Advancing Ownership in Cutting-Edge Industries

How the Federal Government Can Ensure that the Tech Sector Shares Profits With Workers

By Karla Walter Posted on April 19, 2018, 12:01 am

A computer controlled prosthetic arm in front of schematics on a dry-erase board.
Introduction and summary

Chobani founder and CEO Hamdi Ulukaya made national headlines in 2016 when he announced that he would grant his employees a 10 percent ownership stake in his 10-year-old Greek yogurt company when it goes public or is sold. All 2,000 full-time Chobani employees—whether top executives or factory-line workers—will be eligible for the grants, valued at $150,000, on average, according to a New York Times estimate.\(^1\) In a letter to employees, Ulukaya explained, “This isn’t a gift. It’s a mutual promise to work together with a shared purpose and responsibility.”\(^2\)

Many hailed Ulukaya’s broad-based benefit as unique, particularly at a time when the incomes of ordinary Americans have failed to keep up with the pay of top executives.\(^3\) Yet this sort of approach was far more common 20 years ago.

Silicon Valley technology startups developing semiconductors and supercomputers in the middle half of the past century pioneered the use of stock ownership programs as a way to reward employees upon a company’s sale.\(^4\) While the programs were initially adopted in order to attract and retain top talent, many high-technology firms—including Intel, Hewlett Packard, SAIC, Apple, Microsoft, and Google—broadened the application of these programs over the next three decades to ensure that all employees were oriented toward the success of the company.\(^5\)

Indeed, a growing body of research confirms the value of this approach, showing that equity compensation and employee share ownership benefit workers, companies, and investors. Broad-based stock ownership and profit-sharing often empower workers. It is associated with higher pay...
Studies measuring the benefits of broad-based profit-sharing programs find that when compared with employees in similar companies without sharing programs—workers’ wages are significantly higher, and the equity from these programs does not replace other types of wealth. Rather, research finds that stock ownership and profit sharing programs result in a substantial net gain in wealth.7

For businesses, broad-based profit and equity sharing is associated with increased productivity, profitability, and likelihood of company survival. In addition, companies participating in these programs benefit from greater employee loyalty and effort, lower turnover rates, and a greater willingness on the part of workers to suggest and make innovations.8 Moreover, companies and investors that adopt sharing programs earn profits over and above the cost of sharing equity with employees, according to a review of more than 70 empirical studies.9

Yet while industry analysts and investors continue to insist that stock ownership is necessary to attract high-level talent,10 tech companies are increasingly abandoning the practice of broad-based sharing. From 2002 to 2010, the portion of workers in the computer services industry benefiting from employee stock options fell by nearly 70 percent.11 And while the participation rates among other types of profit-sharing programs—including profit-sharing, worker cooperatives and employee stock ownership plans (ESOPs)—grew or held steady, there was a significant drop in employee stock options in most of the United States’ leading industries over the same time period. Overall, approximately half of all American workers do not have access to any sort of broad-based profit-sharing or equity compensation or employee ownership program.12

In previous reports, the Center for American Progress has recommended policies to expand employee ownership and broad-based profit-sharing throughout the U.S. economy.13 This report explores access to equity compensation and capital shares in the tech sector, which merits special attention for the following two reasons.

First, the tech industry is heavily supported by the federal government. Every year the federal government spends billions of dollars to support private-sector tech firms. This includes government-backed venture capital loans; grants and technical assistance for small businesses; and patented government technologies provided to emerging companies at no upfront cost. Moreover, this federal funding and support often comes in a company’s early stages, when private-sector investment is usually difficult to obtain.
sector. In this way, it is likely that policies that increase the uptake of broad-based equity compensation and stock ownership among tech companies would provide beneficial effects for workers throughout the economy.

For this reason, CAP recommends that whenever the federal government provides at least $1 million in government assistance to tech startups, recipients should be required to share equity, profits, or ownership with all their workers when they go public or sell to another company.

In order to advance support for this policy, this report provides background on the history of broad-based equity compensation and employee ownership in the tech industry, as well as government financial support for tech startups. It also details the policy's structure.

