

INNOVATION-FUELLED, SUSTAINABLE, INCLUSIVE GROWTH

Working Paper

Innovative Enterprise and Sustainable, Inclusive Growth: A Policy Agenda

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Sustainable Prosperity?

We want an economy that generates stable and equitable growth—or what we call "sustainable prosperity."¹ We want productivity *growth* that makes it possible for the population to have higher standards of living. We want *stable* employment opportunities that enable people to remain productive for some four decades of their working lives while providing them with enough savings for adequate incomes over some two decades of retirement. And we want an *equitable* sharing of income among those whose work efforts and financial resources contribute to the nation's productivity.

In the decades following World War II, when the United States dominated the global economy and the Western European nations were rebuilding after decades of economic instability and military conflict, there was the promise that in the so-called "mixed economies" sustainable prosperity could be achieved. Indeed, by the 1960s, European nations viewed the United States as the exemplar of an advanced economy, with the formation of the European Union subsequently emerging in partial response to what Jean-Jacques Servan-Schreiber called "the American challenge".²

From the 1970s, however, the United States became a nation of increasingly unstable employment opportunity and inequitable income distribution. Notwithstanding U.S. leadership in the digital revolution and medical research, in the past decade the U.S. economy has been experiencing sagging productivity growth. Afflicted by the same economic problems, although with vastly different experiences across European nations, the European Union has been searching for a new model of sustainable prosperity, with U.S. economic performance now representing the antithesis of what Europe would like to achieve.

In this policy report for the European Commission Horizon 2020 project on Innovation-Fuelled Sustainable and Inclusive Growth (ISIGrowth), we highlight an approach to Europe's economic future that focuses on the combined role of the innovative enterprise and the developmental state in providing a foundation for achieving stable and equitable economic growth. Our approach locates the weakness of the modern American model in the obsessive and omnipresent creed that for the sake of superior economic performance, business enterprises should be run to "maximize shareholder value" (MSV). Based on in-depth research on leading industries and, within them, major companies in global competition, we show that, when put into practice, MSV is an ideology rooted in a theory of value extraction, in the absence of a theory of value creation. MSV elevates the role of the "takers" in the economy by systematically ignoring the contributions of the "makers".³

Indeed, legitimized by MSV, the United States has become what can be described as a "valueextracting economy", governed by national institutions, including the governance of business corporations, that Europeans should want to avoid. The primary manifestation of the valueextracting U.S. economy is the practice of companies' repurchasing their own shares. Based on U.S Federal Reserve flow-of-funds data, Figure 1 shows *net equity issues* (new stock issues minus stock taken off the market through stock repurchases and M&A activity) of U.S.

¹ William Lazonick, *Sustainable Prosperity in the New Economy? Business Organization and High-Tech Employment in the United States*, Upjohn Institute, 2009.

² Jean-Jacques Servan Schreiber, Le Défi Américain, Editions Denoel, 1967.

³ Rana Foroohar, Makers and Takers, How Wall Street Destroyed Main Street, Crown Business, 2016.

nonfinancial corporations from 1946 through 2017. Over the decade 2008-2017 net equity issues of nonfinancial corporations averaged *-\$372 billion per year*. In 2016 net equity issues were *-* \$586 billion, and in 2017 they were *-\$391* billion. Over the past three decades, in aggregate, dividends have tended to increase as a proportion of corporate profits. Yet in 1997 buybacks first surpassed dividends in the U.S. corporate economy and, even with dividends increasing, have far exceeded them in recent stock-market booms.⁴



Figure 1: Net equity issues, U.S. nonfinancial corporations, 1946-2017

Source: Board of Governors of the Federal Reserve System, Federal Reserve Statistical Release Z.1, "Financial Accounts of the United States: Flow of Funds, Balance Sheets, and Integrated Macroeconomic Accounts," Table F-223: Corporate Equities, March 8, 2017, at https://www.federalreserve.gov/releases/z1/20180308/z1.pdf

Using the data in Figure 1, the first data column of Table 1 shows the amounts of net equity issues by nonfinancial corporations, decade by decade, from 1946 to 2015, in 2015 dollars. For the first three decades after World War II, net equity issues were moderately positive in the corporate economy as a whole. In the following decades, however, net equity issues became increasingly negative (even after adjusting for inflation). As a gauge of their growing importance in the economy, the second data column of Table 1 shows net equity issues as a proportion of GDP. In 2016, net equity issues were \$581 billion and in 2017 \$381 billion.

⁴ William Lazonick, "Stock Buybacks: From Retain-and-Reinvest to Downsize-and-Distribute," Center for Effective Public Management, Brookings Institution, April 2015, pp. 10-11, at <u>http://www.brookings.edu/research/papers/2015/04/17-stock-buybacks-lazonick</u>; William Lazonick, "The Value-Extracting CEO: How Executive Stock-Based Pay Undermines Investment in Productive Capabilities," Institute for New Economic Thinking Working Paper No. 54, December 4, 2016, at <u>https://www.ineteconomics.org/research/research-papers/the-value-extracting-ceo-how-executive-stock-based-payundermines-investment-in-productive-capabilities</u>

	Net equity issues, U.S. non-financial corporations 2015\$ billions	Net equity issues as % of GDP
1946-1955	143.2	0.56
1956-1965	110.9	0.30
1966-1975	316.0	0.58
1976-1985	-290.9	-0.40
1986-1995	-1,002.5	-1.00
1996-2005	-1,524.4	-1.09
2006-2015	-4,466.6	-2.65

 Table 1. Net equity issues by non-financial corporations in the U.S. economy, by decade in 2015 dollars, and as a percent of GDP

Sources: Net equity issues data is the same as in Figure 4, adjusted to 2015 U.S. dollars, using the consumer price index in Council of Economic Advisors, *Economic Report of the President 2017*, January 2017, Table B-10, at http://www.presidency.ucsb.edu/economic_reports/2017.pdf.

As shown in Figure 2, since the early 1980s, major U.S. business corporations have been doing stock buybacks on top of (and not instead of) making dividend payments to shareholders. Figure 2 shows dividends and buybacks for 232 companies that were in the S&P 500 Index in January 2017 that were publicly listed from 1981 through 2016. At the beginning of the 1980s, buybacks were minimal, and from 1981 through 1983 buybacks for these 236 companies absorbed only 4.3 percent of net income, with dividends representing 49.5 percent. For the most recent years in this database, the total payout ratios for these 232 companies were 112.8 percent in 2015 and 111.1 percent in 2016. The 461 companies in the S&P 500 Index in January 2017 that were publicly listed from 2007 through 2006 spent \$4.0 trillion on buybacks, which represented 54.5 percent of net income and \$2.9 trillion on dividends, which was 39.3 percent of net income. In 2017, companies in the S&P500 Index did \$519 billion in buybacks.⁵ It has been predicted that in 2018, these companies will repurchase \$800 billion of their own shares, about \$200 billion more than in the peak years of 2007 and 2016.⁶

⁵ Edward Yardeni, Joe Abbott, and Mali Quintana, "Stock Market Indicators: S&P 500 Buybacks &Dividends," Yardeni Research Inc., June 1, 2018, at <u>https://www.yardeni.com/pub/buybackdiv.pdf</u>

⁶ Mark Kolakowski, "Record stock buybacks will fire up the bull market," Investopedia, April 17, 2018, at <u>https://www.investopedia.com/news/record-stock-buybacks-will-fire-bull-market/?utm_source=news-to-use&utm_campaign=www.investopedia.com&utm_term=12906280&utm_content=04/17/2018&utm_medium=email</u>



Figure 2. Mean cash-dividend and stock-buyback distributions in 2016 dollars for 232 companies in the S&P 500 Index in January 2016 that were publicly listed from 1981 through 2016



Buybacks, \$billions

Dividends, \$billions

Given the magnitude of distributions to shareholders that are now occurring in the United States, we call this process the legalized looting of the industrial corporation—with extreme concentration of income among the richest households and the erosion of middle-class employment opportunity as the results. There is no doubt that when it comes to MSV, the United States is the world leader. Europe, however, is by no means immune to the disease. Over the past two decades, since the Internet boom of the late 1990s, there has been profound pressure on the nations of Europe to conform to this financialized business model, epitomized by the OECD's adoption in 1999 of "shareholder value" as the prime principle of corporate governance.⁷

For the sake of sustainable prosperity, the European Union must resist this pressure. In this policy report, we draw on our research on U.S. and European knowledge-intensive industries—namely information-and-communication-technology (ICT) and pharmaceuticals—in global competition to lay out a policy agenda that, in part because of our research, is gaining traction with federal policy-makers in the United States and which provides an outline for a sustainable-prosperity agenda in Europe.

The Value-Creating Firm

The theoretical foundation of our approach is the value-creating, or innovative, enterprise. It is a firm that, through the development and utilization of productive resources, can generate higher quality products at lower unit costs than those previously available. Through organizational processes that enable collective and cumulative learning, the innovative enterprise drives productivity growth. Our research focuses on three "social conditions of innovative enterprise":

⁷ William Lazonick, "Comments on the draft of the 2014-2015 revision of the OECD Principles of Corporate Governance," January 4, 2015, posted on the OECD public consultation website at http://www.oecd.org/daf/ca/publiccommentsreceivedonthe2014reviewoftheoecdprinciplesofcorporategovernance.htm.

- **Strategic control:** For innovation to occur in the face of technological, market, and competitive uncertainties, executives who control corporate resource allocation must have the abilities and incentives to make strategic investments in innovation. Their abilities depend on their knowledge of how strategic investments in new capabilities can enhance the enterprise's existing capabilities. Their incentives depend on alignment of their personal interests with the company's purpose of generating innovative products.
- **Organizational integration:** The implementation of an innovation strategy requires integration of people working in a complex division of labor into the collective and cumulative learning processes that are the essence of innovation. Work satisfaction, promotion, remuneration, and benefits are important instruments in a reward system that motivates and empowers employees to engage in collective learning over a sustained period of time.
- **Financial commitment:** For collective learning to cumulate over time, the sustained commitment of "patient capital" must keep the learning organization intact. For a startup company, venture capital can provide financial commitment. For a going concern, retained earnings (leveraged, if need be, by debt issues) are the foundation of financial commitment.

The standard theory of the firm, in which profit-maximization is achieved by equating marginal revenue and marginal cost, subject to given technological and market constraints, is a theory of the *unproductive or un-innovating* firm. Neoclassical economics extolls the ideal of "perfect competition", but, as Lazonick has shown, the theory of the firm that underpins perfect competition assumes constraints on firm growth because overcrowded workplaces result in declining marginal productivity of labor as a variable input.⁸ By positing as ideal a firm that, given its lack of productivity, is small relative to size of its industry and undifferentiated in terms of productive capabilities from its numerous competitors, neoclassical economists have in effect argued that, *the market is potent and the firm impotent in the allocation of the economy's resources*. In doing so, they have failed to analyze how, by generating higher quality, lower cost products than its competitors, the innovative firm drives the productivity growth that makes it possible for the economy to deliver higher standards of living.

