of wealth. Positions in the top percentiles are, by definition, limited in supply and cannot be expanded without also expanding the supply of positions of relative disadvantage. In monied societies positions of advantage, which are generally associated with complex work, are also attached to higher incomes. In this context people desire positions of advantage at least partially for the associated income.

According to Gomberg, the good that opportunity is meant to achieve must be unlimited for opportunity to be equal. If a positional good, such as money, is intended to be the objective of the opportunity, then opportunity cannot be equal. In this case opportunity is a zero-sum game.

Opportunity has a probability dimension and a freedom dimension. The goal of some number n of opportunities is some good. Opportunity for the good may be unlimited in supply, but the good itself may remain scarce. Everyone's opportunity is therefore a function of everyone else's opportunity for the same good. Opportunity for person A increases if opportunity for person B

decreases and so on. This is the probability dimension of opportunity. The probability dimension under equal competitive opportunity, Gomberg argues, makes it such that it is in people's interest to not only attempt to succeed, but to desire that others fail.

There is also the freedom dimension of opportunity. As a freedom, opportunity for a position may be in greater supply than the good the opportunity is meant to attain. While any number of candidates may all equally share the freedom of opportunity, once the job is taken the opportunity is now gone. Everyone may have access to a position of advantage, but only few achieve it. Those who have the relevant abilities, but are not given a position may come to feel resentful or undervalued. Gomberg argues that the good that opportunity is meant to deliver must be unlimited in supply if opportunity were to be equal. Equal opportunity must not be competitive. Unlike money, prestige is a social good that can be unlimited in supply.

Prestige is the social esteem attached to a social position (Gomberg, 2007, p.58). To esteem is to think well of (69). There are two sources of esteem, self-esteem and social-esteem (Gomberg, 2007, p.57). Self-esteem is how we regard ourselves, and social-esteem is the esteem society regards to certain positions or individuals. Both self-esteem and social-esteem are central to our ethical life (Gomberg, 2007, p.69). To the extent that human beings are social animals that depend on a social context to organize their lives, self-esteem is defined by the social-esteem towards the individual.

There are two kinds of norms of esteem; there are norms of identity and norms of prestige. With the former, esteem is derived from norms that are implicit in an identity and from other people who share our ideas on its normative content. Someone may consider themselves as a good son or daughter for conforming to the norm of celebrating their mother on Mother's Day. Those who share that norm are also likely to esteem other children who do the same.

Prestige is the social esteem attached to social positions, where "social positions are statuses within a group defined by rights and responsibilities" (Gomberg, 2007, p.58). Some examples of social positions provided by Gomberg are being a physician, a citizen of Mexico, a member of the Lutheran church, a welder and a soccer coach (Gomberg, 2007, p.58). Some positions receive greater social esteem while others may be disesteemed. Though there are exceptions to the rule, in moneyed societies norms of prestige correspond to income; a position of high prestige also has high income.

Norms of identity also apply to social positions. A society may attach greater prestige to the social position of a physician than to the position of a welder. While the welder receives less prestige, as an identity the welder may still be esteemed; welding can be done well or poorly, the welder who does the things associated with welding well is esteemed as a welder.

Norms of identity are not competitive, but rather they are comparative (Gomberg, 2007, p.59). Person A satisfying the norms of identity A' does not impede the ability for person B to satisfy those same norms for A'. As an identity it is possible for all professors to be good professors. It is not the case that if some professors are good, then others must be bad. Normative evaluations are done by establishing certain norms, or standards, necessary for something to be "good;" for example, a good professor may be expected to be timely, diligent, knowledgeable and a clear communicator. For every professor that satisfies those norms, that professor is a "good professor."

In societies of equal competitive opportunity, who gets what social position is decided through a competitive process. Where there is competition for social positions, there is also competition for prestige. To the extent that self-esteem is a function of prestige, there is also competition for self-esteem. In such societies, prestige is a positional good. However, esteem grounded in norms of identity are unlimited in supply (Gomberg, 2007, p.59).

8.4 The Need for Contributive Justice

What Gomberg proposes is equal opportunity based on prestige. Opportunity as such will be uncompetitive. Labor is distributed without being attached to money or market mechanisms, instead labor is to be shared between all members of society. Positions are to be given to everyone who possesses the qualifying skills. Gomberg uses the analogy of a driver's license, where licenses are not distributed on a zero-sum basis (Gomberg 2007 p.59). Everyone with the relevant and necessary skills to drive safe are given a license. Under Gomberg's proposal everyone has an equal opportunity to practice medicine so long as they learn the appropriate abilities. No one is excluded on the basis that there are not enough healthcare positions to go around. Prestige is awarded based on contribution to society rather than the distribution of money and power.

Skills, knowledge and labor are to be shared, "each worker would have at least four responsibilities: to contribute to routine labor, to master new complex abilities, to teach others the complex abilities she has mastered, and to practice those complex abilities" (Gomberg 2007 p.77). Firstly, there is some work that may be both inescapable and unglamorous. Though some of this work that involve this work may one day be automated away, such as mopping the floor, we cannot not assume that necessary routine labor as a category of work will disappear in the future. Instead Gomberg proposes everyone share in this kind of work. The hospital surgeon may have to contribute is making the beds and taking out the trash, and the corporate CEO may have to do the occasional data entry work. Sharing this work allows those currently in positions of routine labor to have more time to dedicate themselves to acquiring the complex abilities needed to do more prestigious work. Secondly, everyone must attempt to master complex abilities. As prestige is tied to conformity with the norms of contribution, citizens must attempt to learn these abilities if they are to be socially esteemed. Thirdly, skills knowledge is shared. Before being taught new skills individuals must agree that they are to pass on their knowledge to a student of their own some time

in the future. This is to ensure that the opportunity for complex work is materialized by supplying the access to the necessary abilities for all who hope to develop them. Lastly, citizens are expected to practice the complex abilities which they have learned or suffer a loss to their prestige.

