Employee Ownership, ESOPs, Wealth, And Wages

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Introduction

The growing problem of economic inequality has many different dimensions. The dispersion of economic outcomes has increased in the distributions of wages, incomes, and wealth. In earlier work, I've linked these developments to the potential for greater skewing of political power and influence, steeper barriers to opportunity for the many on the wrong side of the inequality divide, and even macroeconomic disruptions.[1] In this paper, I begin by examining one important development in the increase of inequality: the shift in national income from compensation to profits. I highlight this aspect of inequality's growth because I am interested in the extent to which a particular policy might help to rebalance this recent shift in income types. That policy is employee ownership programs in general and employee stock ownership plans, or ESOPs, in particular.

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Using a number of datasets and referencing a growing literature on this question, I show that shared ownership and ESOPs appear to have a small, equalizing impact on wealth and wage distributions. Since ESOPs transfer capital ownership to workers less likely to own capital, this equalizing impact is expected. But there is no obvious reason why wage distributions in firms with employee ownership should be less varied (more equal) than in other firms. Yet, while the data are only suggestive on this point, I show that as the extent of employee ownership rises, wage inequality among worker-owners declines.

Based on these findings, I also hypothesize that were such employee ownership plans to proliferate, their impact on inequality reduction could well be significant. In part, I argue that this is a result of transferring wealth in the form of stock in their companies to workers who, because they own little such wealth, reside in the lower reaches of the wealth distribution. But the result also flows from research, which I both cite and contribute to herein, showing workers do not appear to trade off one form of income, like wages, for ownership shares.

The format of the paper: Section one of the paper explains the theory of "factor incomes"—the division of national income noted above—and tracks recent trends. Measurement issues loom large here as various data series show somewhat different results. That said, they all show a significant shift from wages to profits in recent years. The next section reviews the literature on ESOPs, including recent work on ESOPs' impact on jobs and firm-level productivity. An important finding of this review, one present in numerous studies, is that firms with ESOPs appear uniquely resilient in recessions relative to non-ESOP firms, perhaps due to enhanced cooperation by employee-owners. A subsection then examines ESOPs' utility as a policy tool to push back against inequality, with an emphasis on wealth inequality.

The next section uses the National Bureau of Economic Research (NBER) dataset on employee-ownership for analysis of ESOPs' impact on wage inequality. Though this dataset is very rich, it is not nationally representative. However, I show that among firms with employee-owners a) wages tend to be more narrowly distributed (i.e., there is less wage inequality), b) that effect is positively correlated with shared ownership (as ownership intensity goes up, wage inequality goes down), and c) these firms have tighter wage distributions than what exists in the overall economy (though this finding depends on a rough comparison between the NBER dataset and a nationally representative dataset).

Following this empirical work, I consider the policy implications of the findings. First, I place ESOPs in context with various other policies that are intended to reduce inequality, like minimum wages or job creation policies. I argue that ESOPs can reduce both wealth and wage inequality. Given the importance of amplifying those effects through wider use of employee ownership, some may conclude that further tax incentives to promote ownership are warranted. I generally do not think so, but I suggest a few other policy ideas that could help ESOPs proliferate.

One important part of the ESOP research that I do not explore in this paper is their positive impact on a serious American economic problem that also relates to the growth of inequality: retirement insecurity. Because of the shift away from defined benefit pension, along with wage and income stagnation, a growing share of workers nearing retirement do not have enough saved to maintain their living standards in retirement.[2] Phillip Swagel and Robert Carroll point out that nearly 60 percent of American workers have no assets in a work-related retirement plan. ESOPs are an important part of the solution to this problem, and firms

with ESOPs have been found to contribute not just to the ESOP but to 401(k) plans as well, an important diversification point to which I return later. But my focus for this paper is on the impact of ESOPs and other employee ownership plans on various dimensions of economic inequality.

The Logic of ESOPs and inequality reduction

Before proceeding, let me explicitly draw out the logic behind this work. Broadly speaking, there are at least two ways middle- and low-wage working people who have been losing ground to inequality can dampen or reverse that trend. One, they can increase their earnings relative to higher earners, and two, they can accumulate a larger share of their firms' profits. The latter mechanism "works" (reduces inequality) because profit holdings are considerably more concentrated than that of earnings. Note, for example, that while about 20 percent of income is held by the top 1 percent of households, about 40 percent of wealth is held by the top 1 percent.[3]

So, when a lower-income person claims a larger share of a type of income that's more unequally distributed, inequality is "mechanically" reduced. The findings throughout this paper suggest that ESOPs and other employee ownership programs have this effect, though data suggest the magnitude of the effect is still small in part because ESOP ownership is still small, perhaps accruing to less than 10 percent of the workforce. Still, these findings suggest that growing employee ownership is a step in an equalizing direction, and thus more widespread employee ownership will increase the anti-inequality impacts documented below.

While I believe this logic is entirely sound, it is unfortunately the case that data limitations abound in this work such that neither I nor any other researcher (as far as I know) has been able to establish the magnitude of this effect (i.e. to quantify the equalizing impact of much more widespread employee ownership). There is, for example, no nationally representative dataset with information on these dimensions of inequality along with information on firms with ESOPs, for example. As noted above, I do use the very rich (though not nationally representative) NBER dataset with extensive information on employee ownership and ESOPs. Scholars, most notably Blasi, Freeman, and Kruse (BFK, hereafter), have deeply tapped this dataset in their work on "shared capitalism," work I cite throughout.

Factor incomes: the shift from labor to capital and how ESOPs can increase the share of workers with capital ownership.

In national income accounting, there are two ways to decompose aggregate income. The most common is to look at Gross Domestic Product (GDP) from its production sources: consumption, investment, government spending, and net exports. But equivalently, GDP can be attributed to the different income-generating sectors: workers' compensation, profits to capital holdings, government income (through taxes and other fees), and proprietors income.[4] National accountants think of these sectors as different factors of income production. Workers generate value which returns compensation to them, assets spin off incomes to their owners, and so on (proprietors get their own line in the accounts because it's hard to know how to divide, for example, a lawyer's private practice into her compensation versus her profits).

To bring the analysis closer to a level that's relevant for this paper, Exhibit 1 shows a construct that's roughly private factor incomes, including compensation, profits, and proprietors' income in 2015q3. About two-thirds of the total $14 trillion is compensation, with profits at 22 percent.

Exhibit 1: Private factor shares of national income, 2015 Q3

Category	Dollars (bns)	Share (%)
Compensation	$9,736	68%
Profits	$3,230	22%
Proprietors	$1,403	10%
Total	$14,368	100%

Note: Profits include rental income and net interest payments.

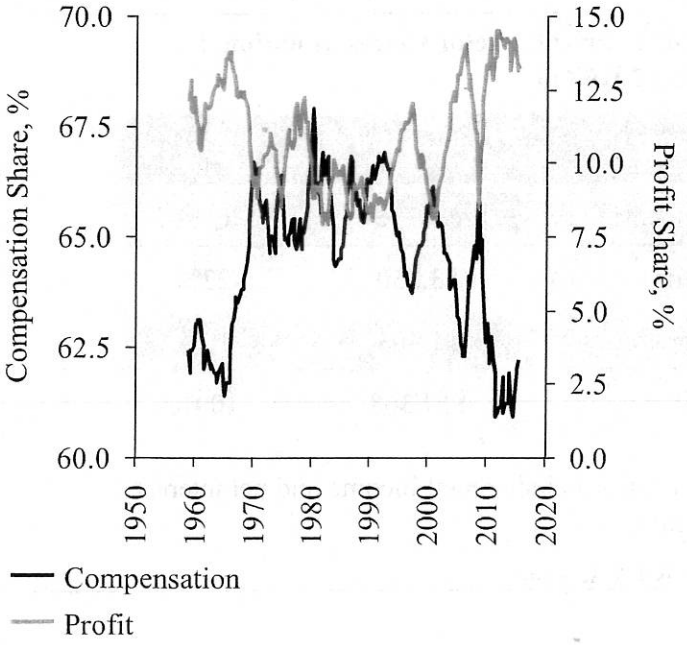
Source: NIPA Accounts

What matters more for our inequality analysis is how these incomes are distributed throughout the income scale. Most workers depend on their paychecks (compensation), and the ownership of corporate profits tends to be concentrated among the wealthy, as shown below. In fact, this simple insight motivates much of what is to follow: ***ESOPs can be*** thought of as a way to distribute pro¿tability to those who largely depend on compensation. Given that profitability has grown faster in recent years than many workers' paychecks, the potentially equalizing impact of ESOPs motivates this research.