Lacking a theory of innovative enterprise, neoclassical economists (and the policy-makers who adopt their mindset) cannot understand how a business enterprise can accumulative productive capabilities that enable it to generate a profit stream from innovative products. The innovative enterprise becomes a store of productive and financial capital—making it vulnerable to being looted through a change in strategic control from those who have overseen the process of value creation to those whose intent is primarily, if not solely, value extraction. The neoclassical economist has no theoretical framework to analyze *how the operation of the business enterprise can transform from innovation to financialization* as certain parties—the "takers" rather than the "makers"—are able to exercise strategic control over corporate resource allocation to extract far more value from the firm than they helped to create. In this policy report, we use the theory of

⁸ William Lazonick, "Innovative Enterprise or Sweatshop Economics? In Search of Foundations of Economic Analysis," *Challenge*, 59, 2, 2016: 65-114; William Lazonick. "Innovative Enterprise and Sustainable Prosperity," Paper presented at the annual conference of the Institute of New Economic Thinking, Edinburgh, October 23, 2017, at https://www.ineteconomics.org/research/research-papers/innovative-enterprise-and-sustainable-prosperity.

innovative enterprise to explain how households as workers and households as taxpayers contribute to the value-creation process only to have a relatively small number of households as shareholders extract value that originated in the efforts of workers and the funds of taxpayers. In the extreme, this imbalance of power between those who create value and those who extract value can be termed "predatory value extraction".⁹

The Creation-Extraction Balance

Through the combination of strategic control, organizational integration, and financial commitment, the innovative enterprise can generate the higher-quality, lower-cost goods and services that make higher living standards possible. For those higher living standards to materialize, however, value creation needs to be complemented by value extraction. Workers provide their skills and efforts to create products that are valued on the market, and they extract incomes from the firm in the forms of wages and benefits. Financiers provide funds that sustain the value-creation process until it can generate profits, and extract value from the firm in the forms of interest and capital gains. In addition, households in their capacity as taxpayers enable government agencies to provide business enterprises with access to the physical infrastructure and human knowledge in which these agencies have invested, and extract value from the firm in the forms of business taxes and licensing fees.

The interaction of value creation and value extraction takes place within business enterprises, subject to norms and laws that are typically nation-specific.¹⁰ It is this interaction within the business enterprise (and not demand and supply on the labor market) that is the driving force in raising productivity that can be extracted by employees as higher wages and benefits.¹¹ Formal education is important to one's career options, but people become more productive over time through their work experience, especially in knowledge-intensive industries in which the development of higher-quality products and the implementation of more efficient production processes require complex organizational structures through which people engage in collective and cumulative learning. The social power to extract the value that they help to create incentivizes individuals to supply their skills and efforts to these collective learning processes and to remain engaged in these processes over time, making the learning not only collective but also cumulative. A creation-extraction balance within major companies provides the foundation for stable and equitable growth in the economy as a whole.

Government agencies play active roles in these value-creation processes by using taxpayer money, leveraged by debt, to make investment in physical infrastructure and human knowledge that not even the largest and richest business enterprises would make themselves. To balance this funding and for the sake of ongoing investments in infrastructure and knowledge, government agencies must be able to extract funds in the forms of taxes and licenses from business enterprises that make use of these productive resources. For the sake of sustainable prosperity,

⁹ William Lazonick and Jang-Sup Shin, *Predatory Value Extraction: How the Looting of the Business Enterprise Became the US Norm and How Sustainable Prosperity Can Be Restored*, unpublished book manuscript, January 2018.

¹⁰ William Lazonick, Competitive Advantage on the Shop Floor, Harvard University Press, 1990; William Lazonick 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

¹¹ William Lazonick, Philip Moss, Hal Salzman, and Öner Tulum "Skill Development and Sustainable Prosperity: Collective and Cumulative Careers versus Skill-Biased Technical Change," Institute for New Economic Thinking Working Group on the Political Economy of Distribution Working Paper No. 7, December 2014, at <u>https://ineteconomics.org/ideas-papers/research-papers/skill-development-and-sustainable-prosperity-cumulative-and-collective-careers-versus-skill-biased-technical-change</u>

households as taxpayers as well as households as workers must be able to achieve a creationextraction balance.

During the post-World War II decades, the United States achieved a significant creationextraction balance, at least for white males, through the norm of a career-with-one-company in major business enterprises complemented by a highly progressive personal tax rate (the top marginal bracket was 91 percent in the 1950s) and a high corporate tax rate (52 percent of net income in the 1950s).¹² Over the past four decades, however, this balance has been shattered, as captured by Figure 3, which shows the growing gap between the rate of productivity growth and wage growth, and Figure 4, which shows the extreme difference in the sharing of income gains in the U.S. economy between the period 1946-1980 and the period 1980-2014. The changes summarized in these graphics reflect *a growing creation-extraction imbalance*.



Figure 3: Cumulative annual percent changes in productivity per hour and real wages per hour, 1948-2015

Source: U.S. Bureau of Labor Statistics, *Current Population Survey* (Nonfarm business labor productivity; Median usual weekly earnings, in constant (1982-84) dollars.

¹² Thomas J. Hungerford, "Corporate Tax Rates and Economic Growth since 1947," Economic Policy Institute Issue Brief #364, June 4, 2013.





Source: David Leonhardt, "Our broken economy, in one simple chart," New York Times, August 7, 2017, at https://www.nytimes.com/interactive/2017/08/07/opinion/leonhardt-income-inequality.html.

Sources of Creation-Extraction Imbalance

Industrial development is a dynamic process, driven by changes in markets, technologies, and competitors. A product that was an innovation a few years ago can become an easily replicable commodity as it becomes widely diffused among users, alternative technologies emerge, and new entrants compete for market share. Wages and profits that provided a creation-extraction balance in the innovation phase of a product may no longer be warranted in a commodity phase. In order to remain competitive, the expectations of workers and financiers may have to adjust to the loss of an innovative advantage. At the same time, new firms that emerge to generate innovative products may rely on new business models that both disrupt the old creation-exchange balance and seek to structure new ones.

Lazonick's research has documented these changes in the rise of the "New Economy business model" from the 1970 in the U.S. ICT and biopharmaceutical industries.¹³ The introduction of business practices that he calls "rationalization", "marketization", and globalization" combined with changes in market, technologies, and competitors to transform U.S. employment relations away from the prior norm of a "career with one company" that had been central to the postwar balance between value creation and value extraction.¹⁴ It was in this context of change from an Old Economy business model to New Economy business model that, from the late 1970s,

¹³ Lazonick, Sustainable Prosperity in the New Economy; William Lazonick and Öner Tulum "US Biopharmaceutical Finance and the Sustainability of the Biotech Business Model," Research Policy, 40, 9, 2011: 1170-1187.

¹⁴ Lazonick, Labor in the Twenty-First Century William Lazonick, "Labor in the Twenty-First Century: The Top 0.1% and the Disappearing Middle Class," in Christian E. Weller, ed., *Inequality, Uncertainty, and Opportunity: The Varied and Growing Role of Finance in Labor Relations*, Cornell University Press, 2015: 143-192.

venture-capital associations lobbied the U.S. Congress for lower tax rates that would increase financial incentives to invest in innovative enterprise.¹⁵ The stated purpose of these lower tax rates was to balance the prospects for value extraction from young firms if and when they could generate innovative products and/or be listed on the stock market with the high levels of uncertainty inherent value creation through innovation.

This adjustment of tax rates to the technological, market, and competitive uncertainties of innovative enterprise may have been warranted. But as Lazonick also shows, in the process of attempts to rebalance the creation-extraction relation, the adjustments can go too far if they are driven by an ideology that lacks a conception of the role of innovative enterprise in the value-creation process. From the 1970s, in the United States, that disconnected ideology was the argument that for the sake of superior economic performance a company should be run to maximize shareholder value" (MSV). It is an ideology that, promulgated by economists known as agency theorists, poses as a theory of value creation, but, in positing that corporate profits represent returns to public shareholders to their investments in risky assets, MSV has actually served to legitimize predatory value extraction.

MSV ideology is rooted in two misconceptions of the role of public shareholders in the business corporation. The most fundamental error is the assumption that *public shareholders invest in the productive assets of the corporation*. They do not.¹⁶ They allocate their savings to the purchase of shares that are outstanding on the stock market, and they are willing to do so because the liquidity of the market enables them to sell those financial assets at any time they so choose. The erroneous MSV assumption that public shareholders invest in the productive assets of the company is then compounded by the fallacy that it is *only public shareholders* who make risky investments in the corporation's productive assets, and hence that it is only shareholders who have a claim on the corporation's profits, if and when they occur.

The agency-theory argument raises two critical and related questions: Why are public shareholders deemed to be the "principals" in whose interests the firm should be run? And what contributions do public shareholders make to the value-creation process? The answers to these questions expose agency theory's logical and factual flaws.

Agency theory's answer to the first question is that only shareholders invest in the firm, while all other participants in the firm provide marketable inputs for which they are paid marketdetermined prices. Its answer to the second question is that, having invested in the firm, public shareholders take the risks of whether those investments will yield profits or losses, and hence, for the sake of economic efficiency, only shareholders have a claim on the firm's profits if and when there is a positive "residual" of revenues over costs.

Public shareholders do not, as a rule, invest in the firm. They invest in shares outstanding by simply purchasing them on the stock market. And in purchasing shares on a liquid stock market such as the New York Stock Exchange or NASDAQ, public shareholders take little risk because they enjoy limited liability if they hold the shares while, at any instant and at a very low cost, they can sell the shares at the going market price.

¹⁵ Lazonick, *Sustainable Prosperity in the New Economy*, ch. 2.

¹⁶ Lazonick, "The Functions of the Stock Market and the Fallacies of Shareholder Value," Institute for New Economic Thinking Working Paper No. 58, July 20, 2017, at <u>https://www.ineteconomics.org/research/research-papers/the-functions-of-the-stock-market-and-the-fallacies-of-shareholder-value</u>

Public shareholders are savers (or "portfolio investors"), not financiers (that is, "direct investors"). The generation of innovative products requires direct investment in productive capabilities. These investments in innovation are uncertain, collective, and cumulative. Innovative enterprise requires strategic control to confront uncertainty, organizational integration to engage in collective learning, and financial commitment to sustain cumulative learning. That is why, to understand the productivity of the firm, we need a theory of innovative enterprise. Public shareholders need not be involved in strategy, organization, or finance; all they do is buy and sell shares that are outstanding on the market.

When, as in the case of a startup, financiers make equity investments in the absence of a liquid market for the company's shares, they are direct investors who face the risk that the firm will not be able to generate a competitive product. The existence of a highly speculative and liquid stock market reduces this risk by enabling private-equity investors to reap financial returns, in some cases even before a competitive product has been produced, through an initial public offering (IPO). It was to make such a speculative and liquid market available to private-equity investors, who were to become known as "venture capitalists," that in 1971 the National Association of Security Dealers Automated Quotation (NASDAQ) exchange was launched by electronically linking the previously fragmented, and hence relatively illiquid, Over-the-Counter markets. NASDAQ became an inducement to direct investment in startups precisely because it offered the prospect of a quick IPO; one that could take place within a few years after the founding of the firm.

It is for this reason that venture capitalists call a listing on NASDAQ an "exit strategy". In effect, they are exiting their illiquid, high-risk direct investments by turning them into liquid, low-risk portfolio investments. If, after an IPO, the former direct investors decide to hold onto their shares, they are in precisely in the same low-risk portfolio-investor position as any other public shareholder: they can use the stock market to buy and sell shares whenever they so choose.