While the report focuses primarily on federal reforms, state and local governments also provide significant support for tech startups through economic development assistance and university partnerships. Consequently, state and local lawmakers have opportunities to undertake similar reforms. (see more details in text box on page 12)

**Equity compensation in the tech industry**

For more than 60 years, technology startups have used stock plans and profit-sharing to attract and retain the brightest workers and encourage a workplace culture where employees are invested in the company’s success. Yet the use of stock ownership for all employees declined sharply over the past 20 years as many established tech firms and new start-ups abandoned the practice of providing these sorts of benefits to all their employees.

Today, Silicon Valley is America’s tech capital—representing not only an industry but also an ideology. This all began in the late 1950s, when American technology startups that set up shop in the Northern California community began eschewing East Coast corporate culture.

As Joseph Blasi, Douglas Kruse and Aaron Bernstein document in their 2003 book, *In the Company of Owners*, companies such as Fairchild Semiconductor and Intel paired reforms that flattened
corporate hierarchies and allowed employees' a greater voice in company decision-making with the provision of stock options and profit-sharing plans. Silicon Valley’s most innovative tech companies first extended ownership to so-called knowledge workers—the engineers and scientists who designed the emerging supercomputers and accompanying hardware—but not the manufacturing workers who built their products.\(^\text{16}\)

One early adopter of a broad-based ownership was research and engineering company Science Applications International Corporation (SAIC). J. Robert Beyster, a physicist, established the employee-owned SAIC some 500 miles to the south of Silicon Valley in La Jolla, California, in 1969.\(^\text{17}\) Beyster embraced broad-based equity compensation to help attract and retain qualified workers and encourage a focus on long-term goals.\(^\text{18}\) Employees at all levels were awarded stock as part of the company retirement plan and as a performance-based award.

In the decades that followed, broadening ownership beyond top employees became increasingly common as emerging software companies—both inside and outside Silicon Valley—sought to compete with more established hardware companies for qualified workers. Before Microsoft went public in 1986, the company expanded its ownership program to allow all employees to purchase company stock. By some estimates, Microsoft’s program resulted in the creation of at least 2,200 newly minted millionaires.\(^\text{19}\) And Apple cofounder Steve Wozniak famously set up his Wozplan to allow early company employees to buy millions of dollars’ worth of his own stock at a discounted rate before the company’s initial public offering.\(^\text{20}\)

By the time of the 1990s dot-com boom, internet startup companies largely accepted that stock ownership would be extended to all employees. Frank Marshall, vice chair of internet provider Covad Communications, explained, “Stock options send a message to all employees that they have an impact on the growth of the company and they will be rewarded for that impact.”\(^\text{21}\)

Indeed, more than half of all workers in the computer service industry were participating in stock options by 2002.\(^\text{22}\) And other cutting-edge industries followed suit. One industry publication reported in 2000, “Virtually every biotech company today, from tiny start-up to blockbuster top dog, now lures top, midlevel, and even lower-level scientists with compensation packages based on salary and a generous peppering of stock options and other incentives.”\(^\text{23}\)

Yet the portion of tech workers participating in profit-sharing and stock ownership fell precipitously in the following decade. Although experts debate the cause of this decline, the early 2000s were a
After a rapid expansion in employment in the tech industry in the 1990s, the tech bubble burst starting in March 2000. Job growth in the industry was slow until 2010 and tech sector employment, as a share of total employment, did not fully recover until 2015.

Moreover, the collapse of corporate giants Enron and WorldCom in 2001 left many companies and worker advocates leery of employee equity compensation. Executives at Enron and WorldCom used company stock to contribute to employees’ retirement plans and encouraged employees to do likewise, even once they knew that the companies were in financial trouble. The companies’ failure resulted in thousands of American workers not only losing their jobs but their retirement savings as well.

Some believe that this scandal and the realization that even the tech industry was subject to market shocks naturally led investors and entrepreneurs to re-evaluate the use of stock ownership. Others point to changes in industry regulations. In the wake of the burst of the dot-com bubble and Enron scandal, regulators were increasingly focused on how excessive use of executive stock options could have facilitated some of the problems in accounting fraud, exaggeration of products coming to market and even the financial collapse of these companies. As a result, they implemented changes to boost transparency and control for workers and investors whose holdings would be diluted with the grant of equity to employees.

The Financial Accounting Standards Board—the accounting industry’s self-regulatory organization—changed its rules to require companies to expense the cost of stock options on their income statements. Previously companies did not have to charge stock option costs against their earnings.