The distribution of factor incomes: In order to further motivate the research question herein, it is useful to try to learn more about the distribution of factor incomes, specifically wages and profits. While it is difficult to show the precise distribution of factor incomes, we can approximate their distribution in a variety of ways. The two important observations from the perspective of this report is that, unsurprisingly, profits are more concentrated among the wealthy than compensation, and that concentration has increased.

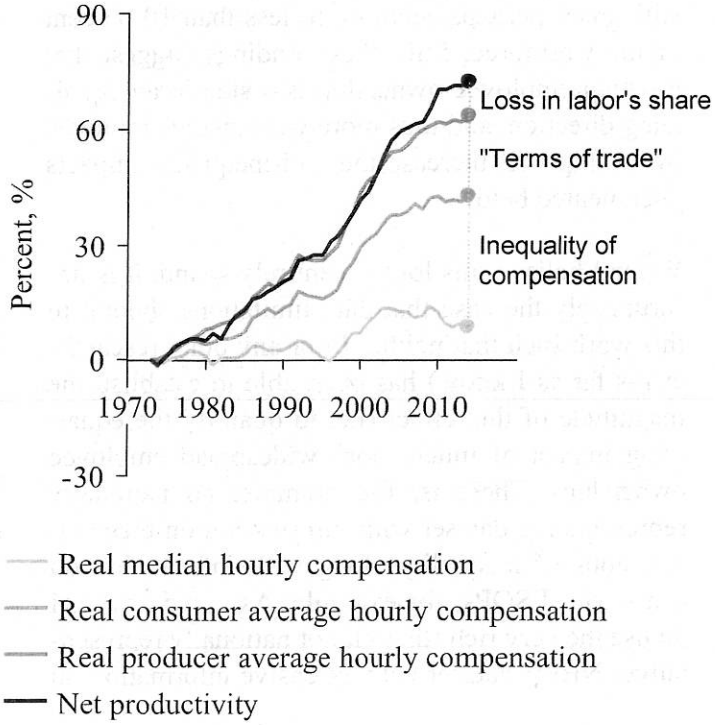
- The first look at the evolution of factor incomes is simply a plot of compensation and pro¿ts as a share of national income (Exhibit 2). Economists are typically taught that compensation generally varies narrowly around about two-thirds of national income. That's a plausible estimate from around 1970; in fact, the average of the series since 1959 is 64 percent. But since the Great Recession that began in late 2007, the compensation share fell to historically low levels and vice versa for that of profits. Assuming that profits are disproportionately held by wealthy households, by this metric, factor incomes have become significantly more unequally distributed in recent years.
- Next, in Exhibit 3, economists Larry Mishel and Josh Bivens provide a useful decomposition of another relevant measure of rising inequality: ***the gap between median compensation and net productivity growth*** (productivity growth net of depreciation). Between 1973 and 2014, productivity is up 72 percent while real median compensation is only up about 9 percent, a difference of 63 percentage points. The modal factor implicated in this gap is the inequality of compensation, or in the terminology of this section, the growth of inequality within the labor income factor share. A smaller share—9 percentage points—is due to the loss of labor's share of national income (i.e., a shift from labor to capital, or profit-based, income).[5]

Exhibit 2: Share of national income to compensation vs. profits



Source: Bureau of Economic Analysis

Exhibit 3: Percent Change in productivity and compensation from 1948



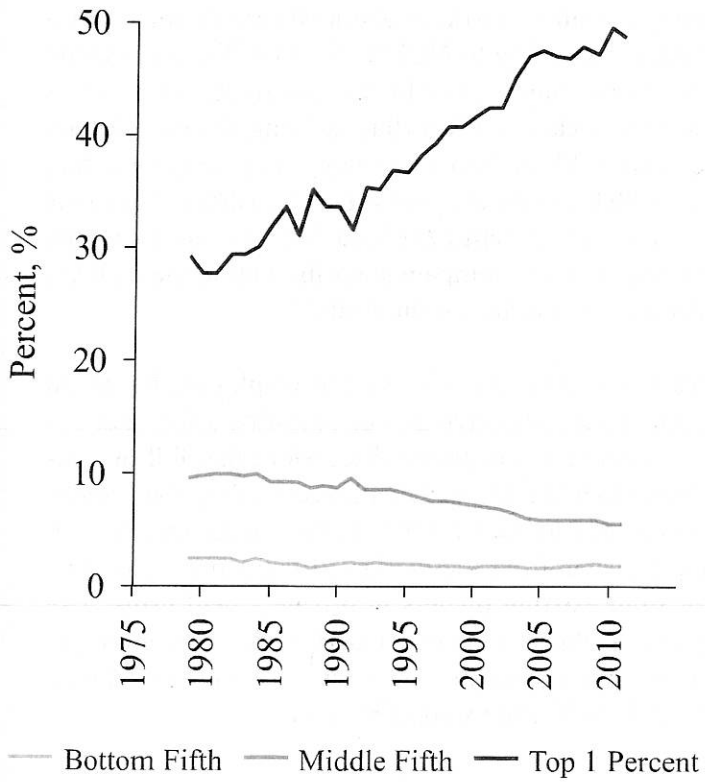
Source: Economic Policy Institute

An important lesson here relative to later analysis in this paper is that while ESOPs can increase the wealth of those who depend mostly on paychecks, equalization within the labor share remains a dominant source of inequality and a driving force behind the gap between wage and productivity growth. This should not at all detract from tapping employee ownership to help rebalance the shift between factor shares. To the contrary, wage results I show later suggest that ESOP firms have narrower (less-unequal) wage distributions than non-ESOP firms, and wage inequality tends to fall with the increased modes of employee ownership. But it will take both shifts between and within labor and capital factor shares to significantly reverse the many-decades long trend toward greater economic inequality.

- I noted above that data on the distribution of corporate profits throughout the household income distribution is scarce. One source, however, is the Congressional Budget Office's income series. In order to determine how they should allocate corporate tax liability to households, the CBO calculates what share of corporate (and labor) income goes to each income class. As Exhibit 4 shows, for example, the share of corporate income (analogous to the profit share in Exhibit 2) is skewed to the top 1 percent of households sorted by income. Moreover, their share of such holdings has increased from about 30 percent in 1979 to 50 percent in 2011. Meanwhile, the middle-class share has declined from about 10 percent to 5.5 percent, and low-income families have never held much at all of this income source.