While everyone must contribute to both routine and complex labor, no one will work they are not trained or qualified for (Gomberg 2007 p.76). As individuals develop their capabilities, they can be given tasks accordingly. Positions, as Gomberg points out, can be "broken down intro specific abilities that have been mastered and hence could be contributed" (Gomberg 2007 p.77). The positions of "physician" may be broken down into abilities such as perform or interpret diagnosis, hygiene care, and counsel patients. As competencies develop, individuals can assume more roles and responsibilities associated with a position requiring complex abilities.

Gomberg calls refers to his proposal as a framework for "contribute justice." A society functioning under contributive justice is moneyless. Contribution to society is rewarded with prestige rather than money. Equal opportunity is on a non-competitive basis, instead opportunity is provided by the passing down of skills as a societal norm. Everyone must share both routine and complex labor, and is unable to devote oneself entirely to just one kind of labor or even something else entirely different (Gomberg 2007 p.157; Thomas 2020).

It certainly seems plausible that a focus on an individual's choice on the matter of equality of competitive opportunity leads to an ideological justification for why some people are mathematicians and others are janitors. In turn this ideological justification may solidify social classes and in the long run undermine the very notion of equality of opportunity itself. Gomberg generally frames his argument against liberal egalitarianism, but Rawls does provide a liberal egalitarian response to the issue of autonomy raised here.

Detailed discussion on the notions of autonomy and heteronomy is beyond the scope of this chapter, but some general points are worth noting. Rawls examines autonomy and heteronomy and how it relates to his overall theory in his essay titled "A Kantian Conception of Equality" (Rawls 1999b, pp.254-266) and in chapter six in the section titled "The Kantian Interpretation of Justice as Fairness" in *A Theory of Justice* (1971/1999a). Like Gomberg, Rawls recognizes the causal role social institutions play in determining our life prospects stating, "the social system shapes the desires and aspirations of its members; it determines in large part the kind of persons they want to be as well as the kind of persons they are" (Rawls 1999b, pp.257). Here Rawls recognizes two significant issues also brought up by Gomberg; the causal role of institutions on our lives and the problem of sour grapes.

According to Rawls's interpretation of Kant, autonomous actions are those which are freely chosen "as the most adequate expression of [one's] nature as a free and equal rational being" (Rawls 1999a p.222).[11] Those principles which guide autonomous actions must not be guided by one's social or natural contingent life circumstances, such as "social position, natural endowments or in view of the particular kind of society in which [one] lives" (Rawls 1999a p.222). Actions guided by such contingent life circumstances are heteronomous, the are not freely chosen in virtue of being free and rational.

In order to determine what kind of principles guiding actions would be chosen autonomously rather than heteronomously Rawls develops a hypothetical, the original position under the veil of ignorance. In the original position people are assumed to be rational and free[12] .

[11] Oliver Johnson argues in "The Kantian Interpretation" (1974) that Rawls's definitions of autonomy and heteronomy canot be said to be Kantian.

[12] "Rawls's concept of rationality must be interpreted as far as possible in the narrow sense, standard in economic theory, of taking the most effective means to given end" (Johnson 1974). Here again Johnson takes issue with Rawls's definition of rationality as he thinks it is distinctly non-Kantian.

Together they must develop the principles which are then to govern their society. In order to avoid heteronomous decisions in the original position, Rawls imposes the veil of ignorance, which disallows individual participants from knowing the social and natural contingencies which will end up influencing their lives.

Though Rawls argues that his theory can be given a Kantian interpretation, he highlights some noticeable differences. Rawls characterizes justice as fairness as a "theory of human justice" and therefore leaves out the freedom of "pure intelligences" of God and angels that Kant's theory otherwise includes (Rawls 1999a, p.226). Those in the original position are still assumed to understand that they are human beings, consequently they understand that they are subject to the natural limitations of human life, such as physical laws and relative scarcity of resources. Those in the original position are also presumed to have interests they wish to pursue in life, though due to the veil of ignorance people do not know what specific interests they will have. While specific interests remain unknown it may be assumed that "persons regard themselves as having a highest-order interest in how all their other interests […] are shaped and regulated by institutions" (Rawls 1999b, p. 260).

The decided upon principles in the original position under the veil of ignorance can be said to be autonomous, as participants are uninfluenced from existing social institutions or natural contingencies. Being unaware of these contingencies, participants cannot choose principles that may unfairly bias their particular position in society. Through this hypothetical Rawls arrives at the two principles of justice, the principle of equal basic liberty and the difference principle paired with fair equality of opportunity. It is these principles, the kind that are arrived at autonomously, which must govern the basic structure of society.

Meaningful work is often defined as a process rather than the performance of a particular task. What makes work, or for that matter perhaps most productive activity, meaningful is that the one participates in both the planning and executing of the activity in question, whatever the scale, whether it be a two-week project or one's entire life's plan. If the plan being executed is not perceived to be of one's own making, or if the plan is perceived to be arrived at heteronomously and afflicted on us by our institutions, then we have come full circle back to the problem with the division of labor; that some people (or institutions for that matter) get to plan and others must execute those plans. This division, presumably, is what often leads to many people performing routine meaningless labor.

Autonomous choices then must play a significant role in any theory of meaningful work. This is not to dismiss the causal role institutions have on our lives, but rather to emphasize, in turn, the causal role of the aggregate of citizens' autonomy on social institutions. Though institutions do shape and regulate citizens' interests, if background institutions are governed by the kinds of principles that would be arrived at autonomously, citizens' will effectively be shaping and regulating the institutions in turn. The individual choices within a well-ordered society governed by the principles of justice can therefore be said to be autonomous, done by free and equal persons. So long as this is maintained, an individual's choices must primary be perceived as autonomous and not an affliction.