But venture capitalists are not the only economic actors who bear the risk of making direct investments in productive capabilities. Taxpayers through government agencies and workers through the firms that employ them make risky investments in productive capabilities on a regular basis. From this perspective, households as taxpayers and workers may have, by agency theory's own logic, "residual claimant" status: that is, an economic claim on the distribution of profits if and when they occur.

Through government investments and subsidies, *taxpayers* regularly provide productive resources to companies without a guaranteed return. As an important example, but only one of many, the 2017 budget of the U.S. National Institutes of Health (NIH) was \$33.1 billion, part of a total NIH investment in life-sciences research spanning 1938 through 2017 that added up to just over \$1 trillion in 2017 dollars.¹⁷ Businesses that make use of life-sciences research benefit from the public knowledge that the NIH generates. As risk bearers, taxpayers who fund such investments in the knowledge base, or physical infrastructure such as roads, have a claim on corporate profits if and when they are generated. Through the tax system, governments,

¹⁷ National Institutes of Health, "Budget," at <u>http://www.nih.gov/about-nih/what-we-do/budget</u>. See also William Lazonick, Matt Hopkins, Ken Jacobson, Mustafa Erdem Sakinç, and Öner Tulum, "U.S. Pharma's Financialized Business Model," Institute for New Economic Thinking Working Paper No. 60, revised September 8, 2017, at <u>https://www.ineteconomics.org/research/research-papers/us-pharmas-financialized-business-model</u>.

representing households as taxpayers, seek to extract this return from corporations that reap the rewards of government spending.

In financing investments in infrastructure and knowledge, therefore, taxpayers make productive capabilities available to business enterprises, but with no guaranteed return on those investments. No matter the corporate tax rate, households as taxpayers face the risks that, because of technological, market, and competitive uncertainties, the enterprise will not generate the profits that provide business-tax revenues as a return to households as taxpayers on their investments in infrastructure and knowledge. Moreover, tax rates are politically determined. Households as taxpayers face the political uncertainty that predatory value extractors may convince government policy-makers that unless businesses are given tax cuts or financial subsidies that will permit adequate profits, they will not be able to make value-creating investments. Politicians may be put in power who accede to these demands.

Workers regularly make productive contributions to the companies for which they work through the exercise of skill and effort beyond those levels required to lay claim to their current pay, but without guaranteed returns.¹⁸ Any employer who is seeking to generate a higher-quality, lower-cost product knows the profound difference in the productivity levels of those employees who just punch the clock to get their daily pay and those who engage in learning that allows them to make productive contributions through which they can build their careers, thereby putting themselves in a position to reap future returns in work and in retirement. Yet these careers and the returns that they can generate are not guaranteed, and under the downsize-and-distribute resource-allocation regime that MSV ideology—legitimized by agency theory—has helped put in place, these returns and careers have, in fact, been undermined.

Therefore, in supplying their skills and efforts to the process of generating innovative products that, if successful, can create value in the future, workers take the risk that, because of technological, market, or competitive uncertainties, the application of their skills and the expenditure of their efforts will be in vain. Far from reaping expected gains in the forms of higher pay, more job security, superior benefits, and better work conditions, workers may face cuts in pay and benefits if the firm's innovative investment strategy does not succeed, and they may even find themselves laid off. Workers also face the possibility that, even if the innovation process is successful, the institutional environment in which MSV prevails will empower corporate executives to cut some workers' wages and lay off others in order to extract value for shareholders, including themselves, that those workers helped to create.

As risk bearers, therefore, taxpayers whose money supports business enterprises and workers whose efforts generate productivity improvements have claims on corporate profits if and when they occur. MSV ignores the risk-reward relation for these two types of economic actors in the operation and performance of business corporations.¹⁹ Instead, based on agency theory, it erroneously assumes that shareholders are the only "residual claimants."

The irony of MSV is that the public shareholders whom agency theory holds up as the only risk bearers typically never invest in the value-creating capabilities of the company at all. Rather,

¹⁸ Lazonick, *Competitive Advantage on the Shop Floor*; William Lazonick, "The Theory of Innovative Enterprise: Foundation of Economic Analysis," AIR Working Paper, August 2015, at <u>www.theAIRnet.org</u>

¹⁹ Lazonick and Mazzucato, "The Risk-Reward Nexus."

they purchase outstanding corporate equities with the expectation that, while they are holding the shares, dividend income will be forthcoming, and with the hope that, when they decide to sell the shares, the stock-market price will have risen to yield a capital gain. Following the directives of MSV, a prime way in which the executives who control corporate resource allocation fuel this hope is by allocating corporate cash to stock buybacks to pump up their company's stock price.

Those holding onto their shares will receive cash dividends, while those wishing to sell their shares will stand a chance of reaping enhanced capital gains as higher stock prices are achieved through stock repurchases—if they are able to get the timing of the stock sales right. The assumption is that, via financial markets, shareholders will then reallocate at least a portion of their gains from dividends and stock sales to uses that are more efficient than those to which they would have been put had the funds been retained by the company.

MSV implies that shareholders derive their gains by extracting value as a reward for taking the risk of contributing to processes that create value. Thus, when corporations pay cash dividends or do stock buybacks, MSV characterizes these distributions as "returning" capital to shareholders. For example, from 2012 through 2017, Apple spent \$166 billion on buybacks and \$61 billion on dividends under its "Capital Return Program."²⁰ Yet the only time in its history that Apple ever raised funds on the public stock market was in 1980, when it collected \$97 million in IPO.²¹ How can a corporation return capital to parties that never supplied it with capital? The vast majority of those who hold Apple's publicly listed shares have simply bought outstanding shares on the stock market. They have contributed nothing to Apple's value-creating capabilities.

Proponents of MSV may accept that a company needs to retain some cash flow to maintain the functioning of its physical capital, but they generally view labor as an interchangeable commodity whose services can be hired, and fired, as needed on the labor market. And they typically ignore the contributions that households as taxpayers make to value creation in business enterprises. Rooted in the neoclassical theory of the market economy, MSV assumes that markets, not organizations, allocate resources to their most efficient uses. Yet it is organizations—including not only businesses enterprises, but also government agencies and household families—that make the investments in productive capabilities that determine both the "most efficient" uses that exist at a given point in time and the extent to which those "most efficient" uses become more productive over time.²²

Once we debunk the myth that only shareholders take risk, therefore, the massive distributions that, as we have seen, have been made to shareholders in the United States since the mid-1980s in the forms of stock buybacks and cash dividends raise questions about how much of the cash flow that both shareholders and managers have deemed to be "free" has been the appropriation

²⁰ Roger Fingas, "Apple to increase capital return program by \$50B, extended for full year," *AppleInsider*, May 2, 2017, at <u>http://appleinsider.com/articles/17/05/02/apple-to-boost-capital-return-program-by-50b-extended-for-full-year</u>; Apple Inc., "Return of Capital and Cash Position," Press Release, at <u>http://files.shareholder.com/downloads/AAPL/4402228650x0x840254/7137D28C-2E6E-4406-8435-</u>

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²¹ William Lazonick, "Numbers show Apple shareholders have already gotten plenty," *Harvard Business Review*, October 16, 2014, at <u>https://hbr.org/2014/10/numbers-show-apple-shareholders-have-already-gotten-plenty</u>. See also William Lazonick, Matt Hopkins, and Ken Jacobson, "What we learn about inequality from Carl Icahn's \$2 billion 'no brainer'," Institute For New Economic Thinking Perspectives, June 6, 2106, at <u>https://www.ineteconomics.org/perspectives/blog/what-we-learn-about-inequality-from-carl-icahns-2-billion-apple-no-brainer</u>.

²² Lazonick, "Innovative Enterprise or Sweatshop Economics?" and references therein.

of funds that should have gone to masses of households as taxpayers and workers as returns on the investments of money and effort that they have made in the productive capabilities that have generated corporate profits.²³

Stock-based executive pay and the creation-extraction imbalance

As indicated at the outset of this report, our research on the United States has focused on stock buybacks as the manifestation of financialization of the corporation. As Lazonick subtitled an article, "Profits Without Prosperity" in *Harvard Business Review*, "stock buybacks manipulate the market and make most Americans worse off". Among major companies, buybacks were minimal coming into the 1980s, but then became quite noticeable in the mid-1980s.

This change occurred because in November 1982, the U.S. Securities and Exchange Commission (SEC), which is supposed to regulate the stock market, with a view to eliminating fraud and manipulation, adopted a rule that encourages public corporations to use stock repurchases to manipulate their own stock prices. SEC Rule 10b-18 gives a company a "safe harbor" against manipulation charges if, along with some other stipulations, it refrains from doing on any single day open-market repurchases (aka stock buybacks) in excess of 25 percent of the average daily trading volume over the previous four weeks. For some large companies, the safe-harbor limit can be hundreds of millions of dollars in buyback on a single day, and these buybacks can be repeated within the safe harbor trading day after trading day. The SEC does not know, at the time or after the fact, the value of a company's buybacks on any particular day because, under Rule 10b-18, this reporting is not required.

On the SEC website, it states: "The mission of the U.S. Securities and Exchange Commission is to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation."²⁴ Rule 10b-18 undermines all three dimensions of this purported mission. Buybacks done as open-market repurchases (which are the type "regulated" under Rule 10b-18) benefit stock-market traders who are in the business of timing the buying and selling of shares at the expense of *shareholders*, who benefit from a combination of dividend income and reinvestment of earnings in the company that can sustain the profitability of the company, thus increasing the probability of higher stock prices if and when these shareholders decide to sell their shares. By manipulating stock prices, buybacks make the stock market more volatile. Buybacks put more money in the hands of corporate predators, currently known as "hedge-fund activists", and thereby undermine capital formation, both physical and human, in potentially value-creating firms.

The SEC's adoption of Rule 10b-18 in November 1982 was a critical step in the transformation of U.S. governance and investment institutions that abetted the rise of MSV as the dominant ideology of U.S. corporate governance.²⁵ Subsequently, during the 1990s, proponents of MSV in the United States sought, with considerable success, to export MSV ideology to other advanced nations. Most of these nations altered their rules governing stock repurchases, in some cases legalizing a mode of corporate resource allocation which had previously been forbidden, and in

²³ William Lazonick, "Innovative Enterprise Solves the Agency Problem: The Theory of the Firm, Financial Flows, and Economic Performance, Institute for New Economic Thinking Working Paper No. 62, August 28, 2017, at

https://www.ineteconomics.org/research/research-papers/innovative-enterprise-solves-the-agency-problem.

²⁴ https://www.sec.gov/Article/whatwedo.html

²⁵ Lazonick, "Stock Buybacks."

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all cases making stock buybacks easier to do.²⁶ The adoption of "shareholder value" as the prime "principle of corporate governance" by the Organisation for Economic Cooperation and Development (OECD) in 1999 placed the imprimatur of this international body on MSV ideology.²⁷

As the U.S. SEC adopted Rule 10b-18 to encourage companies to do massive stock repurchases, a system of stock-based pay emerged that incentivized to allocate use corporate resources to large-scale buybacks. From 1950 stock options had become a major component of senior-executive pay in the United States, not to incentivize buybacks but rather as a tax dodge to enable executives to pay the 25-percent capital-gains tax rate on this portion of their compensation rather than ordinary tax rates as high of 91 percent in place at the time. Realization of the gains on these restricted or qualified stock options required the executive to wait a year after the exercise of the options, thus making it impossible to time the options exercises to buyback activity. Moreover, prior to the adoption of Rule 10b-18, the executive ran the risk of facing manipulation charges.²⁸

In 1976, the U.S. Congress rescinded the right of executives to pay the capital-gains tax rate on the realized gains from stock options. In the 1970s and 1980s, however, the use of stock options with realized gains taxed at the ordinary rate became widespread, mainly because of the rise of the New Economy business model, which use stock options to lure personnel away from Old Economy companies that offered employees the security of a career with one company. Nevertheless, as "insiders", senior executives still had to wait for six months after exercising options to sell the stock and realize the gains. In May 1991, however, the SEC declared that the six-month waiting period for insiders would begin from the grant date rather than the exercise date, enabling senior executives to align the exercise date with their companies' buyback activities.