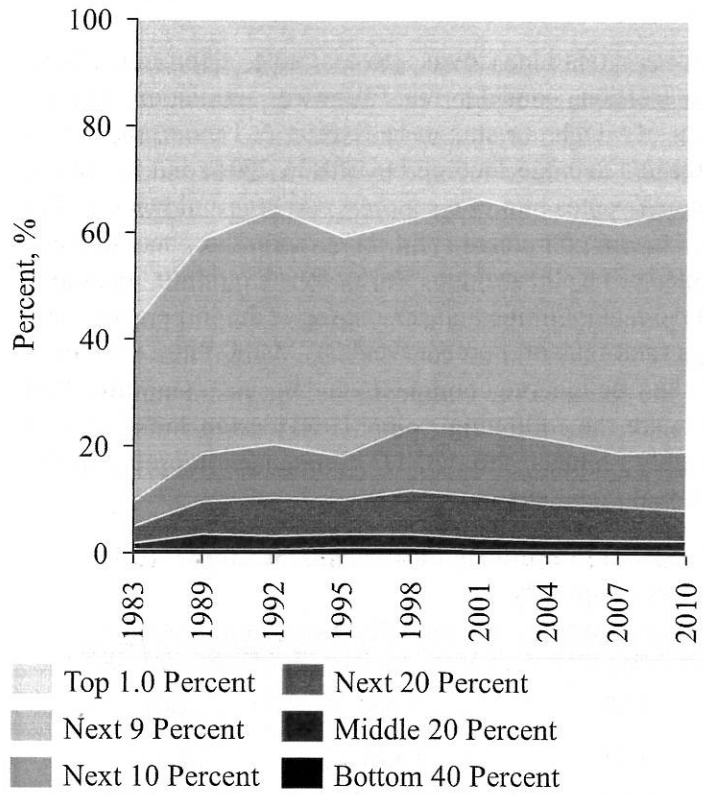
- Finally, economist Ed Wolff has calculated ***stock*** market holdings by income class. While we hear more about the "democratization of the stock market" these days, that notion is driven by the fact that more people hold any stock now than in the past. But if we look at the value of stock ownership, we see it remains highly concentrated, far more so than income, for example. About 80 percent of the values of the stock market is held by the wealthiest 10 percent of households, while middle and low-wealth families hold amounts that are barely visible in the Exhibit.

Exhibit 4: Distribution of corporate income



Source: Congressional Budget Office

Exhibit 5: Share of total stock value by wealth group



Source: Wolff (2012)

The direct effect of redistributing wealth: a simple simulation

Given these findings, I can now assert a point that is at the core of the research that follows: the direct effect of redistributing wealth to wage earners should be expected to lower income inequality. The connection to ESOPs is straightforward, and stems from the evidence just presented. To the extent the ESOPs provide stock market wealth to wage earners, inequality is likely to decline. Of course, "by how much?" is a relevant question to which I can only shed a little light, as significant data limitations exists.

What is the meaning of "direct effect" in the above assertion? Suppose there are indirect effects of ESOP provision, most notably, a dollar from an ESOP gets traded off with a dollar from wages. Then inequality is less likely to be reduced, and equally importantly, workers are not better off, and given the "time value of money" (a dollar today is worth more than a dollar tomorrow), arguably worse off. In this regard, the question of substitution, discussed at some length below, looms large in this analysis (importantly, analysts do not find such a tradeoff in the data on ESOPs).

To break this idea down into a simple, albeit unrealistic, presentation, consider the following simulation, the results of which are shown in Exhibit 6. I took the Census Bureau's average income by fifth in 2014, and broke the income values into two sources: earnings and wealth.[6] For the bottom 60 percent (first three quintiles), income is assumed to be all earnings, for the fourth quintile, income is 80 percent earnings and for the top fifth, 40 percent earnings (and thus 60 percent wealth). Again, these are not at all the true income compositions, but just a simplification to make the following point. I did design the shares to roughly replicate the 2/3, 1/3 compensation/profits in the national factor shares.

Exhibit 6: Simulating how redistributing wealth lowers inequality

Actual	Wealth	Earnings
3.6%	4.8%	4.9%
9.2%	10.3%	10.4%
15.1%	16.2%	16.3%
23.2%	21.5%	21.3%
48.9%	47.2%	47.0%

Note: See text for simulation explanation

Source: Census

I then redistributed 10 percent of wealth and 10 percent of earnings from the top two quintiles to the bottom three. The resulting incomes shares are in Exhibit 6. By design, shares go up in the bottom three fifth relative to the top two—there's no income growth in this simple exercise, just redistribution. But even while the earnings share is about twice that of the wealth share (2/3 to 1/3), the equalizing impact of the redistributions is similar, because wealth is more concentrated than earnings. In fact, as suggested in the figures above, it is a lot more concentrated than in my simulation.

So, absent substitution effects, we should expect ESOPs to be equalizing. After a brief review of ESOPs in general, the following few sections examine this expectation.

A brief review of shared capitalism and ESOPs

Before turning to the literature on ESOPs and inequality, it is useful for contextual purposes to briefly describe ESOPs and their prevalence. ESOPs are defined contribution plans where the contributions are typically shares of stock in the employee's company. They are thus both a tax-favored savings vehicle (I'll explain the tax advantages below) and a form of employee ownership.

According to the latest data from the National Center for Employee Ownership (an advocacy organization for employee ownership), about 6,800 companies had ESOPs covering 15 million workers, about 10 percent of 2015 employment. According to NCEO, "In an ESOP, a company sets up a trust fund, into which it contributes new shares of its own stock or cash to buy existing shares. Alternatively, the ESOP can borrow money to buy new or existing shares, with the company making cash contributions to the plan to enable it to repay the loan. Regardless of how the plan acquires stock, company contributions to the trust are tax-deductible, within certain limits."[7]

Shares in the trust are allocated to employees based on measures such as relative pay or seniority, a fact that becomes germane in inequality discussions that follow. Unlike most other tax-favored employee savings plans, companies can add to their ESOPs by borrowing cash to buy company shares from the market (if the company is public) or from existing owners in privately held firms. The company can then make tax deductible contributions to the ESOP to repay the loan. In other words, companies finance their ESOPs with pretax contributions.[8]

There are many other ways the tax code favors ESOPs, though there are some distinctions based on the structure of the company (i.e., whether it is "C" or an "S" corporation). For example, once the ESOP owns 30% of all the shares in a "C corp," a seller of the stock can defer capital gains taxes by rolling over the gains into other securities. This advantage is not available to "S corps." However, NCEO reports that "the percentage of ownership held by the ESOP is not subject to income tax at the federal level (and usually the state level as well): That means, for instance, that there is no income tax on 30% of the profits of an S corporation with an ESOP holding 30% of the stock, and no income tax at all on the profits of an S corporation wholly owned by its ESOP." Towards the end of this report, I further explore ESOP tax from the perspective of incentives designed to generate more widespread employee ownership.

As with other employer contribution plans, employee owners of ESOP shares do not pay tax on ESOP contributions made by the company as they accumulate and appreciate during the employees tenure with the company. Upon cashing out in retirement, former employees pay income taxes at regular rates, again, like a traditional IRA. Moreover, employees can roll over their distributions in an IRA or other retirement plan, though any distribution would invoke capital gains taxation. When employees leave the company, their stock holdings must be bought by the company at either current market price, or, for privately held firms, fair market value determined by outside valuation.

Of course, ESOPs are just one option within a growing menu of shared capitalism vehicles.

What does the literature show about ESOPs' impact on work?

There now exists a body of research on the impact of "shared ownership" programs, meaning policies that provide employees with some share of the profits or ownership in the company that employs them. These include ESOPs (and variations, like KSOPs and S ESOPs[9]), profit sharing, gain sharing (e.g., a bonus to a group of employees that hit or surpassed a production target), or stock options. According to data from nationally representative General Social Survey, almost half of full-time, private sector employees (47 percent) participate in some kind of shared ownership program.[10] Many of those workers participate in more than one of these types of programs: 40 percent are profit or gain sharing plans, 21 percent participate in stock ownership in their companies, and 10 percent receive stock options; 12 percent participate in all three forms of ownership.