Liberal egalitarians, such as Rawls, can and do recognize the causal role social institutions have in our lives, yet it is not necessary to remove the focus on people's autonomous choices. In deemphasizing autonomy, one runs the risk of removing what is meaningful in meaningful work. Prima facie there is no reason to think that equal competitive opportunity will ultimately undermine itself, assuming society is relatively well-ordered according to the principles of justice.

Gomberg asks us not to ignore the causal role of social institutions. His argument for doing so is to point to the difficulty in discerning, in actuality, whether a decision has truly been made autonomous or not (Gomberg 2007 pp.20-2). Gomberg states that for liberals, "the subject of justice is institutions, particularly what Rawls calls the basic structure, which should insure a just distribution. Contributive justice is about each of us and our own reasons for contributing" (Gomberg 2007 p.157). His proposed alternative to the liberal framework is one is which contributive norms function without centralized coercion (Gomberg 2007 pp. 157-8). While Gomberg states that his proposal is not meant to be a blueprint of a new society, it would be naïve to think that social institutions more generally, whether centralized or otherwise, would not play a role in shaping the course of people's lives. A full theory of contributive justice must then be able to justify the social institutions within it. For Rawls, human autonomy plays a central role in the justification of the institutions that make up the basic structure of society. And, I believe, autonomy must play a central role in any theory of meaningful work, as Rawls believes autonomy plays a central role in both our institutions collectively, and in our life's plan as individuals. The emphasis for Rawls in always on autonomy, and I believe rightfully so.

8.5 Gomberg's 'Practical Argument' Reassessed

One of the main concerns in Gomberg's Practical Argument is that parent's will leverage the advantages they gain while occupying positions of advantage in order to secure some advantage for their children in a way that is inconsistent with the idea of equal competitive opportunity.

It is not necessary that equal competitive opportunity produces a system in which parents can secure unfair advantages for their children. Rawls specifies that "a competitive economy surrounded by the appropriate family of background institutions can satisfy the two principles of justice" (Rawls 1999a, p.251). Justice as fairness presents obligations on current generations to

future generations. Though individual parents are under no personal obligation to ensure that equal competitive opportunity is not undermined, background institutions in a well-ordered society must comply with these obligations.

Establishing a social minimum based on average income, where the lowest wages go up as the average income increases, is an insufficient mechanism for background institutions to follow as questions on distribution remain unanswered (Rawls 1999a, p. 251-2). If questions on distribution are unanswered, inequalities may undermine equal competitive opportunity as described by Gomberg's Practical Argument. As a solution Rawls proposes the using the Difference Principle applied across generations, the Just Saving Principle. According to the difference principle, social and economic equalities are to be arranged so that they; (a) are to the greatest benefit to the least advantaged, and (b) are attached to positions open to all under conditions of fair equality of opportunity. The expectations over the lifetime of an individual in a position of relative disadvantage must be maximized. The Just Saving Principle applies these principles across generations, "the appropriate expectation in applying the difference principle is that of the long-term prospects of the least favored extending over future generations" (Rawls 1999a, p. 252).

Savings should represent the claims of each generation; just savings should be seen as an "understanding between generations to carry their fair share of the burden of realizing and preserving a just society" (Rawls 1999a, p. 257). Savings in this context should be considered as, at the very least, the amount of capital accumulation, knowledge, skills, and culture necessary that "make possible just institutions and the fair value of liberty" (Rawls 1999a, p. 256). Background institutions must be designed in such a way that they follow the Just Saving Principle.

Rawls arrives at the Just Saving Principle through the original position under the veil of ignorance. In the original position it may be assumed that people have a bias towards those with familial ties, though they remain unaware of their status in terms of their wealth, to which generation they belong, and the specifics of their familial relationships (Rawls 1999a, pp. 255-6). Each generation must "try to piece together a just savings schedule by balancing how much they would be willing to save for their more immediate descendants against what they would feel entitled to claim of their more immediate predecessors. Thus, imagining themselves to be fathers […] they are to ascertain how much they should set aside for their sons and grandsons by noting what they would believe themselves entitled to claim of their fathers and grandfathers" (Rawls 1999a, p. 256).

For a stable well-ordered society, it is important that background institutions that maintain the two principles of justice are preserved across generations. Gomberg argues that biases towards those whom we are most familiar with will undermine equal competitive opportunity by transferring advantages accumulated by one individual to their kin. For equal competitive opportunity to work, competitors presumably must compete on a level playing field unable to leverage their social or economic class to gain an unfair advantage. While the possibly remains that equal competitive opportunity may be undermined as Gomberg argues, it is not necessarily the case that it should be undermined as such. If background institutions treat society on the whole as a father who wishes to transfer benefits to his children, then individual familial biases should not undermine the level playing field necessary to maintain equal competitive opportunity.

According to Gomberg's abstract argument two different worlds may have equal competitive opportunity, but vary in the number of opportunities available. The world with a greater number of opportunities available would be preferable to the other. Prima facie, the number

of opportunities available is at least as important as opportunity being equally available to all. The kind of opportunities that matter for Gomberg are those that offer the chance to develop and exercise complex abilities. Positions that offer the chance for complex labor are often positions of advantage. Complex labor tends to be more personally fulfilling (Aristotelian Principle), and is usually associated with higher pay and greater status.

According to Gomberg, the probability of realizing an opportunity is a function of how much opportunity there is in society. With equal competitive opportunity, the probability of realizing an opportunity is presumably also a function of how many competitors there are. Opportunity is a function of how many positions of advantage there are, but positions are not fixed. The issues Gomberg identifies are important, but they may have a solution without the abonnement of equal competitive opportunity or a monied society.

The kind of work that needs to be done is a function of the political, social, economic and technological structure of society. Work, as opposed to simply "jobs," can describe a range of activity that involve our conceptualizing a plan and then executing it, such as; designing and constructing a chair, organizing and planting a garden, or visualizing and writing a new computer program. Meaningful work can be done outside a formal position at a firm or governmental institution. If it is meaningful work that matters, then opportunity for meaningful work, not "positions" should be of importance.