Based on data in Standard and Poor's ExecuComp, drawn from the annual proxy statements that U.S. companies file with the SEC, Figure 5 shows executive pay and its component for the 500 highest-paid executives in the United States for each year from 2007 through 2016, while Figure 6 is for the 500 highest-paid CEOs in each of these years. Averaging over the ten-year period, the mean compensation of the 500 highest-paid executives was \$26.0 million, with 74 percent coming from stock options and stock awards, while the mean compensation of the 500 highest-paid CEOs was \$19.6 million, with 70 percent coming from stock-based pay. The mean total compensation of the 500 highest-paid executives is substantially greater than that of the 500 highest-paid CEOs because at some companies three are non-CEO executives who are named on proxy statement whose total remuneration exceeds that of some of the highest-paid CEOs.

²⁶ See Mustafa Erdem Sakinç, "Share Repurchases in Europe: A Value-Extraction Analysis," ISIGrowth Working paper 16/2017 May, June 15, 2017, at <u>http://www.isigrowth.eu/wp-content/uploads/2017/06/working_paper_2017_16.pdf</u>

 ²⁷ For a critique, see William Lazonick and Mary O'Sullivan, Corporate Governance, Innovation, and Economic Performance in the EU: Final Report, Targeted Socio-Economic Research (TSER) Report to the European Commission (DGXII) under the Fourth Framework Programme, European Commission (Contract no.: SOE1-CT98-1114; Project no: 053), May 2002 (published by EU Socio-Economic Research of the European Commission, December 2004).

²⁸ Matt Hopkins and William Lazonick, "The Mismeasure of Mammon," Uses and Abuses of Executive Pay Data," Institute for New Economic Thinking Working Paper No. 49, August 29, 2016, at <u>https://www.ineteconomics.org/ideas-papers/research-papers/the-mismeasure-of-mammon-uses-and-abuses-of-executive-pay-data</u>

Given the importance of stock-based pay for the remuneration of the executives represented in Figures 5 and 6, mean compensation is higher when the stock market is boom than when it is in a slump. For the highest-paid executives, mean total compensation ranged from a low of \$15.9 million in 2009, when stock-based pay made up 60 percent of the total, to \$33.8 million in 2015, when stock-based pay was 83 percent of the total. For the highest-paid CEOs, the range was from \$12.4 million in 2009 (56 percent stock-based) to \$24.7 million in 2015 (79 percent stock-based).

Note that the stock-based components—stock options and stock awards—are *realized gains* from the exercise of stock options and the vesting of stock awards. Hopkins and Lazonick have shown that the realized gains from stock-based pay can differ substantially the "fair value" estimates of options and awards, which are based on *grant-date* stock prices rather than the stock prices that actually prevail on the date on which when the executive decides to exercise the options or on which the award vests.²⁹ The only valid measures of stock-based pay are the realized gains measures since these gains represent the money that executives put their bank accounts and on which they pay personal taxes. Indeed these are the measures that the corporations themselves use as compensation expenses in their corporate tax returns.³⁰ Moreover, and of utmost importance, it is the prospect of greater realized gains from stock-based pay that provides senior executives with personal monetary incentives to take actions to boost their company's stock price, including allocate corporate resources to shareholders in the forms of buybacks and dividends.

²⁹ William Lazonick and Matt Hopkins, "Corporate executives are making way more money than anyone reports," *The Atlantic*, September 15, 2016., at <u>https://www.theatlantic.com/business/archive/2016/09/executives-making-way-more-than-reported/499850/;</u> William Lazonick and Matt Hopkins, "If the SEC measured CEO pay packages properly, they would look even more outrageous," Harvard Business Review, December 22, 2016, at <u>https://hbr.org/2016/12/if-the-sec-measured-ceo-pay-packages-properly-they-would-look-even-more-outrageous</u>.

³⁰ Hopkins and Lazonick, "The Mismeasure of Mammon."



Figure 5: Mean total compensation, 500 highest-paid business executives in the United States, 2007-2016

Source: S&P ExecuComp database; calculations by Matt Hopkins, The Academic-Industry Research Network.



Figure 6: Mean total compensation, 500 highest-paid CEOs in the United States, 2007-2016

Source: S&P ExecuComp database; calculations by Matt Hopkins, The Academic-Industry Research Network.

Our research on a variety of U.S. companies in a range of U.S. industries shows how, as the prime mode of implementing MSV ideology, stock buybacks incentivized by stock-based pay undermines the social conditions of innovative enterprise:

- *Strategic control:* MSV permits separation of interests of top executives from interests of the corporation; they use MSV to justify resource allocation for their own personal gain;
- Organizational integration: MSV undermines the incentives and abilities of the labor force to engage in collective and cumulative learning, which is the essence of the innovation process
- *Financial commitment:* MSV drains the company of financial resources that are needed to fund, and sustain, the innovation process until it can generate the high-quality, low-cost products that result in financial returns.

Financialization of the European corporation?

Our most in-depth research on innovation and financialization has been on the United States because that is where MSV ideology is most virulent and, with the implementation of MSV methods, the looting of the industrial corporation most rampant. Our research has always, however, analyzed the strategies and structures of particular firms in particular industries in the context of global competition, and in doing so we have carried out in-depth studies some of the leading European companies and industries.³¹ The ISIGrowth project has given our team the opportunity of delving more deeply into the tension between innovation and financialization in Europe, both in terms of the general trends toward financialization as manifested through distributions to shareholders by publicly listed companies and the size and components of executive pay.

Building on our research on the transformations from innovation to financialization in the United States, we have done research as part of the ISIGrowth project that has broken new ground for European studies of a) distributions to shareholders in the forms of dividends and repurchases, b) the levels and components of executive pay in different European Union nations, c) innovation and financialization in the communication technology industry, d) innovation and financialization in the pharmaceutical industry, and e) the social conditions under which R&D spending is effective.

a) Distributions to shareholders in Europe

The European Union is the world's largest economy, dominated by many large business corporations in which, if they were to follow the U.S. example, there could be a shift from

³¹ See William Lazonick and Mary O'Sullivan, «Le rôle du marché boursier dans les systèmes nationaux de gouvernance d'entreprise: les changements actuels en France envisagés dans une perspective historique comparative» in *Régimes de gouvernement d'entreprise: Différences nationales et stratégies d'entreprises*, Rapport final, Recherche pour le compte du Commissariat Général du Plan, Le Gouvernement de France, Septembre 2001 ; Mary Carpenter, William Lazonick, and Mary O'Sullivan, "The Stock Market and Innovative Capability in the New Economy: The Optical Networking Industry," *Industrial and Corporate Change*, 12, 5, 2003: 963-1034; Lazonick and O'Sullivan, Corporate Governance, Innovation, and Economic Performance in the EU: Final Report,); William Lazonick, and Andrea Prencipe, "Dynamic Capabilities and Sustained Innovation: Strategic Control and Financial Commitment at Rolls-Royce plc," *Industrial and Corporate Change*, 14, 3, 2005: 1-42; Henrik Glimstedt, William Lazonick, and Hao Xie, "Evolution and Allocation of Stock Options: Adapting US-Style Compensation to the Swedish Business Model,", *European Management Review*, 3, 3, 2006: 1-21; Inge Lippert, Tony Huzzard, Ulrich Jürgens, and William Lazonick, *Corporate Governance, Employee Voice, and Work Organization: Sustaining High Road Jobs in the Automotive Supply Industry*, Oxford University Press, 2014.

innovation to financialization. As part of our ISIGrowth agenda, we carried out systematic research into distributions to shareholders among the companies in the S&P 350 Europe Index.³² Regulatory changes in various European Union nations between 1998 and 2000 legalized or, if already legal, facilitated open-market share repurchases. The European Commission subsequently endorsed stock buybacks as a "useful tool for stabilizing markets".³³ From 2000 through 2015, 298 companies in the S&P 350 Europe Index expended €945 billion on stock repurchases, an average of $\in 3.17$ billion per company, and distributed a total of $\notin 2.88$ trillion in cash dividends, an average of €9.66 billion per company. Combined, all the 348 companies in the S&P 350-Europe Index in January 2016 repurchased €64 billion of their own stock and distributed €284 billion in dividends in 2015, representing 110 percent of their net income. The prevalence of dividends among major European corporations, which is in sharp contrast with the fact that buybacks have tended to surpass dividends in the United States, means that in Europe more corporate cash is flowing to shareholders rather than sharesellers, since stock buybacks mainly benefit those stock-market traders, including senior executives, investment banks, and hedge-fund managers, who are in the business of profiting from the buying and selling of shares. It remains for further study of European corporate governance and shareholding patterns to determine why European corporations favor dividends over buybacks and how the benefits of these distributions are distributed across different types of shareholders. Also on our future research agenda are detailed case studies of the particular impacts at major European corporations of high payout ratios on investments in productive capabilities.

Although corporate ownership structures gradually became very similar with the rise of institutional investor holdings in large corporations, there are still important differences in terms of value extraction across European nations. In our dataset, Switzerland has the highest average repurchaser companies. It eased its repurchase rules much earlier than many other continental European countries. Home to three out of nine companies which spent more than \$20 billion on share repurchases during the period from 2000 through 2015, Switzerland has the highest repurchase to net income ratio in Europe. Three other major share repurchase countries are the Netherlands, Denmark and Finland, although in the last two cases, the high repurchase ratios are due to their largest corporations Novo Nordisk and Nokia. As highlighted above, dividends are the principal forms of shareholder distribution in Europe. Italy and the UK are the countries having the highest dividend to net income ratios. Already the UK has a high average repurchase to net income ratio (24 percent), British companies also distribute 71 percent of their net income in the form of dividends to shareholders and the total payout ratio was 95 percent. During the same period Italian companies distributed 7 percent and 94 percent of their net income via share repurchases and dividends respectively. For a total of 16 years, shareholders and sharesellers of these companies extracted 101 percent of their total net income. Excluding nations with less than five companies in our dataset, the countries with the lowest level of total payout ratios are Ireland (48 percent), Germany (58 percent) and Sweden (62 percent). In these countries, the repurchase to net income ratios have been only 10-12 percent.

b) Levels and components of executive pay in Europe

The analysis of U.S. executive pay carried out by Hopkins and Lazonick reflects their thorough knowledge and intensive exploitation of the S&P ExecuComp database, with executive-pay data

³² Sakinç, "Share Repurchases in Europe".

³³ Ibid.

being drawn from proxy statement filings to the U.S. SEC.³⁴ No comparable database exists for Europe, but as part of ISIGrowth WP4, we have made substantial progress in beginning to build such a database and use it to gain insights into the levels and components of executive pay in Europe. In our ISIGrowth working paper, Kotnik et al. have added new and consistent data to the empirical evidence on the extent to which European executives are incentivized and rewarded by stock-based pay.³⁵ Their findings show that stock-based compensation of CEOs in European listed firms is usually underestimated because of the use of "fair value" measures of stock-based pay. Following the arguments made by Hopkins and Lazonick, Kotnik et al. have collected data on the *realized gains* from stock-based pay in compiling statistics on total executive compensation in Europe.