ESOPs as a solution to the principal/agent problem: While the more recent research is branching out into new questions, as I'll show in a moment, historically, the main question asked by researchers is, "What impact have such programs had on company performance, including profits and productivity?" Intuitively, one might expect employee ownership to create a new incentive to work harder since the employee/owner now has some skin in the game. In terms of the microeconomics of the firm, ownership programs present a solution to the well-known "principal/agent" problem – the idea that in a typical business with no employee ownership, the incentives of the workforce do not align with that of the owners. Absent some way to realign incentives, the concern is that agents (non-owners) will not always act in the best interest of the principals (owners).

Studies that have asked the question posed above have generally answered, "yes, but…" where the "but" is some other condition that interacts with ownership programs in ways that improve the outcome variable, such as firm-level productivity. Typically, that condition is some process by which employee-owners can have an impact on the way the firm carries out its mission. These studies talk about the importance of giving workers "greater autonomy in decision making," a "supportive corporate culture," or a "participatory company culture."

Such findings make good common sense for two reasons. First, having "skin in the game" is unlikely, by itself, to solve the principal/agent problem. In order to tap the full potential benefits in terms of outcome measures for the firm, employee-owners need some way of providing input into the production process that goes beyond their own personal effort. Second, there's the "free-rider," or shirking, problem.

ESOPs and the free-rider problem: While employee ownership provides skin-in-the-game that helps to solve the principal/agent problem, it may also be the case that even when they're part owners, some employees may be contented to kick back and let others do the hard work. Especially when ownership shares are small, their preferences could be such that the benefits of any extra effort they'd need to contribute to boost productivity and profits are not worth the costs to them, especially if they see others

around them already trying harder. Such shirkers would be content to "free ride" on their more diligent co-workers.

However, the research reveals that when the "participatory company culture" extends to co-workers monitoring each other, such shirking is much diminished. According to BFK, "being part of a team, having a high participation in decisions, being treated with respect by supervisors, having formal training and job security, and being paid relatively well," were all positively correlated with worker co-monitoring. Interestingly, these effects were negatively correlated with firm size, meaning workers in smaller firms were more likely to confront free riders.[11] This may reflect the fact that in larger firms, shirking is diluted – a few shirkers are not as damaging to the bottom line as when those few represent a significant share of the firm's workforce.

BFK provide an interesting example of these dynamics at work as the result of a natural experiment that they were able to observe. A firm they were working with was about to introduce new profit-sharing plan, so the researchers were able to administer before and after surveys. They found that after the (generous) plan was introduced, "the percent of workers who said they were very likely to talk to a worker who was not performing his or her job properly increased from 42 percent to 55 percent." Moreover, survey evidence suggested that this behavior was motivated by the concern that the shirkers' behavior would diminish the profit share or stock price.

Is there a tradeoff between ESOPs and base pay?: While these research results regarding shared ownership are interesting and at least tangentially related to the questions of interest in this study regarding such programs' impact on inequality, this next question is directly relevant: when employees participate in shared ownership, do they take an offsetting cut in their base pay? Regarding inequality and the technical discussion above, this possibility is of obvious importance because if employees are simply trading off one type of pay for another, the likelihood of any impact at all on inequality is surely diminished. Moreover, based on the economic theory of risk aversion, many such employees would in fact be made worse off by this exchange: substituting a certain form of compensation for a variable form is generally viewed as undesirable, even if on average, the paycheck is the same. That is, most workers find that greater variance around a stable mean generates greater economic insecurity.

Some earlier work on this question suggested a tradeoff might be in play. Robert Buchele et al (2010) point out that union members in industries that deregulated in the 1970s and 80s "made large wage concessions in return for ownership shares to save their companies and their jobs." They also note that it is not uncommon for high-tech start-ups and even more established ventures to lure talent with stock options versus above-market pay rates.

But according to research that looks at a larger and more contemporary sample of firms, such cases are exceptions. The more representative work finds what I would describe as the "good employer package" at work: firms that offer shared ownership also pay higher compensation, including other retirement plans, such as defined benefit or defined contribution (note that the latter implies portfolio diversification away from just company stock). Using the rich NBER data set developed to analyze a broad spectrum of issues around employee ownership, Buchele et al run a revealing set of regressions on this question of offsets. Along with a variety of controls in an equation with base and total pay as the dependent variables, their key regressor is the value of the employee's accrued stock per year of tenure relative to their base pay (note that this is simply the annual change in the value of their stock relative to their pay).

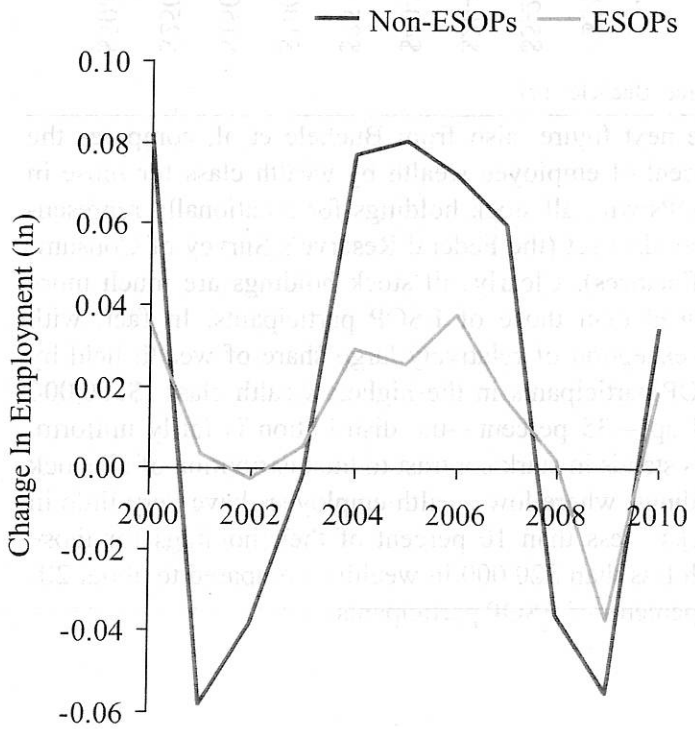
While the offset hypothesis would predict a negative coefficient on this variable, the researchers instead found positive coefficients across multiple specifications. In 12 of 14 equations, that coefficient was positive, in six it was positive and statistically significant, and in the two cases where the coefficient was negative, it was far from significant. Usefully, the researchers undertake a similar regression with a different data set (the General Social Survey, or GSS) and get similar results. Based on these findings, it seems considerably more likely that employers that offer shared ownership also offer better pay and benefits than a tradeoff between ownership and base pay. This is an important finding for my work in that it underscores the possibility that ESOPs reduce income inequality.

Do ESOPs outperform other ¿rms in recessions?: Another relevant strain of new research on the impacts of employee ownership is work that asks how these firms perform relative to others in recessions. Are firms with shared ownership more stable vessels when the ocean gets rough, perhaps because the sailors have a great sense of ownership of the boat, or are they indistinguishable from the other ships in the fleet? Kurtulus and Kruse (forthcoming),

for example, ask if ownership firms have more stable employment in downturns. In the face of demand shocks, are they less likely than non-ownership firms to lay workers off? Through these authors' earlier work did not include the very severe demand shock that began in late 2007, often referred to as the Great Recession, their more recent update, cited below, includes data through 2010.

In fact, they find that employee ownership firms had higher survival rates during 1999-2010, and such firms were 80 percent as likely as non-EO firms to disappear, and 70 percent as likely to experience bankruptcy or liquidation. As Exhibit 7 reveals, these firms had more stable employment during the downturn, and Kurtulus and Kruse note that these results held even when the negative shocks hit the firms' sales and share prices. Another convincing aspect of this relationship between employee ownership and some degree of insulation from recession (relative to non-ownership firms) was along the "intensive" margin: firms with deeper employee ownership were more stable than firms with less.