Positions are mainly a function of two relations; First, society's legal technologies (Pistor 2019, Simon 1990) and second, our relationships with computer and machine technologies (Murphy 1993). How technology is deployed can affect what kind of work is available to us, and how a job may be designed. Employment contracts, labor laws, and property rights determine many of the boundaries of what constitutes a job. Such laws are subject to change in time. Machine

technologies also determine positions, while a blacksmith may have been a rewarding and lucrative job in one era, today it has been relegated into near obscurity.

According to Jeffery Moriarty, Rawls recognizes that wealth constitutes a social basis for self-respect (Moriarty 2009). While Gomberg emphasizes contribution over distribution for justice, it is important to acknowledge that without at least some share of wealth, it is unlikely that an individual would feel like they can realistically pursue their life plans. Distribution of resources gives citizens the material base on which to then construct their positive view of the world. In *Justice as Fairness*, Rawls proposes establishing a property-owning democracy that "ensur[es] the widespread ownership of productive assets" such that all citizens are in a "position to manage their own affairs on a footing of a suitable degree of social and economic equality" (Rawls, 1999b, p.139). If productive assets are suitably distributed, then the opportunity for meaningful work may be expanded without a clear boundary.

To illustrate this point, take open-source software as an example. As software became a significant source of economic value in the 1980s and 90s, Microsoft identified it as a threat to its market power and sought to undermine it[13]. In a hypothetical world in which all programming language was patented, it is likely that a significant amount of opportunity for meaningful work would have been eliminated entirely. Open source unleashed the creativity of programmers and hackers, engaging in projects that led to variety of products ranging video games to the operating system on Android phones. Forms of commons, such as the open source model for software, can be explored as an institution in which to distribute productive assets to citizens. Citizens, and associations of citizens, are free use the commons to contribute towards their own particular

[13] See the "Halloween Documents," a series of leaked documents starting in August of 1998.

projects and goals without the constraints typically imposed within the workplace[14]. This too can be meaningful work.

A federal jobs guarantee within a liberal egalitarian framework may also expand opportunities for meaningful work. State acts as an employer of last resort for those who are unable to find work in a private market, or find it difficult to be productive with the commons. The state employs citizens regardless of their mastery of complex abilities, providing a respectable minimum that allows for basic necessities and self-respect (Thomas 2020). Along with the wide dispersal of productive assets, this jobs guarantee provides workers with powerful bargaining tools against would-be private employers. Workers are free to opt out of workplaces that do not provide sufficient wages, safe work conditions or meaningful work. Having the state as employer of last resort is a policy typically associated with the New Deal politics of Franklin Roosevelt, when the state employed masses of people for public projects all over the United States. An alternative proposal may also be that citizens have a right to vote on what kinds of positions the state will offer (Thomas 2020). Giving citizens a vote allows workers to have input into the kinds of positions available, allowing them greater autonomy over their work. According to Gomberg, generally we are trained so that our aspirations and talents fit available positions. Gomberg calls this phenomenon the socialization principle. As work is currently distributed, labor is divided into routine and complex labor. Certain work must, by social necessity, be done. Though generally

[14] While this idea was inspired by the hacker ethos of the 1970s, it has similarities to the labor republicanism in the United States during the 19th century. Undominated or uncoerced labor was referred to as free labor. Though eventually the meaning of free labor was taken to mean wage labor as opposed to slave labor, 19th century republicans often saw wage labor as also a form of coerced labor. Uncoerced labor was meant to be labor done freely without coercion by an individual, like the boss, or without the structural coercion of markets. See "Labor Republicanism and the Transformation of Work" by Alex Gourevitch.

custodial work is thought of as routine labor, and therefore lacks meaning in the sense that the worker is unable to exercise the full spectrum of their ability, it is work that must be done. Workplaces, government buildings and universities cannot go without regular cleaning. Someone must do that work, even if one were to assume that given the option to do otherwise, no one would want to do that work. For the foreseeable future this socially necessary routine labor is inescapable.

Among the available positions in society there are positions of necessary routine labor. Because someone must do the work, some people will be socialized accordingly so that their aspirations and talents fit the position. If some people are socialized to be accustomed to closely supervised routine labor, they are unlikely to fulfill the Aristotelean principle. Their self-respect is likely to diminish on account of the lack of social-respect for their position as well as a lack of confidence in their only abilities to accomplish aspirations that go beyond routine labor.

A proposed solution to the socialization problem is to build a robust universal general education. Benchmarks are based off equal results, rather than equal opportunity, such as have every student achieve a certain level of literacy and understanding of civics (Gomberg p. 39). In providing this education students presumably avoid being socialized towards positions of routine labor. Gomberg argues that providing a high standard level of education is likely to exacerbate discontentment among routine workers. While workers have been socialized to engage in "important questions about government, schools and foreign policy" they are unlikely to be satisfied with the close supervision and passivity typically associated with routine labor (Gomberg p.41). While Gomberg admits that universal general education may be a partial solution to the socialization principle, it rests uneasy.

While a highly educated individual may feel discontent while at the job under routine labor, they may still find the opportunity to engaged in meaningful work in other contexts. If we assume

again that productive assets are widely distributed such that all citizens are in a position to manage their own affairs, we may assume that all citizens have a sufficient wealth to pursue their life's plan and personal projects in accordance to their conception of the good. They may engage in meaningful work by deploying those resources as an individual or as part of other non-work associations.

While workers who must do routine labor might have the option to engage in meaningful work in their own time, that may not be satisfactory for their contentment while on the job. A high standard of universal education may exacerbate this discontentment. At the same time, Gomberg fails to consider the kinds of tradeoffs we do in our lives. Gomberg emphasizes work in contributive justice at the expense of fully considering the importance people place on leisure time or alternative things we can do with our time (Thomas 2020). Those who see the value in complex meaningful work are free to seek that kind of employment. At the same time, any "necessary" routine labor that must get done can be offered at a premium salary. The tradeoff here being meaningful work or the financial means for more leisure time. With the state functioning as employer of last resort, and with productive assets accessible to most, employee bargaining power will considerable. If people are less willing to do necessary but routine work, they will bargain for a higher wage to compensate. While routine labor may be less prestigious than complex labor, a higher salary for routine jobs can compensate, assuming Gomberg is correct in that money is one of the reasons why people want positions of advantage, and that higher salaries are typically associated with more prestige in moneyed societies.