The New York Stock Exchange (NYSE) and the Nasdaq also changed regulations in 2003 in ways that may have affected the prevalence of stock options. Public companies must receive shareholder approval in order to adopt stock option plans for their employees. In 2003, the Securities Exchange Commission approved NYSE and Nasdaq rule changes to prohibit brokers from voting on stock option plans unless the beneficial-owner of the shares has given them voting instructions. Previously, brokerage firms were allowed to vote on behalf of clients as a block and without owner approval, which made it easier for companies to receive approval of stock option plans.
more accurate picture of the cost of executive compensation, but others predicted that the new rules would prompt companies to restrict stock options to only their top executives as companies found it more difficult to obtain support for large stock grants.31

No matter the cause, equity compensation and employee share ownership to broad-groups of employees dropped significantly across the economy in the early 2000s. The portion of American workers in the computer service industry that held stock options fell from 57 percent in 2002 to just 18 percent in 2010—a nearly 70 percent decline.32 Over the same time period, the share of employees with stock options fell from 27 percent to 15 percent in the financial services industry and from 43 percent to 36 percent in the communications industry.33

To be sure, many leading tech firms still provide broad-based employee equity ownership. For example, Apple extended a restricted stock grant program to lower-ranking employees, including retail and AppleCare workers, in 2015.34 While the company previously had provided workers the opportunity to purchase discounted stock, Apple’s 2015 program provided employees shares valued at $1,000 to $2,000 at no cost.35

Likewise, on-demand office service and maintenance provider Managed by Q announced in 2016 that it will give 5 percent of the company to its employees over the next five years through the provision of both stock options and grants.36 Company CEO Dan Teran explained, “This is not a decision that was made out of altruism. This was a decision made by a company whose leadership, investors, and board of directors believe deeply that only through shared prosperity can we reach our fullest potential.”37

Yet, for far too many companies, stock ownership is a tool for recruiting top executives and talent pools, not a way to allow rank-and-file employees to share in the profits they help create. While government must always ensure that investors, and particularly employee-owners, have sufficient oversight and control over their investment, it also should help ensure that all American workers have a chance to participate in the success of emerging industries.

Government support for innovation
broad-based sharing plans, it has been a major funder of research to advance innovation and technical understanding for approximately 80 years. Indeed, federal funding has supported research that allowed the creation and advancement of everything from the internet and smartphones to MRI machines and cutting-edge drugs to fight HIV/AIDS, multiple sclerosis, and Alzheimer’s disease. Today, the government spends billions of dollars annually to support research and development.

In a 2013 paper for Yale University’s Economic History Workshop, Dr. Steven Usselman synthesized the history of government support for research and development in the United States. Prior to the 20th century, the federal government played a relatively minor role in supporting research and development activities. In the 1850s, for example, the federal government conducted research and disseminated best practices to advance innovation in leading U.S. industries such as agriculture and mining. Land grant universities also established programs to support these industries. Still, large employers and industry groups, as well as independent inventors, were the main drivers of technological innovation in this era.

This began to change during World War I. President Woodrow Wilson requested that the National Academy of Sciences establish a National Research Council in order to advance military research in 1916. The council primarily focused on facilitating research led by private laboratories. During this period, American scientists developed new materials to be used in the production of explosives; made major advancements in blood transfusion techniques; and improved technology to fight submarine and gas warfare.

The federal government did not sustain support for military research during the interwar period. But the World War I innovations demonstrated the practical benefits of investment in science and that government investment in military technology can also produce larger societal benefits. For example, GE, AT&T, and Westinghouse leveraged improvements in sonar and wireless telegraphy to revolutionize commercial radio broadcasting and spark advancements that would lead to the motion pictures. Likewise, DuPont’s wartime research into synthetic materials allowed it to partner with General Motors to create cars that were easier and more comfortable to drive year-round.
increased ten-fold. At the same time, universities dramatically expanded their focus on scientific research and innovation.

Yet it was World War II that marked the turning point in the government’s support for research and development. With Congress unwilling to authorize troops and funding for the Allied Forces, President Franklin Delano Roosevelt sought to support them through scientific advances.

In 1940, he created the National Defense Research Committee, with members from government, academia and industry. One year later he signed Executive Order 8807, creating the Office of Scientific Research and Development (OSRD) to coordinate government, academic and private-sector research on scientific and medical problems relating to the national defense, and to move early-stage research into development and production stages.