Exhibit 7: Change in employment for ESOPs vs. other firms (natural log of employment change)



Source: Kurtulus and Kruse

While the authors have not yet been able to nail down the specific ways in which ownership firms weather storms better than those without, one intriguing hypothesis is that there may be something about the more cooperative culture in these firms that helps in this regard. Perhaps wages are more flexible, such that employee ownership firms can adjust to a negative sales shock, for example, along the wage versus the employment margin. In addition, firms with ownership programs may provide "greater employment security as part of an overall effort to build a more cooperative workplace culture," a culture which "can increase worker effort and general willingness on the part of workers to make adjustments during times of economic distress, which can increase firm productivity and lower the firm's need to lay off workers during financial distress."

A number of papers have examined this question of the relative performance of ESOP firms with a specific focus on S ESOPs. Analyzing data on 49 firms with S ESOPs during the severe downturn in 2008, Swagel and Carroll find that while overall payroll employment contracted by about 3 percent that year, employment in these firms rose by 2 percent. Remarkably, considering the massive collapse of the housing bubble in that period, the authors find this same pattern existed in construction employment, where S ESOP construction firms actually added jobs that year while overall construction payrolls cratered by 10 percent. Research on S ESOPs by Alex Brill underscores these findings, showing significantly faster than average job growth by ESOPs in the 2000s, particularly in manufacturing, another industry that struggled in those years.[12]

Again, little research has been conducted on why ESOP companies appear to be so much more resilient, even in particularly harsh recessions, but along with more cooperative culture, another factor could be that these companies are financially more secure. Data compiled by NCEO shows that employee-owned businesses have fewer loan defaults than other businesses, with an average default rate on bank loans to ESOP companies of only 0.2 percent between 2009 and 2013. By contrast, mid-market companies in the U.S. typically default on comparable loans at an annual rate of 2 to 3.75 percent. NCEO argues that the difference is related to incentives of employee-owners much like those cited by Kurtulus et al. That may well be so, but my point here is that given the destructive role played by excessive leverage in the last downturn, their low loan default rates suggests ESOP companies were less likely to

catch the unsustainable borrowing fever that plagued other businesses (and households).

Employee ownership, ESOPs, and the distribution of wealth

As per information discussed so far in this study, we know two relevant facts regarding the distribution of wealth, or net worth, in the U.S. First, it is highly concentrated, as shown in exhibits above regarding corporate income or the value of the stock market. Second, certain employee ownership programs, ESOPs in particular, distribute shares of stocks to those in income classes that are less likely to hold stock. Thus, also as suggested above (recall the redistributive simulation), we should expect that ESOPs are at least somewhat equalizing.

There are, however, two reasons why "somewhat" might not amount to very much, i.e., why we shouldn't expect ESOPs as they stand today to significantly equalize the highly skewed wealth distribution. First, the distribution of ESOPs tends to reflect the distribution of earnings, as shares of company stock tend to be granted proportionally to salaries, a practice which mechanically links earnings inequality with wealth inequality. Still, since earnings is less concentrated than wealth, we should at least expect ESOPs to be equalizing in sign if not of great magnitudes.

Second, ESOPs remain a relatively small part of wealth, either in the aggregate or even among those who hold them. About 10 percent of the workforce participates in ESOPs, and their holdings tend to be relatively small, though accumulation matters: those who've been in ownership plans for years have a lot more to show for it than newcomers.[13] NCEO reports that ESOP company filings for 2008 showed that the average participant received above $4,400 per year in company contributions and had an account balance of $55,836. It's also the case that ESOP holders tend to hold other forms of wealth, typically through other tax-favored retirement vehicles like 401(k)'s, though comparisons show ESOP balances to be more than twice as large as 401(k) plans.[14] From the important perspective of diversification, the fact that company stock tends not to be an ESOP participants' sole holding is of course a feature, not a bug.

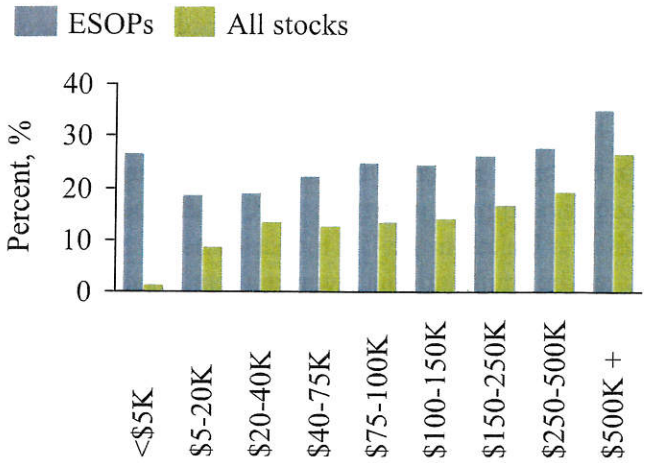
Despite these constraints, it is not hard to show the equalizing impact of ESOPs on the wealth distribution. The exhibit below, from Buchele et al, uses data on wealth holdings and employee ownership to model the distribution of workers by wealth class with and without the benefits of ownership shares. If ownership had no impact on the distribution of wealth, we'd expect the bars to be of equal height, i.e., workers would be distributed similarly through the wealth classes. However, the actual distribution (the darker blue bars) is more skewed to the right—toward higher wealth holdings—than the green bars. Clearly, by this metric, employee ownership shifts its beneficiaries into higher wealth classes.

Exhibit 8: Distribution of workers by wealth class

Source: Buchele et al

The next figure, also from Buchele et al, compares the percent of employee wealth by wealth class for those in ESOPs with all stock holdings for a nationally representative data set (the Federal Reserve's Survey of Consumer Finances). Clearly, all stock holdings are much more skewed than those of ESOP participants. In fact, with the exception of relatively large share of wealth held by ESOP participants in the highest wealth class ($500,000 and up)—35 percent—the distribution is fairly uniform. This stands in stark contrast to the distribution of all stock holdings, where low wealth employees have very little in stocks—less than 10 percent of their holdings for those with less than $20,000 in wealth—compared to about 20-25 percent for ESOP participants.

Exhibit 9: Percent of employee's wealth in ESOPs and all stocks



Source: Buchele et al

Buchele et al present a rough estimate of the extent to which ESOPs reduce wealth concentration. They show that the share of wealth (netting out any liabilities, so this is "net worth") of employees with ESOPs is 58.5 percent for those in the top 10 percent of the wealth distribution and 4 percent for those in the bottom 40 percent. When they recalculate those shares taking out the value of employer stock, those shares go to 61 percent for the wealthiest 10 percent and 3 percent for the bottom 40 percent. The differences in these shares can be attributed to equalizing impact of ESOPs. Thus, ESOPs reduced the concentration of high-end wealth by 2.5 percentage points, and low-end wealth by one percentage point.

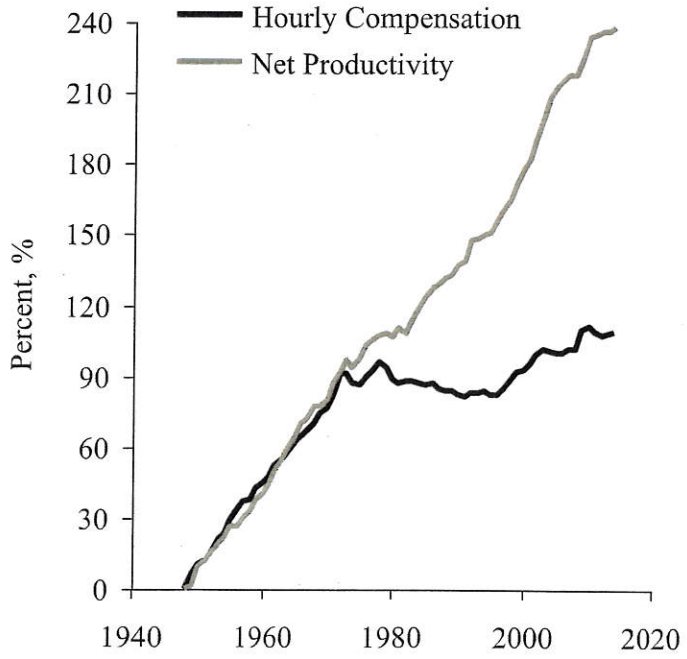
Finally, diversification concerns are obviously relevant and history is replete with example of employees hurt by owning too much company stock relative to other holdings. Empirically, however, research suggests that ESOP companies are more likely to also set up 401(k) accounts, and that these accounts tend to be diversified, often because companies provide investment advice to achieve that outcome. Rosen points out that "ESOP companies are slightly more likely to have a secondary retirement plan (even a defined benefit plan) than non-ESOP companies are to have just one plan."[15] He also points out that "mature" ESOP plans engage in their own diversification. ESOP participants 55 and up with at least 10 years in the plan "can diversify up to 25 percent of their company stock. Five years after they start doing this, they can diversify up to 50 percent."