8.6 AI and the Utopian Transformation of Work

My proposal, then, is to address the concern that the introduction of digital technology will make the quality of work worse by taking a step back. Digital technology is not the issue: the

organization of work is the issue. In the previous chapter I discussed power and control within work and addressed its implications by proposing workplace democracy as a way to enhance worker control. In this chapter my focus has been at the societal level: about how we organize work as a whole. Under existing capitalist conditions, work is sorted into the highly desirable and the very undesirable. Far from being a reinforcement of these tendencies, the introduction of digital technology could enhance Gomberg's proposal for a system of contributive justice.

I view this enhancement in three ways: first, the worst work ought completely to be automated. It simply ought not to exist in a form where a human would have to perform such tasks. Second, as Paul Smith has noted, in a property-owning democracy all salary incentives are compensatory (Smith, 1988). In a POD, salary incentives can be understood primarily as compensatory, given the dispersal of capital and background institutions that reduce their role in securing life-long advantage. That does not mean all incentives function exclusively this way, but that their justificatory weight is diminished relative to current capitalism. Automation would contribute to this goal by eliminating that part of a worker's salary that compensates her for work that is difficult or dangerous – this work would also be automated (leaving only compensation for lengthy or complex training). Finally, automation would facilitate the breaking down of the current structures of jobs into job tasks as envisaged by the Moneyball principle. A hospital porter may not be able to conduct surgery, but a surgeon can push a patient on a trolley. And a hospital porter may be able to install, maintain, and use an autonomous robot surgical assistant. The widespread introduction of AI assistants would make Gomberg's goal of shared contributive justice a reality.

8.7 Conclusion

Gomberg provides insightful criticisms of equal competitive opportunity and a monied society as they are presently. While Gomberg attributes the shortcomings, he has identified with liberal

egalitarianism more broadly, the issues he addresses can be remedied within the framework he hopes to reject. The opportunity for meaningful work can be found in a monied society and without necessarily doing away with equal competitive opportunity so long as the basic structure of society is designed according to the two principles of justice according to Rawls. Autonomy must play a central role conceiving, constructing and maintaining institutional design, for it is autonomy which must give the very planning and executing of work its meaning. Though meaningful work can play a rewarding and perhaps necessary role in our lives, it is important to also consider trade-offs. Society cannot demand that everyone define meaningful work as part of the good life. Individuals should be allowed to determine their own priorities. A property-owning democracy can provide an egalitarian ideal that allows for the equal opportunity for meaningful work, and at the same time, it also allows for individuals to choose alternatives if they so wish. These reflections on the future of work bring the argument full circle, linking innovation, justice, and democracy, and setting the stage for the concluding remarks.

Final Concluding Remarks

The empirical evidence is clear: societies across the affluent West have, over the last forty years, developed extremely high levels of income and wealth inequality. In terms of relative proportion, if not absolute scale, this has drawn comparison with the late nineteenth century Gilded Age in the USA. The United States is an outlier in terms of the extent of its inequality and also has an economy dominated by "Big Tech". Is this an instance of causality or co-incidence? In this thesis I have rejected the most extreme view that the rise of digital technology companies to what Edmundson calls the "commanding heights" of the US economy has taken us beyond capitalism to something worse. However, I have defended the more moderate view that digital technology has played an enabling and intensifying role in the rise of inequality. It has enabled, and exemplified, the rise of the franchise economy. It has shown how the benefits of technological innovation can be reaped by the very few at the expense of the many.

This thesis has sought to engage with the complex interconnected challenges of technological transformation, economic inequality, and democratic governance. Rather than simply condemning Big Tech or idealizing technological progress, it has attempted to articulate a normative framework that can critique the existing innovation economy while pointing towards feasible alternatives. At its core, this thesis contends that freedom, justice, and democracy are possible within a technologically advanced economy, but only if we redesign our institutions to prevent domination and promote widespread participation in the ownership, design, investment, regulation, and governance of technology. The liberal-republican conception adopted here emphasizes the importance of *pre-distribution* over redistribution: both physical and human capital must be broadly accessible to all citizens from the outset. It is through these structural interventions

that we might reverse the concentration of wealth and power that now characterizes the digital economy.

The rise of Big Tech—alongside the emergence of what some call technofeudalism—represents a significant moment in the history of capitalism. The economic dominance of firms like Alphabet, Amazon, and Meta, and their ability to exert control over intellectual property, labor markets, and public policy, makes it clear that the digital economy represents both a return of older economic paradigms, such as the putting-out system, as well as new challenges. In this environment, labor has become increasingly precarious through "gigification," wages stagnate for most workers, a small handful of economic elites reap outsized benefits through extractive rents, and power consolidates at the top of the value chain. The problem is not only the concentration of wealth, but also the erosion of democratic governance and the public's capacity to contest these developments through a drift into oligarchy. We risk getting ourselves trapped in a self-reinforcing feedback loop in which power flows in one direction—upwards—without sufficient institutional checks.

At the center of this critique lies the idea that institutions, particularly those governing property, investment in technology, and innovation, must be reimagined. Following the arguments of Pettit, Thomas, and Rawls, this thesis has made the case that ownership—whether of physical capital or knowledge—should not be concentrated among a narrow elite. Nor should political power be concentrated either. It is not enough to ensure that citizens have access to labor markets, but that they also have access to capital markets and decision-making processes. Yet, legal frameworks are not neutral, they instead codify power and determine whose claims are prioritized in moments of doubt or conflict. It is important to not naturalize property claims, and instead

maintain awareness of their legal and social context. This thesis uses a liberal-republican framework to assess the justness of such claims.