The OSRD distributed $350 million between 1940 and 1944. Even more funding would eventually flow from the Departments of War and Navy. Combined, the agencies provided nearly $800 million to private actors over the course of the war, supporting innovation in aviation, electronics, and nuclear technology. While much of this funding flowed first to large corporations and universities, hundreds of small and midsized firms benefited from subcontracts.

In contrast to the interwar period, federal support for research and development did not diminish after World War II. Public spending on research and development accelerated quickly in the 1950s and early 1960s, with spending reaching a peak of 2.9 percent of gross domestic product in 1964.

The Soviet Union’s launch of Sputnik—the first artificial satellite—in 1957 triggered the Cold War’s space race. In response, President Dwight D. Eisenhower established the Advanced Research Projects Agency, which was later renamed the Defense Advanced Research Projects Agency (DARPA). Over the next 50 years, the agency would fund the projects that created the internet, first called ARPANET; GPS; and speech recognition programs.

Similarly, the funding for research and development from the National Institutes of Health (NIH) grew exponentially after the end of World War II. The NIH played an integral part in medical research during the war, developing vaccines to prevent tropical diseases; treatments for wounded soldiers; and advancements that allowed troops to safely fly at high altitudes. At the war’s end,
Introduction and summary

Since the 1960s, public research and development spending has generally declined as a share of GDP. As of 2012, however, the federal government funded nearly one-third of all research and development—including early-stage research as well as the development and commercialization of products for public and private sector markets.

In Fiscal Year 2016, total federal funding for research and development programs was $140.5 billion. Nearly three-quarters of this funding went to private industry, universities, and federally funded research and development centers operated by private contractors.

Such assistance often comes in the form of grants, loans, and loan guarantees. In addition, the government takes an active role in encouraging the private sector to commercialize new innovations through technology transfer programs, and tax incentives help offset the costs of the private sector’s own investment in research and development.

How the federal government assists tech startups

Small Business Innovation Research Program (SBIR) and Small Business Technology Transfer (STTR): SBIR and STTR are multiagency programs awarding more than $2.5 billion in grants and contracts to 5,000 small businesses annually to carry out research and development and commercialize new products and services. Participating agencies include the Department of Defense, Department of Energy, NIH, NASA, and Department of Health and Human Services.

Small Business Investment Company Program (SBIC): An SBIC is a privately owned and managed investment fund that is licensed and regulated by the Small Business Administration (SBA). SBICs use their own capital plus funds borrowed with an SBA guarantee to make equity and debt investments in qualifying small businesses. SBICs provided $6 billion in financing to 1,200 small businesses in 2016. While not every SBIC recipient is a tech company, a number of tech industry leaders were established with the help of SBIC support. Moreover, President Barack Obama established the Early Stage
In-Q-Tel: A CIA-funded nonprofit venture capital firm, In-Q-Tel supports new firms that are expected to meet future technology needs of national security agencies. While the firm does not make loan amounts or totals public, a 2016 Wall Street Journal article estimated that the company awards at least $120 million annually to new startups.

Startup NASA: This program allows companies to license patented NASA technology for free. Once a company starts selling a product, it is required to pay royalty fees. Currently, NASA makes more than 1,200 technologies available for this program.

Research and Development Tax Credit: This credit benefits companies investing in projects that create or improve the functionality, performance, reliability or quality of a business component. In 2015, Congress enacted legislation that allows qualified small businesses that are unable to take advantage of the credit because of a lack of federal income tax liability to use the credit to offset federal payroll tax liability.

Advanced Research Projects Agency-Energy (ARPA-E): The agency was created in 2009 to advance energy technologies that are too early for private-sector investment. Award amounts vary considerably, ranging from $500,000 to $10 million. The agency’s Tech-To-Market Program provides academic beneficiaries assistance in product commercialization. ARPA-e invested about $1.5 billion across more than 580 energy projects from 2009 through January 2017.

The federal government does not provide analysis of how this funding is distributed based on company age or size. But some programs are available only to startups at critical early stages, when private-sector support likely would be difficult or impossible to obtain, or to university researchers who may later spin off their research into commercial ventures. For example, the Small Business Technology Transfer and Small Business Innovation Research programs allow nearly 5,000 small businesses to receive more than $2.5 billion in federal government grants and contracts annually to help them develop and bring high-tech products to market.
technology that can form the basis of a new product. For instance, Nashville-based AirFlare LLC signed an agreement with NASA last year to adapt technology developed to measure the oxygen consumption and carbon dioxide production of astronauts into a commercial tool that measures biometric data for athletes and fitness enthusiasts. AirFlare will not pay any licensing royalties to the government until the product goes to market.