More on ESOPs and wage inequality

While I had hoped in this paper to be able to map ESOP ownership onto a nationally representative data set and thus be able to evaluate its impact on distributional outcomes, data limitations have thus far prohibited such a matching exercise.

However, I can explore another important dimension of inequality, that of wages. Increased dispersion of wages has been a fundamental characteristic of growing inequality since the mid-1970s. One of the most compelling pictures of that development is in the next exhibit, showing the growing wedge between the real compensation of middle-wage workers and productivity (real output-per-hour) growth. Between 1948 and 1973, both productivity and middle earnings almost doubled; both grew more than 90 percent. Since then, productivity is up 72 percent and compensation for middle-wage workers is up only 9 percent, a huge difference in trend. Clearly, middle and low-wage workers are benefitting much less from the growth in output, growth to which they themselves are contributing.

Exhibit 10: Percent Change in productivity and compensation from 1948



Source: Economic Policy Institute

The reasons for this split are beyond my scope in this paper. As I've written extensively elsewhere, they relate to the absence of full employment, persistent trade deficits, growing educational differentials (the growing wage advantage of those with more education relative to those with less), the rise of finance, the erosion of labor standards and unions, and generally speaking, the weak bargaining clout of many in the workforce.[16] Here, much like in prior sections that reflected on the role of shared ownership opportunities, especially ESOPs, in wealth inequality, I'd like to reflect on that role in the context of wage inequality.

I've already cited research showing there does not appear to be a wage tradeoff in exchange for benefits of ESOPs, profit sharing, etc. But to what extent do firms that offer shared ownership also push back on wage inequality? One might hypothesize that shared ownership firms operate a bit more from the "we're-in-this-together" playbook and thus support pay scales with less dispersion than other firms. In this section, I examine that hypothesis as best I can given data limitations.

Here again, the lack of a nationally representative dataset with information on benefits such as ESOPs et al is a constraint. However, the NBER dataset used to great effect by many authors cited above (and at the core of the work by BFK) offers a potentially useful way to look at the question. This data set, designed to investigate many dimensions of firms that offer the full spate of shared ownership programs, has data on over 40,000 workers at such firms. For my purposes, the key variable is their base pay, controlling for a wide variety of factors, including worker characteristics and exposure to what BFK call "shared capitalism." In this regard, their "shared capitalism index" (SCI), which measures the extent of such offerings at the firm level, is a key control in what follows.

The downside of the NBER dataset is that while it is incredibly rich in information on firms that practice shared ownership, these are the only firms in the dataset. Thus, it is far from representative of the universe of firms, and offers little by way of opportunity to compare employee ownership firms with firms that do not offer such benefits. However, we can make a few revealing comparisons. For example, we can look at the difference in wage inequality between firms based on their different degrees of intensity on the SCI. Also, while it is a very rough comparison, one I would not put a lot of emphasis on, I can also compare the wage distribution in the NBER dataset to that of a nationally representative dataset (the Census Bureau's Annual Social and Economic Supplement).

Exhibit 11 features the metric "log variance" (lv) to measure wage inequality. As its name suggests, this scalar is simply the variance of the natural log of earnings, such that higher lv's imply more wage dispersion or inequality. Each entry in the table presents the lv for a different sample, with the basic sample comprised of all observations where the worker is based in the US (since firms in the NBER dataset can be multinational, workers can reside outside the US), at least 18 years old, and works full-time (more than 35 hours per week). The other columns add other sample restrictions. "SCI>0," for example, means a value on the shared capitalism index of 1-10; "ESOP" means the worker's firm has an ESOP (typically, as emphasized in the literature, such firms offer other programs as well). "Prof share" indicates a firm with (at least) profit sharing, and so on. "Basic sample, ASEC" is the lv from the national representative Census data set noted above, with the same controls of the basic sample for the NBER dataset.[17]

Exhibit 11: Log variances for different samples

Sample	Log Variance
Basic	0.313
SCI > 0	0.300
SCI > 5	0.190
SCI = 1	0.206
SCI = 10	0.118
ESOP	0.256
Profit Sharing	0.314
401(k)	0.314
Stock Options	0.315
Basic, ASEC	0.486

See text for details

The results generally, though not always, follow the expected pattern. Increased intensity of shared capitalism lowers the lv, though SCI=1 has an unexpectedly low value, implying less wage dispersion than I hypothesized (I take a closer look at this finding in a moment). Firms with extensive shared benefits have extremely tight wage distributions in the NBER dataset, with an lv of 0.118, less than

half that of the basic sample. The presence of an ESOP lowers the lv relative to the base sample; at 0.256, firms with ESOPs have less wage inequality than those with the other types featured in the table. The representative distribution from the Census ASEC is considerably higher than the basic sample from the NBER data, but unfortunately, these are apple and orange comparisons, as the sampling frameworks are so different. However, the difference is suggestive and motivates further work in this area, as I discuss in the conclusion.

One shortcoming of Exhibit 11 is a lack of controls. Exhibit 12 shows coefficients on the SCI from various specifications with the log of yearly earnings as the dependent variable. The hypothesis again is that as SCI goes up, pay does as well, in this case, with an extensive set of controls, including fixed effects for companies and year, education, gender, age (and age squared), and tenure. Using OLS, the SCI coefficient is about 0.05, implying that a 1-notch move up on the index of ownership intensity corresponds to a 5 percent increase in pay, equivalent to about $3,000 in these data. Again, this confirms a point made throughout the literature regarding the complementarity (versus substitutability of base pay of employee ownership programs).

Exhibit 12: Coefficients on SC index (dependent variable: log earnings)

OLS	0.0516
Quantile Regressions	
10th	0.0580
30th	0.0540
50th	0.0501
70th	0.0474
90th	0.0460

Note: All coefficients significant at the < 0.001 level.

See text for details

But to get at the distributional question, I run "quantile regressions" (also in Exhibit 12) which, broadly speaking, return the SCI coefficient for different classes of earners. Interestingly, the coefficients on SCI decline as the percentile on which the regression is centered goes up, implying larger earnings gains from shared capitalism intensity as for lower relative to higher earners. While the gradient is consistent, the differences are relatively small; still, the pattern suggests an equalizing impact from employee-ownership.

As ESOP scholar Joseph Blasi points out, these results finding tighter wage distributions in ownership firms may be related to the finding, quite common in this literature (as discussed above), that ESOP firms tend to be more productive, all else equal. Blasi suggests that it may be the case that in non-ESOP firms, the primary way to get ahead is competing internally to "climb the ladder" in ways that may or may not improve the firm's output and efficiency. ESOP firms, which tend to be less hierarchical with more shared rewards, can benefit from "promotions" from their shares, gains, profit shares, etc. By dampening "wasteful" (in efficiency terms) internal competition—"managing up" as it is called in the business literature, meaning pleasing managers rather than boosting the bottom line—ESOPs' tighter wage distributions may in themselves be productivity enhancing.