The second part of the thesis turns from theoretical critiques to institutional responses, grounded in liberal-republican principles. As Machiavelli understood, political systems are dynamic, not static. This dynamism may shift the ground from beneath society's economic or political institutions—putting the stability of the entire political-economic system at risk. Republican democracy, unlike aristocratic republicanism or other purely representative systems, does not seek equilibrium but thrives on carefully managed conflict—just as the bow of a ship must bend with the waves, while an otherwise rigid bow would snap. This thesis argued for a *Machiavellian democracy*, where political power is distributed more equally through mechanisms like sortition and class-specific offices, ensuring that elites cannot dominate governance without serious institutional checks. Institutions such as a people's tribunate, empowered with the ability to veto legislation and call political trials, offer formalized ways for citizens to contest power, aligning political governance with the principle of non-domination. These institutional innovations are necessary in a world where elections alone, subject to elite influence and financial backing, cannot guarantee democratic outcomes.

The thesis also explores the dynamics of the digital economy more specifically. Digital platforms act as intermediaries that extract rents by controlling access to data and networks. In response, I propose platform republicanism address the unique economic and political problems in the digital space. I argue that we need new frameworks to govern these spaces. Among my proposals is digital Georgism, in which I adapt Henry George's insights to the digital era by treating network infrastructure as digital land. The introduction of a digital Georgist style 'land' tax, whereby firms pay for the exclusive privileges they enjoy in controlling these resources, would

serve not only to reduce economic inequality but also to foster competition and innovation. In addition, it would help fund wide dispersion of human capital through digital literacy projects, as well as help restore greater access to a commons. This way citizens have both the knowledge and the tools necessary for a large degree of self-sufficiency—insofar as opting out of any particular workplace is made into a viable option, as they no longer risk losing access to vital resources necessary to participate in the digital economy. As a commons, the tools are universally accessible to citizens and unalienable. However, as argued throughout, the role of the state is crucial: market reforms alone are insufficient without a proactive entrepreneurial state capable of coordinating public policy, productive investment, or regulatory oversight.

Finally, the thesis turns to the future of labor in the age of artificial intelligence. AI neither inherently poses a threat nor an unmitigated opportunity. Rather, its impact depends on how it is integrated into the economy. More fundamentally, what is important are the economic and political institutional contexts in which AI is embedded. Left unchecked, it risks displacing workers, further concentrating profits, and further consolidating political power. However, AI also offers the possibility of transforming work itself, moving beyond traditional notions of employment towards new forms of meaningful contribution. Drawing on the idea of contributive justice, this thesis proposes that the goal of economic policy should not be mere equality of opportunity but the creation of conditions where all individuals can participate meaningfully in society. This requires a shift away from competitive labor markets to systems that prioritize cooperative, meaningful work—a vision made possible if we take seriously the potential of AI to reduce the burden of drudgery while expanding the realm of creative, social, and intellectual labor.

The broad conclusion of this thesis is that technological change does not determine our future—our choices in regard to how we design our economic and political institutions do. The

rise of Big Tech and the inequalities it generates are not inevitable but the result of specific institutional arrangements and legal frameworks that prioritize extractive rent-seeking over fairness concerns, freedom concerns, or equality concerns. Similarly, the expansion of AI and other disruptive technologies need not result in widespread unemployment or meaningless work if we build institutions that align technological progress with human flourishing. The path forward lies in reclaiming the innovation economy, redesigning it along republican lines so that technological benefits are distributed widely and power is decentralized.

This thesis rejects both technological fatalism and simplistic critiques of capitalism. The innovation economy is neither a curse nor a panacea—it is a space of possibility, one that can either entrench inequality or foster justice and democracy, depending on the institutional choices we make. By embracing the principles of non-domination, pre-distribution, and democratic governance by sortition, it is possible to construct a future where technology serves the common good rather than private interest. The aim of this project has been not only to diagnose the problems inherent in the current system but also to outline a vision of what an inclusive, participatory, and just innovation economy could look like. The challenge now is to move from theory to practice—designing and implementing the institutions that can bring this vision to life.

This thesis has developed a theoretical approach that would allow us to keep the benefits of innovation for the social good while putting digital technology in its place. It is a lens through which we can envisage a more just society, free from domination, which is the background to envisioning an innovative economy system that does not destabilize such a society from within. Just as I have treated digital technology as taking us back to older forms of capitalist exploitation, so it is only against the background of the labor republican tradition that we can envisage a set of policies for a fair and democratized innovation economy whose benefits go to all.

Bibliography

Arrow, Kenneth J. “The Economic Implications of Learning by Doing.” *The Review of Economic Studies*, vol. 29, no. 3, 1962, pp. 155–73. *JSTOR*, https://doi.org/10.2307/2295952 . Accessed 10 Oct. 2020.

Atkinson, Anthony B. *Inequality: What Can Be Done?* Harvard University Press, 2015. *JSTOR*, http://www.jstor.org/stable/j.ctvjghxqh. Accessed 15 Jul. 2020.

Banaji, Jairus. *A Brief History of Commercial Capitalism*. Chicago: Haymarket Books, 2020. pp. ISBN 978-1-6459-132-3 (Hbk).

Barker, Tim. “Commercial Capitalism.” *Phenomenal World*, December 3, 2020. https://www.phenomenalworld.org/reviews/commercial-capitalism/.

Becker, Gary S. “Human Capital Revisited.” In *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education* (3rd ed.), 15–28. Chicago: The University of Chicago Press, 1994. ISBN 0-226-04119-0. http://www.nber.org/chapters/c11229.

Braverman, Harry. *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*. NYU Press, 1998. *JSTOR*, http://www.jstor.org/stable/j.ctt9qfrkf. Accessed 7 Sept. 2020.