Their research generated a sample of 227 large, publicly-traded companies listed in the S&P Europe 350 index from five major European countries: France, Germany, Italy, Sweden and United Kingdom. Through analyzing companies' annual reports, the authors hand-collected data on the various components of the compensation of the company's CEO in 2015, including the gains that executives actually realize from stock-based pay. They document that on average half of the total compensation of the European CEOs in the sample is stock-based, measured by actual realized gains. However, there are large differences between countries. Although in France and the UK the majority of total compensation is stock-based, the proportions are still well below those that prevail in the United States. A comparison of the realized gains measure of CEO compensation with the data based on fair value estimates shows that the latter underestimates the relevance of stock-based pay, in the case of some countries dramatically. These research findings inform the existing policy debate on transparency of remuneration policy and the link between pay and performance of corporate executives in the EU. Based on this research, the authors make the case that the European Commission should insist that EU corporations submit executive pay data in a standardized form that enables international comparisons, and, above all, uses realized gains measures.

c) Managerial remuneration, share buybacks and firm performance

Our research on the transformations from innovation to financialization in the United States and Europe, suggests that share repurchases and stock options are negatively associated with investments in the productive capabilities of firms, including training and retaining the labor force. Referring to the empirical results in the IsiGrowth working papers by Kotnik et al. (2017) and Sakinç (2017)³⁶ to derive stylized facts, Dawid et al. construct a dynamic heterogeneous agent industry model of the impact of management-remuneration schemes on firms' investment decisions as well as the evolution of their competitiveness and share values.³⁷ The model includes purported properties of the feedback between firm's investment decision, the industry dynamics, and the associated dynamics on the financial market, to study the implications of changes in the share based remuneration component of the firm manager as well as the expected duration of the manager's tenure.

³⁴ This research on U.S. executive pay was done under grants to Lazonick from the Institute for New Economic Thinking.

³⁵ Patricia Kotnik, Mustafa Erdem Sakinç, Alenka Slavec, and Dejan Guduraš, "Executive Compensation in Europe: Realized Gains from Stock-Based Pay," ISIGrowth Working Paper 7/2017 May, May 20, 2017.

³⁶ Kotnik, et al., "Executive Compensation in Europe"; Sakinç, "Share Repurchases in Europe".

³⁷ Herbert Dawid, Philipp Harting, and Sander van der Hoog, "Manager Remuneration, Share Buybacks, and Firm Performance," ISIGrowth Working Paper, 2/2018 January, January 23, 2018, at <u>http://www.isigrowth.eu/2018/01/23/manager-remuneration-share-buybacks-and-firm-performance/</u>.

Based on simulations, Dawid et al. argue that if a single firm increases the stock-based remuneration of the manager, without its competitors following suit, this attempt to incentivize managers has negative implications for the medium- and long-run competitiveness of the firm and also for its share price, whereas managerial income increases. If, however, such a change in the remuneration scheme is adopted by all firms in the industry, both share prices and managerial income increase. But the growth rate of the average productivity is slowed down and workers' real wages are reduced. Furthermore, the model predicts that a change in the expectations of financial market traders makes them more optimistic about the impact of share buybacks on future share prices, inducing higher share prices and managerial income, but lower productivity and growth rates. The exercise suggests that a stronger orientation towards share-based remuneration which is beneficial for shareholders is not in the interest of fostering the speed of technological change and economic growth, and comes at the expense of wage-earners' purchasing power.

c) Innovation versus financialization in communication technology

The research by Henrik Glimstedt provides historical evidence on the role of national policy, involving major government investments in collaboration with Old Economy research labs, in creating information-and-communication technology (ICT) platforms, with the implication that the exploitation of these platforms by corporate entities such as Alphabet, Amazon, Apple, and Facebook, to mention four of the most prominent technology companies, should be regulated.³⁸ Indeed, the issue of how to regulate these companies is not only a major concern in Europe but has also surfaced as a key policy issue in the "free market" United States. At the same time, the ICT industry has been both highly global, making it difficult to regulate at the national level, and in some areas highly competitive, making it difficult to determine where, in terms of organizations and markets, the possibility of innovation through competition ends and the need for government regulation begins.

Glimstedt traces the changing dynamics and strategies of innovation in the wireless infrastructure industry, covering three major phases: (1) massive adaptation of wireless services in the 1990s and the Internet boom and bust, (2) the smartphone revolution and the trends to commoditization of wireless systems, and (3) the ongoing search for new profitable growth in services, cloud and Internet-of-Things. He analyses the development of the specific industry characteristics, including the role of open-industry standards as pathways for innovation, the continuous leadership of vertically integrated incumbent system integrating vendors, the regionalization of communication markets, and the development of telecom regulations. He shows how the equipment industry's continuous massive R&D efforts (i.e., 3G, HSPA, HSPA+ and 4G wireless systems) enabled the smartphone revolution, whilst the intensive competition among wireless operators trickled down to the incumbent equipment vendors in terms of a lethal mix of requirements for high-performing equipment and very competitive pricing, a combination which undermined vendor's margins. In the process, industry incumbents shared new generations of technologies with new innovative Asian entrants through the open standards regime, leading to more global and heated competition. As the competition developed from "regionalized and

³⁸ Henrik Glimstedt, "The Dynamics of Innovation in the Wireless Telecom Industry during Two Eras of Technological Convergence, 1995-2015," ISIGrowth Working Paper 9/2017 May, May 22, 2017, at <u>http://www.isigrowth.eu/2017/06/14/thedynamics-of-innovation-in-the-wireless-telecom-industry-during-two-eras-of-technological-convergence-1995-2015/</u>

moderate" to "globalized and intensive", both European incumbents and Asian entrants explored services and software as new areas of profitable growth. In particular, the Glimstedt analyses how the industry players, in stiff competition with the "IT giants" and platform leaders of the Internet economy, are seeking leadership in cloud and Internet-of-Things through the launch of the 5th Generation wireless services, to be standardized in 2020.

Building on this understanding of the evolving industry characteristics of ICT, Marie Carpenter and William Lazonick have documented the relative position of different firms in the communication technology industry to take advantage of new opportunities and the potential influence of financialization on innovative strategy and economic performance of the global industry's key competitors.³⁹ They compare the performance of the leading sixteen firms in the industry over the past twenty years and provide summaries of the impacts of stock buybacks—as the most evident manifestations of financialization—on these companies. This research reveals that those companies such as Cisco and Motorola that became highly financialized in the 2000s have lost out in global competition, while the two leading competitors in communications infrastructure, Huawei and Ericsson, are the least financialized companies in the global industry. Indeed, Huawei, which has been gaining market share in not only communication infrastructure (in which its major competitors are Ericsson and Nokia) but also enterprise networking and smartphones, is uninfluenced by the stock market because its 100 percent employee-owned, and hence is not listed on a stock market. This, despite the fact that Huawei is effectively barred from selling its equipment in the United States.

d) Innovation versus financialization in pharmaceuticals

The US institutional environment provides unique advantages for the development and commercialization of pharmaceutical drugs. Yet there are widespread claims that a crisis of productivity afflicts the US pharmaceutical industry. Our research team has provided evidence of the highly-financialized character of the major US pharmaceutical companies included in the S&P 500 Index, focusing on distributions to shareholders and the stock-based pay of pharmaceutical executives.⁴⁰ Research by our team member Öner Tulum shows that the explanation for this productivity paradox is the "financialization" of the US pharmaceutical industry.⁴¹ Driven by the ideology of maximizing shareholder value, the US pharmaceutical industry has adopted a highly-financialized business model. Its key performance metrics are stock-price yield and dividend yield, supported by distributions to shareholders in the forms of large-scale stock buybacks in addition to ample dividends. With this financial behavior incentivized by stock-based executive pay, value extraction from corporations for the sake of

³⁹ Marie Carpenter and William Lazonick, "Innovation, Competition, and Financialization in the Communications Technology Industry:1996-2016," ISIGrowth Working Paper 8/2017 May, June 14, 2017 at <u>http://www.isigrowth.eu/2017/06/14/innovation-competition-and-financialization-in-the-communications-technology-industry-1996-2016/</u>

⁴⁰ William Lazonick, Matt Hopkins, Ken Jacobson, Mustafa Erdem Sakinç, and Öner Tulum, "U.S. Pharma's Financialized Business Model," Institute for New Economic Thinking Working Paper No. 60, revised September 8, 2017, at https://www.ineteconomics.org/research/research-papers/us-pharmas-financialized-business-model.

⁴¹ Öner Tulum, "Innovation vs Financialization: An Analysis on the United States as a Source of Innovation for European Big Pharma," ISIGrowth Working Paper 17/2017 May, at <u>http://www.isigrowth.eu/wpcontent/uploads/2017/06/working paper 2017 17.pdf;</u> Öner Tulum, Innovation vs. Financialization: An Analysis of Alternative Business Models in the US Pharmaceutical Industry," PhD dissertation, University of Ljubljana, June 2018; Öner Tulum and William Lazonick, "Financialized Corporations in a National Innovation System: The U.S. Pharmaceutical Industry," January 2018 (forthcoming *International Journal of Political Economy*).

distributions to shareholders can be at the expense of productivity in drug innovation. At the same time, however, a number of less-financialized European companies are making use of the US innovation system to outcompete the US companies in their home market., or between value creation and value extraction.

Tulum employs Lazonick's theory of the innovative enterprise as a framework for analyzing the evolution of the tension between innovation and financialization for pharmaceutical companies operating in the US institutional environment. Tulum document the evolution of the US innovation system for pharmaceutical drug development since the 1980s, emphasizing the ways in which it has sought to support innovation, even as major US pharmaceutical companies have undermined innovation through the financialized corporate resource-allocation behavior that our paper documents. Finally, by summarizing the US product strategies of seven major European pharmaceutical companies, Tulum poses the hypothesis that under a system of corporate governance that supports innovation rather than financialization, the US innovation system could result in a much more innovative pharmaceutical industry that would focus on treating medical problems at affordable costs rather than on boosting stock yields to increase the financial gains of senior executives and the Wall Street bankers and hedge-fund managers with whom they have become allied.

e) Growth versus financialization in European young, high-tech entrepreneurial firms

Research by Kotnik et al. addresses corporate acquisitions as a possible source for funding growth plans of entrepreneurial firms in high-tech industries.⁴² Considerable attention has been directed to VC financing. However, especially for scale-up phases of firm growth, VC institutions in Europe are underdeveloped and being acquired by an established company is thus one of a few available options. The paper examines whether an acquisition by a corporate investor promotes the growth of unlisted European firms that are less than 20 years old and belong to knowledge-intensive sectors and whether the effect on growth differs from that of an acquisition by a financial buyer. Based on a sample of 4,714 acquisition targets from France, UK, Italy, Germany and Sweden between 2003 and 2015, the study estimates the effect of acquisitions on the cumulative growth of revenue and employment from the year before the acquisition to up to five years after, using a propensity-score matching approach. The results show that the acquisitions have a positive effect on growth. There is a 1.0-2.8% decrease in revenue and employment growth in the year of a corporate acquisition, followed by a steady acceleration of growth in the following years. After five years, acquired firms exhibit by 11-13% stronger cumulative growth of revenue and 7-9% larger cumulative employment growth after 4 years, relative to matched control firms. In contrast to firms acquired by corporate acquisitions, firms acquired by a financial investor avert the dip in revenue in the initial post-acquisition period, but achieve similar cumulative growth differential.