More broadly, this theme suggests a negative relationship between inequality, particularly internal wage distributions, and productivity. Exploring this connection is beyond my scope, but there is a burgeoning literature on linkages between inequality and macroeconomic variables, notably productivity growth, which has slowed somewhat alarmingly in recent years. The connection Blasi suggests is worthy of further study, in no small part because the opposite could be true as well. That is, if the gains to climbing the hierarchy are outsized due to high internal earnings inequality, and the firm accurately promotes, i.e., promotions are for marginal increases in productivity, not wasteful competition, this effect could go the other way, towards higher firm-level productivity.

Where do ESOPs fit in an anti-inequality policy framework?

As discussed in the introduction, since there are many different types of incomes, each with its own unique distribution, there are many different types of economic inequality. In this section I briefly note the various types of inequality through the prism of policies designed to push back on the extent of inequality. I then place ESOPs within that framework.

Inequality analysts generally focus on three dimensions of inequality: that of wealth, income, and wages. Of course, these are related, but they are also usefully disaggregated. Wealth tends to be more of a stock variable, one that both

generates income flows, through interest payments or asset realization, for example, while income is a flow variable, driven higher or lower by labor earnings (wages), transfers, taxes, flows from wealth, and so on. Wages themselves are a function of hourly pay along with labor supply, including hours worked per week and weeks worked per year.

While this disaggregated typology may seem overwrought, there are at least two reasons why it is useful. First, though inequality is up in all three variables—wealth, wages, and incomes—there are markedly different trends and levels in all of these variables. As noted earlier, the wealth share of the top 1 percent is about twice that of the income share (about 40 compared to 20 percent). While low and middle-wage men's wages have generally been stagnant in real terms for decades, family income has gone up more quickly due in part to greater labor supply, particularly by women, whose wage trends have been more favorable than men's, at least up until around 2000 (income for poor families has also been boosted by increased government transfers).[18] Second, because of such differences, a broad set of policies are needed to address the increase in economic inequality, as different policies target different aspects of growing inequality.

The minimum wage, for example, has been shown to be a useful policy to reduce the gap between low and middle wages, particularly for women.[19] But "high-end inequality," that among the top 1 percent of income or wealth, is far beyond the reach of the minimum wage. In my own work, I have documented the inequality-reducing impact throughout the wage distribution of full employment, providing support for macroeconomic policies that achieve that goal. I have also stressed the impact of trade policy (and persistent trade deficits) on production worker/blue collar jobs and earnings.[20]

Based on the literature and findings above, ESOPs fit into this mix in two ways. Uniquely, they appear to push back on two different types of inequality, and they do so directly and indirectly. First, recall the income simulation above, showing that since wealth holdings are particularly concentrated among high-wealth families, and profits such as return on capital ownership, like equities, are part of wealth, a policy that transfers wealth to wage earners will tend to reduce wealth inequality. In fact, the research cited above by Buchele et al found a reduction in wealth concentration among the top 10 percent of employees with ESOPs by 2.5 percentage points. This is the direct impact of wealth redistribution through employee ownership of their companies. BFK, arguably the nation's top experts on the economic impacts of employee ownership, underscore this point in arguing that the "best way…to break the trend toward greater inequality and to direct our society away from the road to economic feudalism is to increase the citizens' share of the business capital in this country."

In assessing Buchele et al's findings and BFK's strongly positive assertion, it is important to remember that many workers hold a variety of different forms of employee ownership (this was the source of the variation in the SCI from the previous section). BFK report that about a third of all workers hold some combination of ownership vehicles: 12 percent of all workers are employee-owners and profit sharers; 4 percent share of profits and get stock options; 5 percent are employee owners and get stock options; 12 percent hold all three (ownership, profit sharing, stock options). Based on the fact that these forms of wealth are among the most concentrated, I would score these somewhat diverse ownership shares as further evidence of the more direct form of direct, equalizing redistribution.

Another direct, equalizing force in play is that by dint of ERISA rules, ESOPs may not grant stock to wage earners above a cap, a policy in place to ensures that the firm's ownership distributions meet the ERISA condition that the most highly compensated employees do not receive such a large share of the benefits that lower paid workers would be egregiously left behind. In 2016, eligible pay for ESOP allocations goes up to $265,000 per year, to be indexed for inflation in $5,000 increments in subsequent years.[21] This cap not only restricts employee ownership for those with compensation levels over the cap. It may create some pressure to tighten the wage distribution relative to non-ESOP firms, leading to the findings in Exhibits 11 and 12 above, i.e., the indirect equalizing effect I discuss next.

The indirect way ESOPs and employee ownership in general appear to reduce inequality is shown in the wage analysis in the previous section, suggesting that the wage inequality is lower in ownership firms, and that the distribution becomes less unequal as the extent of ownership within firms rises. This finding also holds based on a rough comparison with a nationally representative data set of all workers' earnings. Moreover, this gradient (less wage inequality with more ownership) persists even when I add extensive controls to the sample. This is an indirect outcome and simply suggests that for unknown reasons,

firms that offer employee ownership tend to have tighter wage distributions as employee ownership rises (or, to be more accurate, firms in the NBER dataset). It is not, like the wealth impact, a "mechanical" outcome of transferring wealth to a group with less of it.

How far could these relationships be pushed? If we were somehow able to significantly increase ESOP participation, would wealth and wage inequality be significantly reduced? As we often say in answer to this sort of question in economics when our data and knowledge are just not "there yet," we can be certain of the sign, but not the magnitude. I particularly have little doubt that a more widely shared distribution of firm ownership and business capital through ESOPs would further reduce wealth inequality. As Kruse points out, the only way that would not happen would be if ESOPs substituted for wages, and this is something we clearly do not see in the data.

There is, however, a limiting factor in play here that current data do reveal. While I suspect, based on analysis above, that there is less pay inequality within ESOP firms, there is still an unequal distribution of wages therein. Since ESOP contributions are usually made as a percent of earnings, the reduction in wealth inequality within ESOP firms will be limited by the amount of pay inequality. As noted, wealth is considerably less equitably distributed than wages, so if ESOPs helped push wealth inequality to look more like wage inequality, that would be a solid step towards less overall inequality. And, if earnings distributions are, as my findings suggest, less unequal in ESOP/ownership firms than non-ownership firms, this too would push in a more equitable direction. But quantifying these impacts is at this point well beyond available data.

ESOPs and tax policy

Given the above findings and speculations regarding inequality, some will argue that progressive policy should include tax incentives, such as those discussed earlier in the paper, to increase ESOPs. As noted above, like most retirement savings vehicles, ESOPs already receive favorable tax treatment. In this section, I briefly return to the tax benefits of ESOPs and argue that they are sufficient. Especially given the importance of maintaining (and increasing) government revenue in order to support other equalizing policies, like improved learning opportunities for those facing educational access barriers, adding even more tax incentives around ESOPs or other type of employee ownership may yield negative net benefits.

Unique among retirement savings vehicles, companies with ESOPs can borrow to buy newly-issued company stock. Those shares then become tax-deductible contributions to the ESOP. As bankers at Wells Fargo point out, "[b]y borrowing money through an ESOP, the company can raise cash and deduct both the principal and interest payments on the ESOP loan." Moreover, as noted earlier, when an owner of a C corp sells at least 30 percent of their firm to their workforce, they can avoid capital gains taxes on the sale if they rollover the proceeds into other securities (this deferral ends upon a subsequent sale of the gains). Advocates for ESOPs correctly note that this tax deferral provides owners with a strong incentive to set up ESOPs, and thus argue that the capital gains deferral should apply to S corp ESOPs as well.