While seed funding and support for small tech companies represent a relatively high-risk venture, many of today’s leading technology and biotechnology firms were recipients of federal support in their early years. Companies including Symantec, Qualcomm and MedImmune all received SBIR grants. Apple obtained an SBIC loan in 1978, when the company had just 63 employees and was making only $50,000 a year. Intel, Tesla, and Sun Microsystems likewise received SBIC loans.

Similarly, federal grants to universities often support research with the ultimate goal of producing a commercially-available product. For example, Hugh Herr, a professor at MIT’s Center for Extreme Bionics founded advanced prosthetics maker Bionix to produce a programmable lower-limb prosthetic that he developed with the support of a $7.2 million Department of Veterans Affairs grant. German prosthetics maker Ottobock purchased Bionix for an undisclosed amount this spring.

Likewise, Apple’s Siri voice recognition application was developed with support from the Defense Advanced Research Projects Agency. Researchers at the Stanford Research Institute (SRI) led the project that received $150 million from the federal government over five years. Siri was a startup company that broke off from SRI and was acquired by Apple in 2010.

Finally, Larry Page and Sergey Brin developed Google’s search algorithm as graduate students as part of the $4.5 million Stanford Digital Library Project—an endeavor funded by the National Science Foundation, NASA, and DARPA.

It is hard to imagine life in the 21st century without technological advancements from smartphones to advance prosthetics, which U.S government support helped make possible. Yet these financial interventions not only spurred societal benefits but also helped create some of the most innovative and successful private sector companies.
Federal investments in research and development have yielded incredible results for society. Indeed, the government supports these companies to bring technology to market that will advance public well-being; provide critical products to the government; and spur the growth of future job creators.

When these startups are successful, however, highly compensated employees typically receive a windfall at the sale of the company while the vast majority of employees receive little benefit. For example, tech startups often reserve 10 percent to 20 percent of their ownership shares to attract and retain company executives and top programmers. Given its broad reach in supporting these companies, the federal government could do far more to ensure that companies share equity with most workers. Whenever the federal government provides at least $1 million in government assistance to a company, the recipient should be required to share profits or ownership with its workers when the company goes public or is sold to another firm.

In order to ensure that the plans are sufficiently broad-based, the government can require all employees, temporary workers and independent contractors working at least 20 hours per week to be eligible for this benefit. Companies should be required to demonstrate that the value expended on the top 5 percent of employees is equal to the amount spent on the bottom 80 percent of workers at the time of sale or public offering.

Congress adopted similar rules this year to allow employees who receive stock through an equity program that is available to at least 80 percent of the workforce to defer the tax on stock awards for up to five years after leaving a closely held company. And these sorts of requirements are used to ensure that pension and health care systems are available broadly.

Recipients could comply with this requirement by setting up broad-based incentive programs with an ongoing awards system through grants of restricted stock unions, stock options or an employee stock ownership plan. Alternatively, they could fulfill these requirements at the point of going
Government assistance can include grants, loans, loan guarantees, access to government-developed technology, and even tax incentives. Federal support would be measured cumulatively—so a company receiving $1 million in assistance from multiple programs or at different phases of development would be required to meet these profit-sharing requirements.

All government programs that exclusively support technology startups should include these requirements. Policymakers will need to evaluate whether to include profit-sharing requirements on assistance programs that benefit both innovative startups and larger, more established companies. These requirements should also be attached to funding to universities for research that may eventually be commercialized.

The threshold will coincide with typical levels of support for many government programs. For example, Small Business Innovation Research Program and Small Business Technology Transfer Phase II recipients typically receive grants approaching $1 million.

Some advocates for government support of research and development may object to these policies, arguing that it is the fact that the federal government does not require an equity stake that makes it an attractive lender. Indeed, a more modest proposal would be to provide additional government support for companies that adopt broad-based equity plans, rather than requiring it of all recipients of support.

However, federal research and development spending is not just a helpful source of additional funds in the technology and biotechnology fields, but it also has been used to build and transform these cutting-edge industries. And from the perspective of individual entrepreneurs, this support often comes at a time when private-sector funding is not available.

