

## **Show Me the Money Does Shared Capitalism Share the Wealth?**

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## Abstract

This paper examines the effect of a variety of employee stock ownership programs – including ESOPs and broad based stock options – on employees’ holdings of their employers’ stock, their earnings and their total wealth. Two major datasets are employed: the NBER Shared Capitalism Research Project employee survey dataset and the 2002 national General Social Survey (GSS).

Focusing on permanent, full-time employees with at least one year on the job, we find that 87% of employees in the NBER ‘shared capitalist’ firms, and 36% of employees in the national survey, own their employers’ stock. The NBER employees (including those who hold no company stock) hold an average of \$50,000 of employer stock, compared with \$13,200 for employees nationally. We find no evidence – either between datasets or between employees within datasets – of substitution of pay for stock ownership. Employee-owners earn more on average than non-owners, controlling for confounding factors, and report that it would be somewhat *more* difficult than GSS employees do to find another job that would replace their current pay and benefits.

Finally, we find a rough similarity between the distribution of employer stock among the NBER employees (with the top 10% holding two-thirds) and the distribution of all stock among U.S. households (with the top 10% holding three-quarters). Wealth trickles down a little faster in the shared capitalist firms, perhaps, but it’s still just trickling.

Cheerleaders for the “ownership society” tout the growing share of U.S. households owning stock – up from 31.7 percent in 1989 to 51.9 percent in 2001.<sup>1</sup> What is less often advertised is that the bottom 90 percent of households owns only 23 percent of all stock and just 12 percent of all directly held stock, which confers direct control (voting) rights on

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<sup>1</sup> This figure includes both directly held stock and indirect holdings in mutual funds and retirement accounts. See Wolff (2004: Table 12b). An important reason why the incidence of stock ownership has risen in recent decades is the replacement of defined benefit with defined contribution pension plans. Nevertheless, 34 percent of households have no (defined benefit or defined contribution) pension plan (Wolff, 2005: Table 5), and “more than one-fifth of all households nearing retirement (those between the ages of 56 and 64) had no retirement savings other than Social Security” (Weller and Wolff, 2005: 2).

stockholders.<sup>2</sup> Only 27 percent of households in the bottom 90 percent of the wealth distribution own (directly or indirectly) more than \$10,000 of stock (calculated from Wolff, 2004: Table 13a). If ownership is measured by households' ownership stake in the corporate sector of the U.S. economy, a large majority of American households have little or no meaningful claim to membership in the ownership society.

This concentration of stock ownership implies a corresponding concentration of income from capital, which contributes to growing income inequality as the share of labor income has fallen to its lowest level in nearly 60 years, "while corporate profits have climbed to their highest share since the 1960s" (Greenhouse and Leonhardt, 2006:B1). Increasing employee stock ownership could alleviate the negative impact of this historic shift in factor shares on workers' incomes. Given the stagnation of real median wages over the past three decades, any feasible plan to increase the profit share of income going to workers ought to have broad public policy interest. For this reason, and even more importantly for its potential for wealth building and sharing, employee stock ownership is a compensation structure that deserves serious consideration.

Employee stock ownership is well established in the U.S. economy. Blasi, Kruse and Bernstein (2003: Appendix C) calculate that in 2002 there were 24.1 million participants in 11,561 pension plans that held company stock.<sup>3</sup> About 8.2 million (34%) of these participants were in employee stock ownership plans (ESOPs), and these held 59 percent of

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<sup>2</sup> These statistics are from Wolff (2004: Table 13a) and Kennickell (2003: Table 10), respectively. All statistics in this section are for 2001.

<sup>3</sup> As Kruse (2002) points out, these figures double count companies and employees who have more than one plan. His calculations (for 1998) suggest a lower-bound estimate of around 20 million employees (or 18 percent of all private sector workers) holding stock in their companies through various defined contribution pension plans (ESOPs, KSOPs and 401(k)s that hold employer stock) and profit sharing and employee stock purchase plans in 2002.

all company stock in employee pension plans. ESOPs are “by far the most common form of employee ownership in the U.S.” (Rosen, 2005: 5).