Whereas this research does not find that growth is significantly different between firms acquired by an established company and those acquired by a financial buyer, it does find that the nationality of the acquirer matters. Unlike domestic acquirers, foreign acquirers make no initial redundancies and prevent revenue from contracting in the first year after the acquisition. After

⁴² Patricia Kotnik, Anže Burger, Mustafa Erdem Sakinç, "The Impact of Acquisitions on the Growth of European High-Tech Entrepreneurial Firms," ISIGrowth Working Paper, forthcoming June 2018.

lead to reallocation of jobs.

five years, foreign-owned firms exhibit significantly higher cumulative revenue growth than the ones with domestic acquirers. They also achieve higher employment growth four years after the acquisition. The findings of this paper raise a question whether corporate acquisitions can be considered an alternative to weak VC institutions and hence deserve more attention. It also provides some empirical validation for recent policy initiatives to connect start-ups with mid-caps and larger enterprises, as a part of the Start-up and Scale-up Initiative (European Commission, 2016),⁴³ and addresses the fears of policy makers that foreign acquisitions might

Whether the creation of junior stock market segments lead to increasing convergence towards financial system that are typical of the market-led financial architecture, typical of the Anglo-Saxon world in economies traditionally characterised by credit-based financial systems, is addressed in ISIGrowth working papers by Granier et al.⁴⁴ An institutional comparison of junior stocks markets located in countries characterized by different varieties of capitalism, including AIM London, AIM Italy, Alternext, Entry Standard, OMX First North, Mothers, Tokyo AIM, JASDAQ, was carried out. The findings show that while the "new" junior stock markets were largely inspired by the AIM London model, country specificities still persist. The higher centralization of admission processes and regulatory oversight in Germany and Japan is linked to more centralized and institutionalized mechanisms' relevant to credit-based "coordinated market economies", but the rules-based regulatory approach contributes to moving away from discretionary financial allocation criteria and long term relationships.

Moreover, the creation and expansion of junior stock markets may be viewed as an illustration of the financialization of the firms, notably the small ones. The way this process occurs and its intensity differ according to the initial financial system and also to the type of junior markets designed. In credit-based countries, the junior markets stimulate financialization through the arrival of foreign and institutional investors, and through the emergence of a market for corporate control. If the AIM displays the characteristics of a traditional stock market with public offerings, the way it operates brings it closer to the private-equity financing mechanism, and contributes to blurring the dividing line between traditional market-based financing and private-equity financing.

The second working paper by Granier, et al. looks at the firm growth processes across countries characterized by different financial systems and varieties of capitalism, as well as across stock market segments with different listing requirements and information standards by estimating Gibrat regressions of firm growth through dynamic panel methods on datasets of manufacturing firms listed on the stock exchanges in two polar types of capitalism, namely Japan and the United Kingdom, along with statistics on Germany, France, and Sweden. The difference in growth patterns between the main segment, i.e., the market dedicated to bigger and mature

⁴³ European Commission, Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of The Regions: Europe's Next Leaders: The Start-up and Scale-up Initiative. COM (2016) 733.

⁴⁴ Caroline Granier, Valérie Revest and Alessandro Sapio, "How Do Financial Markets Adapt? An institutional Comparison between European and Japanese Junior Stock Markets," ISIGrowth Working Paper 11/2017 May, at <u>http://www.isigrowth.eu/2017/06/14/how-do-financial-markets-adapt-an-institutional-comparison-between-european-and-japanese-junior-stock-markets/</u>; Caroline Granier, Valérie Revest and Alessandro Sapio," Firm growth and stock market regulation in different financial systems, ISIGrowth Working Paper 10/2017 May, at <u>http://www.isigrowth.eu/wpcontent/uploads/2017/06/working_paper_2017_10.pdf</u>.

companies, and the junior segment, i.e., the market dedicated to smaller and younger companies, is wider in the London stock market than in Japan. The main segment firms are closer to satisfying Gibrat's Law, which is violated on the junior market, validating the evidence of longrun regularity for mature firms and the influence of learning processes. The absence of correlation with age on the Japanese market for both segments reflects the institutional design of the junior market and might illustrate the role of cumulative learning and of voice mechanisms in credit-based capitalism. These results hold when using different size proxies (employees, value added, total assets, net sales) and when controlling for the availability of internal and external financial resources. In particular, profitability is not a driver of firm growth even in a market-based system of the UK, casting doubts on the effectiveness of market-selection dynamics. Labour productivity and firm-level capitalization are less persistent as compared to the firm-size variables, the latter reflecting firm riskiness.

f) Does government support result in innovation or financialization of technology firms?

As argued elsewhere in this report, the effectiveness of R&D spending that results in a high level of R&D productivity at the corporate level depends on social conditions of innovative enterprise which, as has been pointed out, are often distorted due to the tension between innovation and financialization. The way corporate profits are used, however, is not the only factor influencing innovation. Government policy measures to stimulate the business sector to increase investment in research and development have always been an important part of traditional industrial policy and more recently of innovation policy in the EU member states and OECD countries. This government impact is based on the assumption that R&D conducted within firms will contribute to innovation, manifested in the production of new marketable goods and services. Consequently, governments worldwide direct a large sum of public funds towards expanding the base of scientific and technological knowledge and are using a variety of tax and subsidy measures⁴⁵ with the intention of encouraging business enterprises to undertake R&D projects at their own expense.⁴⁶ While it is generally believed that government support for R&D investment in firms has a positive effect on innovation, the key question at stake is: How effective is government support for business-sector R&D activities? This question becomes even more relevant when taking into account our research on transformation from innovation to financialization in US and European corporations.

In our ISIGrowth working paper, Tea Petrin examines the impact and effectiveness of government support for R&D and innovation based on the review 89 published academic articles and studies from 1960 to 2017, covering the findings for EU and OECD countries, and a few for China and Taiwan.⁴⁷ This review includes not only large corporations but also SMEs. The review

⁴⁵ During the 2000 to 2013 period, for example, government financial support instruments to promote R&D have accounted for nearly 70 percent of all R&D spending performed in OECD countries in the form of grants, purchase of R&D expenditure and R&D tax incentives. See S, Appelt, M. Bajgar, C. Criscuolo, and F. Rueda, "R&D Tax Incentives: The Evidence on Design, Incidence and Impact," *OECD Science, Technology and Industry Policy Papers*, No. 32, OECD Publishing, Paris. See also Matt Hopkins and William Lazonick, "Who Invests in the High-Tech Knowledge Base?" Institute for New Economic Thinking Working Group on the Political Economy of Distribution Working Paper No. 6, September 2014 (revised December 2014), at http://ineteconomics.org/ideas-papers/research-papers/who-invests-in-the-high-tech-knowledge-base.

⁴⁶ The government share of R&D spending from 2004 to 2014 within the EU-28 was between 32 percent and 35 percent of which a relatively large amount was used to subsidize R&D activities undertaken by business firms. See: European Commission Eurostat: R&D expenditure, March 2018, at http://ec.europa.eu/eurostat/statistics-explained/index.php/R %26 D expenditure.

⁴⁷ Tea Petrin, "A Literature Review on the Impact and Effectiveness of Government Support for R&D and Innovation," ISIGrowth Working Paper 5/2018, February, at <u>http://www.isigrowth.eu/2018/02/14/a-literature-review-on-the-impact-and-effectiveness-of-government-support-for-rd-and-innovation/.</u>

examines empirical evaluations that focus on effects of either direct government support in the form of grants, subsidies and loans or indirect support in the form of tax incentives, on input additionality, output additionality on a firm level and macroeconomic level, behavioural additionality and welfare. The main findings indicate that government support for R&D and innovation on variables studied may have a positive impact, but not always. With some degree of simplification due to the problems related to the heterogeneity of the studies and diversity of empirical models and estimation approaches, the overall conclusion based on this review leans towards complementarily of business and government R&D expenditure, a positive but modest impact on innovation at the firm level as well as a positive impact on welfare. However, the degree and magnitude of the effect vary with the econometric methods used, with firm size and nature of firms, generosity of support, size of the project supported, industry studied, the tax system, etc. It was found, for example, that direct public support to firms' R&D expenditure was stronger for SMEs than larger firms as well as stronger during the recent financial crisis disregarding the firm sizes, and that the effect of direct government support decreases with higher level of subsidies. Likewise, the positive effect of tax incentives on additionality is higher for SMEs and young firms and firms with high R&D orientations. The effectiveness of government support was found greater when targeted to R&D expenditure, and it diminished with respect to its impact on firm innovation activities and macroeconomic outcomes that are the end goal of policy intervention. Thus the impact on firm R&D expenditure is greater compared to the impact on firm innovation activities, macroeconomic outcomes and firm behaviour. The empirical evidence on which kind of government support, i.e., direct or indirect, is more effective in increasing social welfare, is uncertain. Direct grants and subsidies seem to leverage more R&D than indirect tax incentives, but the former generate lower spillovers.

The finding that government financial support to promote R&D and innovation had rather weak impact on firm innovation activities and macroeconomic outcomes, such as socially useful innovation may be due to effects of financialization. A notable example is the US pharma industry. Lazonick et al.⁴⁸, show that in a sector in which R&D is of utmost importance, high levels of R&D spending which includes large government subsidies do not result in high level of R&D productivity. They attribute this result to the highly financialised character of the US pharma industry what undermines the social conditions of innovative enterprise: strategic control, organizational integration and financial commitment resulting in the allocation of financial resources in the money making drugs instead of focusing on treating medical problems at affordable costs. Similar effects can be found in other industries as documented in this report, not only in the United States, but also in European corporations. The findings in our ISIGrowth working paper, Kotnik et al.⁴⁹, show that half of the total compensation of the European CEOs in their sample (S&P Europe 350 companies from five EU countries, 2015) was stock-based, on average, indicating financialization of the European corporations.

The tension between innovation and financialization significantly undermines the effectiveness of government support for R&D and innovation, although the overall conclusion, based on the literature review, leans towards positive outcomes. The weak impact may be due to financialization which so far has not been properly accounted for. Therefore, we propose, first, that government support for R&D and innovation to business enterprises should be conditioned on the degree of financialization or, in other words, limited to those companies where executive

⁴⁸ Lazonick, et al., "U.S. Pharma's Financialized Business Model."

⁴⁹ Kotnik, et al., "Executive Compensation in Europe".

pay is designed to incentivize and reward value creation and not value extraction. Second, the pure econometric estimations of impact and effectiveness of government support need to be complemented by qualitative in-depth case studies to come to a better understanding of the impact of government support for R&D and innovation to firms. Does it contribute to value creation or, to the contrary, value extraction.? In the interest of government intervention in R&D the key metric should not be business rate of return but its effect on overall economic outcomes.

As a final note, it should be pointed out that traditional research on the impact and effectiveness of government support for R&D and innovation has not taken into account changes in corporate behaviour leading to undermining socially useful innovation due to increasing financialization. Therefore, the current state of corporate innovation is a combination of possible positive effects of traditional government support and the negative effects of financialization. It can be even argued government funds received by financialized corporations are channeled into the use of top executives and shareholders for their own personal benefit rather than for support of innovation in the companies concerned.