While attaching a profit-sharing requirement to federal economic development subsidies would break new ground, as detailed above, many tech companies continue to embrace broad-based equity programs and would likely comply under this policy.

Moreover, a number of existing government programs have been designed to ensure that employee-owned companies can access contracting set-aside programs and lending opportunities.
For example, the government's HUBZone program to incentivize contracting with companies in economically disadvantaged neighborhoods has special provisions to ensure that employee-owned companies can participate. In addition, the Small Business Administration has a modest lending program targeted to established firms that want to sell ownership to their employees in the form of an ESOP.  

Also, state and local governments are increasingly attaching other types of job quality standards to economic development subsidies and government procurement funds. For example, Pittsburgh, Pennsylvania, enacted a wage standard law that covers certain types of service workers in economic development projects that receive a total of $100,000 or more in city subsidies. And Santa Clara County, California—located in the center of Silicon Valley—passed a comprehensive contractor wage and benefits standard in 2015. The law includes a wage standard and mandatory health, retirement, and paid sick leave benefits.

---

**State and local polices to encourage profit-sharing in the tech industry**

State and local governments frequently promote entrepreneurship and the growth of innovative startups through various types of economic development subsidies and assistance. These incentives can include grants, direct loans, support for private venture capital companies, and tax benefits for companies and investors.

For example, New York's START-UP NY allows growing businesses to partner with eligible university or college campuses and to operate tax-free for 10 years. And Massachusetts' MassVentures was formed in 1978 as a quasi-public venture capital firm to provide early stage funding to startups working to commercialize a product. In addition to its lending arm, the agency also provides competitive grants to companies that have already won support from the federal SBIR program.

State and local policymakers should consider adding profit-sharing requirements to these sorts of economic development subsidies. The policy specifics discussed in the federal context above are also relevant to lower levels of government.
employees with equity is a new idea. However, policymakers across the country are embracing policies to ensure that companies that receive government assistance support all their workers.

Conclusion

The most innovative American businesses have a long history of adopting broad-based equity plans in order to attract talent and align the interests of all employees. The trouble is that today less than half of all American workers receive these sorts of benefits. Moreover, the tech industry—once at the forefront of supplying broad-based ownership to its workforce—is too often part of the problem. Startups continue to award ownership stakes to top talent and executives but ignore the benefits of supplying these sorts of benefits more broadly.

As a major funder of domestic research and development, the federal government has an opportunity to leverage its investments to change this dynamic. Adoption of the policy outlined in this report would not only benefit workers and companies in the technology sector, but it also could lead to positive changes for workers throughout the economy as other industries emulate the sector’s culture and practices.

About the author

Karla Walter is the director of employment policy at the Center for American Progress. Walter focuses primarily on improving the economic security of American workers by increasing workers’ wages and benefits, promoting workplace protections, and advancing workers’ rights at work. Prior to joining the Center, Walter worked at Good Jobs First, providing support to officials, policy research organizations, and grassroots advocacy groups striving to make state and local economic development subsidies more accountable and effective. Previously, she worked as a legislative aide for Wisconsin State Rep. Jennifer Shilling (D). Walter earned a master’s degree in urban planning and policy from the University of Illinois at Chicago and received her bachelor’s degree from the University of Wisconsin-Madison.
Introduction and summary


Introduction and summary

Harden, Douglas Kruse, and Joseph Blasi, “This Has a Better Idea: Innovation, Shared Capitalism, and Human Resources Policies” In Kruse, Freeman, and Blasi, Shared Capitalism at Work; Joseph Blasi, Douglas Kruse, and Dan Weltmann, “Firm Survival and Performance in Privately-Held ESOP Companies,” In Takao Kato, Advances in the Economic Analysis of Participatory & Labor-Managed Firms (Bingley, UK: Emerald Publishing Limited, 2013). For example, Dr. Douglas Kruse of Rutgers University reviewed more than 30 studies on the effects of shared capitalism on firm performance, finding that most research found the effects to be positive or neutral.