ESOPs were first promoted as a matter of public policy by a provision in the Employee Retirement and Security Act of 1974 (ERISA), authored by Senator Russell Long, allowing for tax deductible contributions of company stock to a workers’ trust. Long was influenced by Louis Kelso, a San Francisco investment banker and lawyer who set up the first ESOP at a California newspaper in 1956 and in 1958 published *The Capitalist Manifesto* (with Mortimer Adler). Kelso advocated employee ownership as a means of counteracting (in his view) a declining share of labor income inevitably resulting from labor-saving technical change (Kelso and Adler, 1958: Ch. 4). Kelso and Long advocated employee ownership on other grounds as well – including promoting labor peace, securing workers’ allegiance to the capitalist system and improving workers’ motivation and productivity. But their chief interest in ESOPs was as a vehicle for building workers’ wealth and increasing their share of capital and income from capital.<sup>4</sup> And a chief interest of this paper is to determine the extent to which the NBER shared capitalism plans do this.

Four major issues surrounding employee ownership of employer stock are addressed in this paper. First, what are the participation rates and average dollar value of employee stock ownership? Second, how is company stock ownership distributed among employee-owners? Third, to what extent does employer stock substitute for other forms of compensation (higher pay and benefits) and for other forms of wealth? And forth, what effect might universal employee ownership of employer stock have on the overall distribution of stock ownership and pension wealth in the U.S?

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<sup>4</sup> Paraphrasing Mill, Kelso and Adler (1958:85) wrote that “no man’s ownership of (capital) should be so extensive as to exclude others from an economically significant participation in the production of wealth.”

Recent research has yielded some information on the wealth effects of employee stock ownership. Several recent studies have found that employee stock ownership does confer significant wealth on employees. These include (1) a census of Washington State ESOPs (Kardas, Scharf and Keogh 1998), which found median pension assets per participant of \$31,600 (vs. \$5,400 for a matching sample of non-ESOP control companies), (2) a 2005 study of Ohio companies which found median ESOP account balances of \$30,000 (cited in Rosen, 2005), (3) a 1999 Census of Massachusetts ESOPs, which found average assets per participant of \$39,895 per participant (Scharf and Mackin 2000), (4) a 2005 census of Massachusetts ESOPs, which reports average assets per participant of \$56,200 (Mackin 2005) and (5) a survey of 16 S-corporation ESOPs, which found median employee account balances of \$75,000 to \$100,000 (Rosen, 2005).

A limitation of these studies is that they focused on a single form of employee ownership – the ESOP. New data from the NBER Shared Capitalism Research Project (SCRCP) surveys shed fresh light on the impact of a broader range of employee stock ownership – including ESOPs, broad-based stock option plans and employee stock purchase plans – on workers’ wealth and earnings. In addition data from the 2002 General Social Survey provides for the first time estimates of the value of company stock owned by employees based on a national random sample of individuals. The next section of this paper profiles the NBER companies’ ownership plans and describes the GSS dataset.

## A Profile of the SCRP Companies and the GSS National Sample

The NBER Shared Capitalism Research Project includes fourteen companies with one or more forms of shared ownership. These companies come from a variety of industries – including manufacturing (9), professional services (3), high tech (2) and finance (1) and vary in size from a few hundred to almost 50,000 employees. Four of them have publicly traded stock, and ten are privately held. Employee surveys yielded over 41,000 valid surveys, of which 26,453 were of permanent, full-time employees. These companies were not randomly selected to participate in this study. Their participation hinged on their willingness to allow their employees to be surveyed, and in some cases their involvement grew out of prior professional contacts with project researchers. They are a unique group of companies – certainly more exemplary than representative – with stronger than average wealth-sharing practices and managers who were willing to devote time and organizational resources to participate in this study.