However, S corps have some of their own special tax privileges associated with ESOPs. S corp earnings are passed through to individual shareholders, and when the sole shareholder of an S corp is an ESOP (i.e., the ESOP own 100 percent of the company) taxes on company earnings are deferred until distribution, helping to build up retirement assets considerably faster than would otherwise occur. Once retirees cash out of the ESOP, they must pay federal taxes at their income tax rates. While this is a valuable tax break for employee owners, it does not create an incentive to set up an S-ESOP, as does the gains deferral break for C corp owners.

Given ESOPs' equalizing effects, from a social welfare perspective, these tax incentives are arguably worthwhile. Moreover, this view gets further some support by comparing ESOPs' impact on inequality to that of 401(k)'s, where the benefits flow largely to those at the top of the income scale. Marr et al show, for example, that most of the benefits of 401(k)'s—about two-thirds—accrue to those in the top fifth of the income scale, while those in the bottom fifth are the least prepared for retirement.[22] Should tax policy tilt further toward ESOPs and other more direct forms of employee ownership, like profit sharing? Should policies like the one proposed by presidential candidate Hilary Clinton—a tax credit equal to 15 percent of profits that businesses share with employees—get a closer look?

This is not an obvious conclusion. As tax expert Martin Sullivan reasonably points out, given their current spate of benefits, it's not clear why more employers need even

more incentives to take up shared ownership programs.[23] He writes, "Given the generally positive effects of profit sharing, [the Clinton credit] would not be the worst thing in our tax code. But so far, the Clinton campaign has not explained why smart employers taking into account all costs and benefits are not already providing profit-sharing plans in situations where they make sense."

A better idea to promote ESOP ownership

My suspicion, based not on research but on informal discussions with various businesses without ESOPs, is that the answer to the question Sullivan poses (if employee ownership is so great, why do we have to offer even more generous tax benefits than those that already exist?) has more to do with actual or perceived startup costs: managers perceive the process of setting up an ESOP as complex and costly. There is also some concern that their employees could become under-diversified.

In this regard, I agree with BFK, who have suggested a government function, housed perhaps in the Small Business Administration or the Commerce Department, that provides direct assistance, at no cost, to small businesses that want to set up ESOPs or other shared ownership plans.

Turning back to the tax code, another interesting idea is that businesses might be more likely to introduce profit sharing if other tax benefits that they currently enjoy, like bonus depreciation, deduction of the interest costs from debt financing, deferral of taxes of overseas earnings, or the ability to pass through business earnings to the individual side of the code, were conditional on setting up ESOPs, gain/profit sharing, and so on (the tax deferral on gains realized by C corp owners after selling their shares to an ESOP is an example of this idea in practice; extending it to S corp owners would be consistent with this suggestion). Instead of making these benefits automatic, why not, in the interest of both greater revenue collection and incentivizing more employee ownership, make them contingent on offering ownership shares to workers? Given the inequality findings above, this seems like a useful incentive to build into the tax code that has the potential to raise more revenue than under current law.

Conclusion

Inequality has grown among various dimensions in the American economy. Wealth, for example, is a lot more concentrated, as shown in various exhibits above, and this has resulted in shifts in "factor incomes" from compensation to profits. Since ESOPs transfer wealth to workers—from owners to employees—a natural question is whether they can help push back on this trend in inequality.

Much of the literature reviewed above, including extensive work by BFK, suggests ESOPs can play that role. ESOPs have been shown to reduce wealth inequality, and my own analysis of the NBER dataset finds that firms with employee ownership programs tend to have less unequal wage distributions. Would a lot more ESOPs mean a lot less inequality? Based on the empirical patterns I and others identify, ESOPs' equalizing effects are limited by the fact that less than 10 percent of the workforce participate in them. Though the existing data do not allow researchers to quantify the impact of greater ESOP participation, my analysis suggests that more ESOPs would mean less inequality, probably of both wealth and wages.

I do not, however, believe that this finding should lead policy makers to further incentivize ESOPs through the tax code, at least not by offering new tax breaks, as the current spate of tax advantages incentivizing employee ownership goes far enough, especially considering future revenue needs. I do, however, suggest two ideas for expanding ESOPs: a small government agency or bureau to help firms manage the process of starting an ESOP, and "reversing the polarity" of current business tax breaks to make them conditional on the firm having some form of employee ownership.

Future research in this area of ESOPs and inequality could be advanced by adding questions about the various forms of employee ownership on nationally representative economic surveys that collect information about income and wealth. Obviously, this would take resources, as these questions can quickly get complex. However, experts such as Doug Kruse, who was instrumental in creating the NBER dataset, have some field experience in asking questions about employee ownership. Even a one-time, point-in-time set of questions on a survey like the Federal Reserve's Survey of Consumer Finances would be useful in that it might allow a deeper look into the impact of ESOPs on inequality in America.

Endnotes:

1. See, for example, hΣp://talkingpointsmemo.com/features/marchtoinequality/deepdiveintoinequality/.

2. hΣp://money.cnn.com/2010/03/09/pf/reϴrement_conl dence/

3. To see this diī erence, compare l gures 6 and 10 here hΣp://talkingpointsmemo.com/features/marchtoinequality/deepdiveintoinequality/.

4. In the naϴonal accounts, this is called gross domesϴc income; it also includes consumpϴon of l xed capital (income generated through depreciaϴng capital).

5. "Terms of trade" is a technical factor derived from the fact that consumer prices grew faster over this period than producer prices.

6. That is, I simulated this combinaϴon. The underlying data do not provide such a breakdown.

7. hΣps://www.nceo.org/arϴcles/esop-employee-stock-ownership-plan

8. This pretax contribuϴon privilege does not apply to ESOPs in Scorps.

9. KSOPs are a hybrid of 401(k) plans and ESOPs wherein companies match employee contribuϴons with stock (S-ESOPs are ESOPs in Scorporaϴons).

10. Blasi, Freeman, Kruse (2013), chapter 3.

11. BFK, pgs. 185-6.

12. hΣp://community-wealth.org/sites/clone.community-wealth.org/l les/downloads/paper-brill.pdf

13. Recent NCEO data report 15 million parϴcipants in ESOPs; employment in 2015 was about 150 million, ergo the 10 percent cited in the text. BFK l nd, from the General Social Survey, that about 20 percent of private sector, full-ϴme workers who are not self-employed have some amount of employee ownership in their company.

14. hΣp://esopplus.com/esop-vs-401k-which-type-plan-makes-beΣer-reϴrement-plan/

15. See hΣps://www.nceo.org/assets/pdf/arϴcles/Do-ESOPs-Need-Reform-Rosen.pdf.

16. See my latest book on this topic: hΣp://jaredbernsteinblog.com/wp-content/uploads/2015/12/RA-Updated.pdf.

17. I also restricted the ASEC sample to those who worked at least 30 weeks a year and whose earnings were at least the same as the minimum in the NBER dataset, updated to 2014 dollars. I used sample weights to calculate the lv.

18. This increase in the post-transfer incomes of the poor is, however, parϴally a funcϴon of overvaluing publically provided health care benel ts. See hΣp://talkingpointsmemo.com/features/marchtoinequality/deepdiveintoinequality/

19. See, for example, hΣp://economics.mit.edu/l les/3279.

20. See ReconnecϴonAgenda, Chapters 3 and 5. hΣp://jaredbernsteinblog.com/wp-content/uploads/2015/12/RA-Updated.pdf

21. I thank Loren Rodgers, the execuϴve director of the NaϴonalCenter for Employee Ownership, for this informaϴon.

22. hΣp://www.cbpp.org/research/reϴrement-tax-incenϴves-are-ripe-for-reform

23. hΣp://www.forbes.com/sites/taxanalysts/2015/07/20/can-hillarys-plan-for-prol t-sharing-liÕ-the-economy/