Our research on government support for business-sector R&D is complemented by WP4 research carried out under the ISIGrowth project by the University College London (UCL) group.⁵⁰ At the macroeconomic level, government policy has a key role to play in the provision of patient, long term finance to stimulate economic growth and innovation. Because innovation is highly uncertain, has long lead times, and is collective and cumulative, it requires a specific type of finance. Uncertainty means that finance must be willing to bear high risks; the long-run nature of innovation and its cumulativeness imply that the kind of finance must be patient. By nature, financial returns from investment in innovative activities are not always assured, and it usually takes time before they can materialize. Thus, achieving smart, innovation-led growth requires not just any type of finance, but patient strategic finance.

Short-termism, risk-aversion, and a propensity to predatory value extraction means that the business sector will often not invest in higher-risk areas until future returns become more certain. Hence, across the world the early stages of the innovation chain are disproportionately occupied by government agencies.⁵¹ This early stage government investment helps to create and shape new markets, nurturing new landscapes which the business sector can develop further. From advances such as the Internet and microchips to biotechnology and nanotechnology, many major technological breakthroughs—in both basic research and downstream commercialization—were only made possible by direct investment by government agencies. In each of these areas the business sector only entered much later, piggybacking on the technological advances made possible by public funds.⁵²

⁵⁰ Mariana Mazzucato, "From Market-Fixing to Market-Creating: A New Framework for Economic Policy," ISIGrowth Working Paper 2/2015 November at <u>http://www.isigrowth.eu/2015/10/29/from-market-fixing-to-market-creating-a-new-framework-foreconomic-policy/</u>; Mariana Mazzucato and George Semieniuk, "Financing Renewable Energy: Who Is Financing What and Why It Matters, ISIGrowth Working Paper 26/2016 July, at <u>http://www.isigrowth.eu/2016/07/12/financing-renewable-energy-</u> who-is-financing-what-and-why-it-matters/

⁵¹ Lazonick and Mazzucato, "The risk-reward nexus."

⁵² Fred L. Block and Matthew R. Keller, eds., *State of Innovation: The U.S. Government's Role in Technology Development*, Paradigm Publishers, 2011.

In countries that have achieved smart, innovation-led growth, the state has often supplied the patient strategic finance that the business sector was unwilling to provide.⁵³ This role of the state cannot be understood as fixing "market failures". Rather, the state has acted boldly to create new technological opportunities and industrial landscapes by acting as "investor of first resort". This government action has taken different institutional forms, but in many countries patient strategic finance is increasingly coming from state investment banks (SIBs), or development banks. These are majority public-owned entities that have a mandate to pursue socio-economic goals in a defined geographical area, sector or market segment through the use of repayable financial instruments. We have explored in depth the role of these institutions in previous ISIGrowth publications.⁵⁴

Innovation has non-neutral distributional impact. Typically, early stage R&D funding is provided by government agencies, whereas the business-sector organizations only invest when they see an opportunity for profits. This means that the business sector may gain disproportionately from this technological knowledge rendered available by the government sector as expected returns become less uncertain. ISIGrowth research has examined this process via the use of an agent-based model that assesses to what extent the profitability of business enterprises, market concentration and knowledge accumulation are conditioned by the role of the government sector investing in new technology.⁵⁵ The research found that relative risk-reward nexus (increases in favour of the business sector whenever the government sector directly invests in R&D throughout the innovation chain, and this increase is sharper the higher the complexity of the new technology.

If the government sector compensates for the lack of venture capital money (aka private equity) going to early-stage innovation, it should be able to benefit from the rewards to support more inclusive growth, just as business investors do. Changing the discourse around wealth creation is key to this process. Government agencies and business enterprises can form visions of what is to be created together, and how to divide both the risks and the rewards of the value that results. But the process requires government agencies to embrace risk and uncertainty, build explorative capacity and foster institutional learning. It is not mistakes that are to be feared but that lack of learning from them.

The government sector can also use a number of return-generating mechanisms for its investments, including retaining equity or royalties, retaining a golden share of the Intellectual Property Rights, using income-contingent loans, or capping the prices (which the tax payer pays) of those products that emanate, as drugs do, from public fund.⁵⁶ By the adoption of a more balanced risk-return profile, the government can reduce the natural tendency for the gains from innovation to flow to the business sector and instead achieve more inclusive growth.

⁵³ Lazonick and Mazzucato, "The risk-reward nexus"; Hopkins and Lazonick, "Who Invest in the High-Tech Knowledge Base?"; Mariana Mazzucato, "The challenges and opportunities of framing the EC 2020 'challenges' as 'mission-oriented' policies," ISIGrowth Policy Brief no. 3, May 2018, <u>http://www.isigrowth.eu/2018/05/27/mission-oriented-innovation-policy-challengesand-opportunities</u>

⁵⁴ Mariana Mazzucato and Caetano C. R. Penna, "Beyond Market Failures: The Market Creating and Shaping Roles of State Investment Banks." *Journal of Economic Policy Reform*, 19, 4, 2016: 305-326

⁵⁵ Ariel L. Wirkierman, Tommaso Ciarli and Mariana Mazzucato, (2018) An Evolutionary Agent-Based Model of Innovation and the Risk-Reward Nexus," ISIGrowth Working Paper 19/2018 May 2018, at <u>http://www.isigrowth.eu/wpcontent/uploads/2018/05/working_paper_2018_19.pdf</u>

⁵⁶ Lazonick and Mazzucato, "The risk-reward nexus"

Rebalancing Value Creation and Value Extraction: A Policy Agenda

For the sake of sustainable, inclusive growth, governments can and should intervene in the operation of the economy to rectify the gross imbalance between those who contribute to value creation and those who have the power to extract value from the economy. And given the centrality of the business corporation to the delivery of value to the economy, *this intervention must include, first and foremost, the governance of the business enterprise.* Macroeconomic intervention will be of no avail if major business enterprises become and remain sources of predatory value extraction.

Note that we refrain from using the term "private sector" in referring to the business sector. Most successful corporations are listed on public stock markets, with managerial control and asset ownership having long since been separated. As a result, senior executives are employees not owners, while those who hold shares in the company are simply stock-market traders—or "portfolio investors"—and not investors in the productive capabilities of the corporations. Hence the centrality of our critique of the dominant ideology that corporations should be run to "maximize shareholder value"—that is, that business corporations should be run for that group of participants in the operation and performance of companies who matter least. The use of the term "private sector" (which unfortunately remains ubiquitous) reinforces shareholder-value ideology, with its roots in the neoclassical theory of the market economy.⁵⁷

With a focus on the governance of the business corporation, there are five broad planks in the regulatory scaffolding on which a value-creating economy can build to achieve sustainable, inclusive growth. These five planks would 1) ban stock buybacks, 2) redesign executive pay, 3) reconstitute corporate boards, 4) reform the corporate tax system, and 5) redeploy corporate profits to invest, and reinvest, in productive capabilities.⁵⁸

1) Ban stock buybacks done as open-market repurchases. With the inauguration of Ronald Reagan as President of the United States in January 1981, the US Securities and Exchange Commission (SEC), which had been set up in the mid-1930s to eliminate fraud and manipulation from US financial markets, was captured by the Chicago School of Economics, transforming the SEC from regulator to promoter of the stock market. Key to this transformation was the SEC's under-the-radar adoption in November 1982 of Rule 10b-18, which, as recounted earlier in this report, was, and remains, a license to loot the US business corporation. Over the more than 35 years that it has prevailed, Rule 10b-18 has never been debated, much less sanctioned by the US Congress—until very recently. In the context of the massive cuts to corporate taxes under the Republican Tax Cuts and Jobs Act, signed into law on December 22, 2017, US Senate Democrats have focused on the propensity of major corporations to use the extra profits to do stock buybacks as their fundamental argument about why the tax cuts will not benefit the American worker.⁵⁹

⁵⁷ See William Lazonick, Business Organization and the Myth of the Market Economy, Cambridge University Press, 1991; William Lazonick, "The Theory of the Market Economy and the Social Foundations of Innovative Enterprise," Economic and Industrial Democracy, 24, 1, 2003: 9-44; William Lazonick, "Innovative Enterprise or Sweatshop Economics? In Search of Foundations of Economic Analysis," Challenge, 59, 2, 2016: 65-114; Lazonick, "Innovative Enterprise and Sustainable Prosperity"

⁵⁸ This five-plank policy agenda has been developed in Lazonick and Shin, *Predatory value Extraction*.

⁵⁹ See Senate Democrats, "Big Companies Cash in on the #GOPTaxScam – Announce More Than \$120 Billion in Share Buybacks in 2018," US Senate Democrats press release, February 13, 2018, at <u>https://www.democrats.senate.gov/big-</u> companies-cash-in-on-the-goptaxscam announce-more-than-120-billion-in-share-buybacks-in-2018; Senate Democrats,

Citing our research extensively, the most persistent challenge to this corrupt practice has come from Sen. Tammy Baldwin (D-WI), who in 2015 wrote two highly critical letters to former SEC Chair Mary Jo White, and who has recently challenged the prescription drug lobby group PhRMA to reconcile its claim that the pharmaceutical companies need high drug prices to fund R&D with the fact that the major companies spend virtually all their profits on buybacks and dividends. Sen. Baldwin also wrote letters to the two most recent nominees for SEC commissioner, demanding that they make clear their positions on buybacks.⁶⁰ Most importantly, on March 22, 2018, Sen. Baldwin introduced legislation known as the Reward Work Act, which would rescind Rule 10b-18, in effect leaving senior executives open to charges of stock-price manipulation for doing buybacks on the scale that have become commonplace.⁶¹

A ban on stock buybacks would be a giant step in resurrecting corporate employment as a foundation for a prosperous and expanding middle class. In many European nations, until the late 1990s, stock buybacks were illegal or highly regulated. The European Commission should recognize the damage that stock buybacks do to the economy, and take the necessary steps to make open-market stock repurchases illegal in Europe on the ground that their sole purpose is to enable a company's senior executives to manipulate the company's stock prices.

2) Redesign executive pay to incentivize and reward value creation, not value extraction. Given that stock prices can be driven not only by innovation but also by speculation and manipulation, stock-based executive remuneration creates incentives for senior executives and other financial interests to enrich themselves by allocating corporate resources in ways that promote speculation and permit manipulation, often undermining innovation. The situation is exacerbated by the practice adopted by the US Financial Accounting Standards Board (FASB) in combination with the SEC, and transferred to Europe by the International Accounting Standards Board (IASB), of valuing stock-based executive pay by "estimated fair value" methods—a meaningless measure of how much executives actually take home from stockbased pay and hence the incentives created for these executives by stock-based pay to manipulate stock prices, with stock buybacks as the prime mechanism for doing so. As an important step in debunking the efficacy of stock-based executive pay, the European Commission should fund a major project to collect executive pay data for major companies going back at least two decades that includes the realized gains from stock-based pay. Our ISIGrowth research has in effect launched such a project; in compiling data for the S&P Europe 350 for fiscal year 2015, we have developed the methodology for data collection from company reports in different member nations of the European Union. Then, making use of "the theory of innovative enterprise" and its "social conditions of innovative enterprise", the

[&]quot;CONFIRMED: Following Release Of Senate Democrats' Report, Independent Analyses Show That After Passage Of #GOPTaxScam, Corporations Are Spending Far More On Buybacks For Corporate Executives And Wealthy Shareholders – Far More Than On One-Time Bonuses," US Senate Democrats press release, March 1, 2018, at <u>https://www.democrats.senate.gov/newsroom/press-releases/confirmed-following-release-of-senate-democrats-report-independent-analyses-show-that-after-passage-of-goptaxscam-corporations-are-spending-far-more-on-buybacks-for-corporateexecutives-and-wealthy-shareholders far-more-than-on-one-time-bonuses.</u>

⁶⁰ See Institute Staff, "INET grantee Lazonick's research shapes DC share buyback debate," *Institute for New Economic Thinking Blog*, December 22, 2017, at <u>https://www.ineteconomics.org/perspectives/blog/inet-grantee-lazonicks-research-shapes-dc-share-buyback-debate</u>.