Brynjolfsson, Erik, and Andrew McAfee. *Machine, platform, crowd: Harnessing our digital future*. WW Norton & Company, 2017.

Brynjolfsson, Erik, and Andrew McAfee. *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. WW Norton & company, 2014.

Burdin, Gabriel, and Andrés Dean. "New evidence on wages and employment in worker cooperatives compared with capitalist firms." *Journal of comparative economics* 37.4 (2009): 517-533.

Callegari, B. (2018). The finance/innovation nexus in Schumpeterian analysis: theory and application to the case of US trustified capitalism. Journal of Evolutionary Economics, 28(5), 1175-1198.

Cohen, Joshua. "The economic basis of deliberative democracy." *Social philosophy and policy* 6.2 (1989): 25-50.

David, Paul A. "Path dependence: a foundational concept for historical social science." *Cliometrica* 1.2 (2007): 91-114.

David, Paul A. "Clio and the Economics of QWERTY." *The American economic review* 75.2 (1985): 332-337.

Durand, Cédric. *Techno-féodalisme: Critique de l'économie numérique*. La Découverte, 2023.

Durand, Cédric. "Scouting capital's frontiers." *New Left Review* 136 (2022): 29-39.

Edmundson, William A. *John Rawls: reticent socialist*. Cambridge University Press, 2017.

Fagerberg, Jan, and Bart Verspagen. "Technology-gaps, innovation-diffusion and transformation: an evolutionary interpretation." *Research policy* 31.8-9 (2002): 1291-1304.

Friedman, Gerald. "Workers without employers: shadow corporations and the rise of the gig economy." *Review of keynesian economics* 2.2 (2014): 171-188.

George, Henry. *Progress and Poverty*. New York: Robert Schalkenbach Foundation. https://cdn.mises.org/Progress%20and%20Poverty_3.pdf.

Gomberg, Paul. *How to make opportunity equal: Race and contributive justice*. John Wiley & Sons, 2007.

Gourevitch, Alex. "Labor republicanism and the transformation of work." *Political Theory* 41.4 (2013): 591-617.

Haskel, Jonathan, and Stian Westlake. "Capitalism without capital: The rise of the intangible economy." (2017): 1-288.

Haque, Umair. "The Asshole Factory." *Bad Words*, April 21, 2015. https://medium.com/bad-words/the-asshole-factory-71ff808d887c

Hilferding, Rudolf. *Finance Capital: A Study of the Latest Phase of Capitalist Development*. Edited by Tom Bottomore, translated by Morris Watnick and Sam Gordon. London: Routledge & Kegan Paul, 1981. Originally published as *Das Finanzkapital. Eine Studie über die jüngste Entwicklung des Kapitalismus*. Vienna: Wiener Volksbuchhandlung, 1910.

Hsieh, Nien-hê. "Rawlsian justice and workplace republicanism." *Social Theory and Practice* 31.1 (2005): 115-142.

Jackson, Ben. "Property-Owning Democracy." (2012).

Janeway, William H. *Doing capitalism in the innovation economy: Reconfiguring the three-player game between markets, speculators and the state*. Cambridge University Press, 2018.

Johnson, Oliver A. "The Kantian Interpretation." *Ethics* 85.1 (1974): 58-66.

Kaldor, Nicholas. "The irrelevance of equilibrium economics." *The Economic Journal* 82.328 (1972): 1237-1255.

Knight, Frank H. "Risk, uncertainty and profit." *Hart, Schaffner and Marx* (1921).

Kenney, Martin, and John Zysman. "The rise of the platform economy." *Issues in science and technology* 32.3 (2016): 61.

Larmore, Charles. "Liberal and republican conceptions of freedom." *Critical Review of International Social and Political Philosophy* 6.1 (2003): 96-119.

Lazonick, William, and Mariana Mazzucato. "The risk-reward nexus in the innovation-inequality relationship: who takes the risks? Who gets the rewards?." *Industrial and Corporate Change* 22.4 (2013): 1093-1128.

Liebowitz, Stan J., and Stephen E. Margolis. "Path dependence, lock-in, and history." *The Journal of Law, Economics, and Organization* 11.1 (1995): 205-226.

Lichtenstein, Nelson. "The return of merchant capitalism." *International Labor and Working-Class History* 81 (2012): 8-27.

Lincoln, Abraham. "Speech at the Sanitary Fair." *Abraham Lincoln Online*. Delivered April 18, 1864. Accessed 27 Jul. 2024. https://www.abrahamlincolnonline.org/lincoln/speeches/fair.htm.

Machiavelli, Niccolò. *The Discourses*. Penguin Classics, 1970.

Martines, L. (2006). *Fire in the City: Savonarola and the Struggle for the Soul of Renaissance Florence*. Oxford University Press.

Mazzucato, M., Ryan-Collins, J., and Gouzoulis, G. (2023). Mapping Modern Economic Rents: the Good, the Bad, and the Grey Areas. *Cambridge Journal of Economics*, bead013.

Mazzucato, Marianna (2018). *The Entrepreneurial State: Debunking Public Vs. Private SectorMyths*. Penguin.

Mazzucato, Mariana, and Gregor Semieniuk. "Public financing of innovation." 2017.

Mazzucato, M. (2015). Building the Entrepreneurial State: A New Framework for Envisioning and Evaluating a Mission-Oriented Public Sector. *Levy Economics Institute of Bard CollegeWorking Paper*, (824).

McCormick, J. P. (2019). The New Ochlophobia? Populism, Majority Rule and Prospects for Democratic Republicanism.

McCormick, John P. *Machiavellian Democracy*. Cambridge University Press, 2011.

Minsky, H. P. (1992). The Financial Instability Hypothesis. The Jerome Levy Economics Institute Working Paper, (74).

Minsky, Hyman P. "Back from the Brink." *Challenge* 31.1 (1988): 22-28.

Moriarty, Jeffrey. "Rawls, Self-Respect, and the Opportunity for Meaningful Work." *Social Theory and Practice*, vol. 35, no. 3, 2009, pp. 441–59. *JSTOR*, http://www.jstor.org/stable/23558453. Accessed 11 Aug. 2020.