9. Bernstein, Blasi, and Kruse, In the Company of Owners; Authors found that, on average, companies and investors gave workers an 8 percent ownership stake and in return enjoyed an average of a 2 percentage point additional return on the diluted shares they still held. See also report by Oxera Consulting, “Tax advantaged employee share schemes: Analysis of productivity effects, Report 1: Productivity Measured Using Turnover” (2007); Oxera, “Tax advantaged employee share schemes: analysis of productivity effects, Report 2: Productivity Measured Using Gross Value Added” (2007), available at http://www.oxera.com/getmedia/6cd32d14-e6d5-44cb-b84b-5522582e38c9/Tax-advantaged-employee-share-schemes%E2%80%94overview.pdf.aspx; Authors found that of ESOP firms in Britain, productivity increased by 2.5 percent in the long-run from profit-sharing plans.


Introduction and summary


18. Ibid.


33. Ibid.


37. Ibid.


39. Ibid.

Introduction and summary


42. Usselman, “Research and Development in the United States since 1900.”


44. Usselman, “Research and Development in the United States since 1900.”


46. Usselman, “Research and Development in the United States since 1900.”


Introduction and summary

50. Public Health Service Act, Public Law 78-410, 78 Cong., 2d sess. (July 1, 1944).


53. Singer, “Federally Supported Innovations.”


55. Small Business Administration, “About STTR,” available at https://www.sbir.gov/about/about-sttr (last accessed January 2018). Note that the SBIR and STTR have different thresholds for required agency participation. The STTR requires federal agencies with research and development budgets that exceed $1 billion to reserve 0.3 percent of the research budget for STTR awards. The SBIR requires that federal agencies with R&D budgets that exceed $100 million to allocate 3.2 percent of their R&D budget to these programs. As a result, far more departments participate in the SBIR program.


61. The Protecting Americans from Tax Hikes Act of 2015 allowed eligible small businesses to offset the Alternative Minimum Tax with research and development tax credits or to elect to take up to $250,000 in credits against the employers’ portion of federal payroll taxes for up to five years. However, Republican’s 2017 tax cut bill repealed the corporate alternative minimum tax. See: Chris Baird, Janet Bernier, and Chai Hoang, “How Federal, State, Local R&D Incentives Are Supporting Startups,” CFO.com, July 15, 2016, available at http://ww2.cfo.com/business-expansion/2016/07/federal-state-local-rd-incentives-supporting-startups/.


64. Small Business Administration, “About STTR.” Note that the SBIR and STTR have different thresholds for required agency participation. The STTR requires federal agencies with research and development budgets that exceed $1 billion to reserve 0.3 percent of the research budget for STTR awards. The SBIR requires that federal agencies with R&D budgets that exceed $100 million to allocate 3.2 percent of their R&D budget to these programs. As a result, far more departments participate in the SBIR program.


70. Singer, “Federally Supported Innovations.” MIT partners with researchers at Brown University and Providence VA medical center to receive the grant. [link]


74. Singer, “Federally Supported Innovations.” [link]


76. The policy would include temporary workers and independent contractors who worked at least 20 hours of work for the company over the last year and who “perform labor within the usual course” of a company's business. These workers would be eligible on a pro-rated basis. [link]


In the past, ESOPs have not been particularly popular at tech companies. However, ISS Shareholder Services, a company that grades corporate governance structures and provides proxy voting advice for institutional investors, recently began lowering grades for companies that have large equity overhangs (that is, equity compensation plans as a percent of total shares outstanding). Most stock options, stock grant, and RSU plans in tech cause dilution because the company gives away free newly issued shares. As a result, tech firms may review ESOPs as a potential equity ownership vehicle since ESOPs are less dilutive, as credit is extended to an employee trust (an ESIRA trust) which buys the shares and the company pays them back out of profits.

80. For example, the government may determine that tax credits for research and development expenditures should not carry profit-sharing requirements for startups given that larger established companies may also qualify for R&D tax credits.

81. While Phase I of the program provides very modest support ($150,000), Phase I grant recipients are eligible to apply for Phase II grants which typically provide $1 million over 2 years.

82. In a previous report, the Center for American Progress recommends that the SBA program should be expanded to allow broader participation. See, Karla Walter, David Madland, and Danielle Corley, “Capitalism for Everyone: Encouraging Companies to Adopt Employee Ownership Programs and Broad-Based Profit Sharing” (Washington: Center for American Progress, 2015), available at https://www.americanprogress.org/issues/economy/reports/2015/07/21/117742/capitalism-for-everyone/.


89. In addition to the recommendations for a federal profit-sharing policy listed above, lawmakers at the state and local level will need to account for the treatment of out-of-state or out-of-city workers.