⁶¹ U.S. Senator Tammy Baldwin introduces legislation to rein in stock buybacks and give workers a seat at the table," Office of Senator Tammy Baldwin press release, March 22, 2018, at <u>https://www.baldwin.senate.gov/press-releases/reward-work-act.</u>

European Commission should construct new metrics and methods of executive remuneration that promote innovation and discourage executives from engaging in manipulation.

- *3) Reconstitute corporate boards* of directors to include representatives of households as workers and as taxpayers as well as households as founders (those who continue to hold their founding shares even after the company has become publicly listed on the stock market)—and exclude predatory value extractors, who are in fact becoming increasingly dominant on U.S-style boards. A first step would be to follow the German system of co-determination by mandating that all companies with more than 500 employees have worker representatives as one-third of their board members, increasing to 50 percent worker representation for companies with more than 2,000 employees.⁶² The intellectual case for representation of households as workers and as taxpayers on corporate boards derives directly from the theory of innovative enterprise and its critique of MSV, summarized in this report. It is noteworthy that, informed by our research, the Reward Work Act, introduced in the US Senate by Sen. Tammy Baldwin in March 2018 demands that, alongside the rescinding of Rule 10b-18, one-third of the board members of all U.S, publicly-listed companies be worker representatives.
- 4) Reform the corporate tax system to support investment in infrastructure and knowledge. There is a myth that is fundamental to MSV ideology: The myth is that the United States is a "free market" economy. The United States has highly developed markets in product, labor, finance and land. But these markets are the result, not the cause, of a highly productive economy.⁶³ The foundation of economic development is, however, the "investment triad": household families, government agencies, and business enterprises. These families, agencies, and enterprises are organizations (not markets) that invest in productive capabilities. Household families invest in the present and future labor force; government agencies invest in physical infrastructure and the knowledge base; and business enterprises invest in collective and cumulative learning processes for the sake of generating innovative products. The investment strategies of these three types of organizations must be working in harmony to have a highly productive economy. This organizationally-driven productivity permits markets in products, labor, finance, and land to flourish. There are lots of high-quality, low-cost products on the market. There are large numbers of well-paid employment opportunities available to the qualified labor force. There are vast quantities of savings looking for yields. And land increases in value in locations where the investment triad generates high levels of productivity.

Ultimately, given investments in productive capabilities by households and by government agencies, we rely on business enterprises to generate the high-quality, low-cost products that are the essence of productivity. In the process, these business enterprises provide productive employment from which households obtain the incomes. Out of these incomes, households pay taxes to governments, which set up agencies to invest in the physical infrastructure and human knowledge that businesses need but in which even the largest business enterprises would be unable to undertake the necessary investment.

⁶² See the website of the Hans Böckler Stiftung, which support Co-determination in Germany: https://www.boeckler.de/35899.htm

⁶³ Lazonick, Business Organization and the Myth of the Market Economy; Lazonick, "The Theory of the Market Economy and the Social Foundations of Innovative Enterprise"; Lazonick, "Innovative Enterprise or Sweatshop Economics?" Lazonick, "Innovative Enterprise and Sustainable Prosperity".

Big businesses and the households that grow wealthy from their involvement in these enterprises must pay their fair share of taxes to pay back the vast majority of households whose tax payments have supported government investments in infrastructure and knowledge. Yet MSV ideology proclaims that taxes on big business enterprises and the wealthiest households will undermine investment in the productive capabilities that can deliver more employment opportunities, higher incomes, and more rapid productivity growth. In the context of the Republican "tax-breaks-for-corporations-and-wealthy-households act" passed by the U.S. Congress in December 2017, both the advocates of MSV and the critics of MSV recognized that the main corporate use of the extra income from the lowering of the corporate tax rates on domestic and repatriated profits would be increased distributions to shareholders in the forms of cash dividends and stock buybacks.⁶⁴ This cynical attempt at "tax reform", carried out to capture the political financial contributions of the predatory value extractors, will make the value-extracting economy an even more apt description of what, in the 21st century, the U.S. economy has become. Europeans who are still apt to follow the US "free market" example should take note.

5) Redeploy corporate profits to invest and reinvest in productive capabilities. Only then will the economy support a labor force that can engage in collective and cumulative careers, and thus enable the widespread upward socioeconomic mobility that is essential for economic growth to be sustainable and inclusive. In a world of rapid technological innovation and intense global competition, the value-creating economy depends on the continuous augmentation of the productive capabilities of the labor force. That means the constant upgrading of both the higher education and work experience of the labor force. This upgrading of the labor force provides a necessary condition for producing innovative products, the productivity of which can be shared with workers in the forms of high wages and benefits. That is how a society's standard of living improves over time. The constant upgrading of the productive capabilities of the labor force and the return of a substantial portion of the productivity gains to these productive workers are fundamental to achieving sustainable, inclusive growth.

The learning that is the essence of the innovation process is collective and cumulative. Innovation cannot be done alone. People learn how to do their jobs better through interactions with others who are intent on the same organizational objectives. In the business enterprise, these collective interactions can result in the transformation of technologies and the accessing of markets that would not be possible if the large numbers of people involved in the complex hierarchical and functional division of labor were working in isolation from one another. Furthermore, innovation cannot be done all at once. What the learning collectivity learns today creates an indispensable foundation for what the learning collectivity can learn tomorrow. It is because of this cumulative character of the collective learning process that innovative companies seek to retain key employees over long periods of time. And in a complex division of labor producing complex products, the people who are "key" to the collective and cumulative learning process can be found deep down into the organizational hierarchy.

⁶⁴ William Lazonick, "Congress can turn the Republican tax cuts into new middle-class jobs," *The Hill*, February 7, 2018, at http://thehill.com/opinion/finance/372760-congress-can-turn-the-republican-tax-cuts-into-new-middle-class-jobs; Rick Wartzman and William Lazonick, Don't let pay increases coming out of tax reform fool you," *Washington Post*, 2018, at https://www.washingtonpost.com/opinions/dont-let-pay-increases-coming-out-of-tax-reform-fool-you/2018/02/06/1271905a-06a6-11e8-94e8-e8b8600ade23 story.html?utm term=.a7044dbc3340.

Just as companies need collective and cumulative learning to be innovative, employees need collective and cumulative careers (CCCs) to remain productive over working lives that now span four decades of more. Under the Old Economy business model, companies provided CCCs through the employment norm of a career-with-one-company (CWOC). But with the rise to dominance of the New Economy business model in the 1980s and 1990s, the CWOC norm disappeared. New Economy startups could not attract talent by holding out the promise of a career with one company. In a process that Lazonick has called "marketization", however, New Economy startups could induce talent to leave or eschew CWOC employment with Old Economy companies for the sake of stock options that could become very valuable if and when the company did an IPO on the NASDAQ exchange. This New Economy practice of using stock options to attract and retain a broad base of employees remained intact even after some startups became going concerns with employment in the tens of thousands. Over the course of the 1980s and 1990s, this marketization process corroded the CWOC norm at Old Economy companies, with IBM's deliberate downsizing of its labor force form 374,000 in 1990 to 220,000 in 1994 representing a pivotal case.⁶⁵ In the 21st century, the globalization of the labor force, particularly in high-tech fields, has completed the erosion of the CWOC norm, as key jobs are offshored to lower-wage areas of the world and as key employees are recruited, often on temporary nonimmigrant visas, to fill these jobs.

This dramatic change in the dominant business model has created enormous challenges for members of the labor force of advanced economies to construct the CCCs that a middle-class existence requires. In a globalized economy with rapid technological change, the CWOC norm will not, cannot, and should not be restored. For the sake of sustainable prosperity, social institutions must be restructured to support CCCs across business enterprises, government agencies, and civil-society organizations. There are many different paths by which an individual can structure a CCC. Over the course of his or her career, an individual may develop skill through a series of jobs in different organizations, and in the age of the Internet it may be possible for an individual to pursue a CCC through participation in an interlinked network of business enterprises, government agencies, and civil-society organizations. In addition, a CCC may be followed across national borders, often with employment by one multinational organization or through a more individualized search for a globalized career path.⁶⁶

In an economy in which the accumulation of knowledge provides an increasingly important foundation for sustaining high levels of productivity, the availability of CCCs has become more important than ever. In a world of rapidly changing technology and intense global competition, CCCs have become increasingly necessary for an individual to maintain a good standard of living over an expected 40 to 50 years of his or her working life with sufficient savings from employment income to sustain him of her for another 20 to 30 years in retirement. Without a CCC, a person who was deemed to be highly productive in, say, his or

⁶⁵ Lazonick, Sustainable Prosperity in the New Economy? chs. 2-4.

⁶⁶ Ibid, ch. 5; William Lazonick, "How Stock Buybacks Make Americans Vulnerable to Globalization," Paper presented at the Workshop on Mega-Regionalism: New Challenges for Trade and Innovation, East-West Center, University of Hawaii, Honolulu, January 20-21, 2016, at http://papers.srn.com/sol3/papers.cfm?abstract_id=2745387

her forties may become obsolete in his or her fifties or find that educated and experienced workers in lower-wage areas of the world have become well qualified to do his or her job. In this regard, the Danish flexicurity model, with its focus on lifelong learning, is an experiment worthy of close study.⁶⁷

Many of the most talented and ambitious young people embarking on careers may look—as indeed they have been doing since the late 1980s—for a quick hit in the financial sector that can provide them with enough income for a lifetime without pursuing a CCC. The problem is especially acute when the large corporations that used to be the bedrocks of CCCs support the dominance of the "financial economy" over the "productive economy" by distributing almost all, if not more, of their profits to shareholders in the forms of stock buybacks and cash dividends.

The economic policy challenge of the 21st century is how to stifle predatory value extraction to put financialized national economies back on a path to stable and equitable economic growth? Ban stock buybacks done as open-market repurchases. Structure executive remuneration to incentivize value creation, not value extraction. Place representatives of households as workers and taxpayers on corporate boards, while excluding the predatory value-extractors. Fix the broken tax system so that profitable corporations and rich households return value to the society to pay for government-funded infrastructure and knowledge that have helped make them profitable and rich. And coordinate the investment triad to enable an ever-growing proportion of the population to pursue and prosper from collective and cumulative careers.

⁶⁷ See <u>http://denmark.dk/en/society/welfare/flexicurity/;</u> Catherine Stephan, "In-and-Outs of the Danish Flexicurity Model," *BNP Paribas*, July 11, 2017, at <u>http://economic-research.bnpparibas.com/Views/DisplayPublication.aspx?type=document&IdPdf=30102</u>.