Muldoon, James. *Platform Socialism: How to Reclaim Our Digital Future from Big Tech*. Pluto Press, 2022.

Murphy, James Bernard. *The Moral Economy of Labor: Aristotelian Themes in Economic Theory*. New Haven: Yale University Press, 1993.

Ocean Tomo Intangible Asset Market Value Study. Ocean Tomo, 2020. https://oceantomo.com/intangible-asset-market-value-study/.

O'Mara, Margaret. *The code: Silicon Valley and the remaking of America*. Penguin, 2020.

O'Neill, Martin. "The promise of predistribution." (2012).

O'Neill, Martin. "Liberty, Equality and Property-Owning Democracy." *Journal of Social Philosophy* 40.3 (2009).

O'Neill, Martin. "Three Rawlsian routes towards economic democracy." (2008).

Pagano, Ugo. "The crisis of intellectual monopoly capitalism." *Cambridge Journal of Economics* 38.6 (2014): 1409-1429.

Pasquale, Frank. *New laws of robotics*. Harvard University Press, 2020.\

Pedullà, Gabriele. *Machiavelli in Tumult: The Discourses on Livy and the Origins of Political Conflictualism*. Cambridge University Press, 2018.

Pencavel, John. "Worker cooperatives and democratic governance." *Handbook of economic organization*. Edward Elgar Publishing, 2013. 462-480.

Pettit, Philip. *On the people's terms: a republican theory and model of democracy*. Cambridge University Press, 2012.

Pettit, Philip. "Freedom in the Market." *politics, philosophy & economics* 5.2 (2006): 131-149.

Pettit, Philip. "Agency-freedom and option-freedom." *Journal of theoretical politics* 15.4 (2003): 387-403.

Pettit, Philip. "Freedom as antipower." *Ethics* 106.3 (1996): 576-604.

Plass, Stephen A. “Wage Compression as a Democratic Ideal.” *Cornell Law Review*, vol. 25, no. 601, 2016. https://ssrn.com/abstract=2837011.

Poni, Carlo. “Proto-Industrialization, Rural and Urban.” *Review (Fernand Braudel Center)*, vol. 9, no. 2, 1985, pp. 305–14. *JSTOR*, http://www.jstor.org/stable/40241025. Accessed 31 Oct. 2024.

Posner, Eric, and Eric Weyl. *Radical markets: Uprooting capitalism and democracy for a just society*. Princeton University Press, 2018.

Piketty, Thomas, and Arthur Goldhammer. *Capital in the Twenty-First Century*. Harvard University Press, 2014.

Pistor, Katharina. "The code of capital: How the law creates wealth and inequality." (2019): 1-320.

Rawls, John. *Justice as Fairness: A Restatement*. Edited by Erin Kelly, Harvard University Press, 2001.

Rawls, John. *A Theory of Justice: Revised Edition*. Harvard University Press, 1999a.

Rawls, John. Freeman, Samuel, editor. *Collected Papers*. Harvard University Press, 1999b.

Ricoy, Iñigo. "The republican case for workplace democracy." *Social theory and practice* (2014): 232-254.

Schumpeter, Joseph A., and Richard Swedberg. *The theory of economic development*. Routledge, 1912/2021.

Schumpeter, Joseph A. *Capitalism, socialism and democracy*. Routledge, 1942/2013.

Schwartz, Herman Mark. "Global secular stagnation and the rise of intellectual property monopoly." *Review of International Political Economy* 29.5 (2022): 1448-1476.

Schwartz, Herman Mark, et al. "Mo'patents, Mo'problems: Corporate strategy, structure, and profitability in America's political economy." *The American Political Economy: Politics, Markets, and Power* (2021): 247-269.

Schwartz, Herman Mark. "Club goods, intellectual property rights, and profitability in the information economy." *Business and Politics* 19.2 (2017): 191-214.

Schwartz, Herman Mark. "Wealth and secular stagnation: The role of industrial organization and intellectual property rights." *RSF: The Russell sage foundation journal of the social sciences* 2.6 (2016): 226-249.

Simon, William H. "Social-republican property." *Ucla L. Rev.* 38 (1990): 1335.

Slobodian, Quinn. *Globalists: The end of empire and the birth of neoliberalism*. Harvard University Press, 2018.

Smith, Adam. *The wealth of nations [1776]*. Vol. 11937. na, 1937.

Smith, Paul. 1998. "Incentives and Justice: G. A. Cohen's Egalitarian Critique of Rawls." Social Theory and Practice 24, no. 2: 205–35

De Stefano, V. (2015). The Rise of the Just-in-Time Workforce: On-demand work, Crowdwork,

and Labor Protection in the Gig-economy.

Thomas, Alan, Alfred Archer, and Bart Engelen. *Extravagance and Misery: The Emotional Regime of Market Societies*. Oxford University Press, 2024.

Thomas, Alan. *Republic of equals: Predistribution and property-owning democracy*. Oxford University Press, 2016.

Uber. Company Info (2018) https://www.uber.com/newsroom/company-info/

Secretariat of the United Nations Conference on Trade and Development. 2018. *Trade and Development Report 2018*. No. E.18.II.D.7. New York and Geneva: UNCTAD.

Varoufakis, Yanis. *Technofeudalism: What killed capitalism*. Melville House, 2024.

Vergara, Camila. *Systemic corruption: constitutional ideas for an anti-oligarchic republic*. Princeton University Press, 2020.

von Hippel, Eric. Democratizing Innovation. MIT Press, 2005. https://direct.mit.edu/books/book/2821/Democratizing-Innovation.

Ramlogan, Ronnie, and J. Stanley Metcalfe. "Restless capitalism: a complexity perspective on modern capitalist economies." *Complexity and co-evolution: Continuity and change in socio-economic systems* (2006): 115-146.