We also draw on the 2002 General Social Survey (GSS) to provide a nationally representative baseline. The GSS was administered to a national random sample of adults by the National Opinion Research Center of the University of Chicago in 2002. The survey contains responses from 2,765 respondents. Excluding employees in government and nonprofit organizations (to facilitate comparisons with the NBER data), those who did not work full-time in 2001 and those who have less than one year in their current job, reduces the sample to 616. Nearly one-third of that subsample reports owning company stock.

Several paths to employee ownership are represented in the company stock ownership programs operated by the 14 NBER companies. As Table 1 indicates, these include nine ESOP-type plans (eight ESOPs and one KSOP), three 401(k) plans that invest in the

employer's stock as well as other assets, five employee stock purchase plans (ESPPs) and six stock option plans (SOPs). Nine of these companies (identified with bold company numbers in Table 1) are majority (usually 100%) employee-owned ESOP-type plans (including one KSOP and one set up as a 401(k)).<sup>5</sup> In some of the following tables, we report results for this subset of majority-owned ESOP companies.

All of the privately held companies are majority owned, most, in fact are 100% employee owned. Overall participation rates (the percent of employees participating in at least one plan) are high, especially in the ESOPs (which, with few exceptions, are required by law to cover all employees age 18 and over who work more than 1,000 hours per year and have at least a year of service with the company).<sup>6</sup> The average value of company stock holdings (for employees with stock) varies widely – from under \$8,000 to over \$239,000.

Employee-owners bear two distinct types of risk: First, employees who have their own “skin in the game,” having purchased company stock with their own funds, bear the risk of potential investment loss. Second, employees who have concentrations of assets invested in a single company bear risk associated with inadequate diversification. The first of these risks is minimized in the ESOPs because the company stock allocated to workers' ESOP accounts is contributed by the employer with no out-of-pocket cost to the employee.<sup>7</sup> At the other

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<sup>5</sup> A KSOP is a combination ESOP and 401(k) plan in which employees' 401(k) contributions are matched by employer contributions of company stock to their ESOP accounts. One of the companies included in this group holds its company stock in a 401(k) rather than an ESOP. One became majority owned shortly after its employee survey was conducted.

<sup>6</sup> As a result, we would expect very high participation rates for this subsample of full-time employees with at least a year of job tenure. As noted in Table 1, overall about 15% of the employees surveyed responded that they did not know if they held any employer stock. Here these employees are counted as non-participants (rather than dropped from the sample), significantly reducing reported participation rates for some companies.

<sup>7</sup> In one company the initial purchase of company stock at the founding of the KSOP was financed by a rollover from employees' existing 401(k) accounts. Subsequent stock allocations to the KSOP have been provided by the employer.

extreme, company stock acquired through open market purchases or employee stock purchase plans is typically financed either entirely or primarily by employee savings. Similarly, stock acquired through stock options, though normally obtained at a discount to its market price, presumably is obtained at discount to its market price involves some employee “skin in the game.”

The inadequate diversification”” has come up most frequently with respect to ESOPs because of their retirement –plan structure. Although ESOPs are legally organized as retirement plans, advocates caution that they should not be thought of as a substitute for a diversified retirement plan (e.g., see Kruse 2002). In this regard, we note that all but one of the 14 NBER companies also have regular diversified 401(k) retirement plans (not noted in Table 1). Among the subset of nine ESOPs, surveyed employees at three companies had less than half of their pension assets in the employer’s stock, while employees at three other companies had between half and three-quarters, and employees at another three companies had over three-quarters of pension assets invested in their employers’ stock. Clearly, many of these plans should be more diversified, but we shouldn’t conclude that they face greater risk just because they own more, rather than less, company stock. Inevitably, employees that have been granted large amounts of company stock (e.g., through allocations to their ESOP accounts) will, other things being equal, have relatively high proportion of their total retirement assets in their employer’s stock.

### Ownership Stakes

Table 2 presents various measures of employee stock ownership in the NBER, the shared capitalist companies and the GSS national sample. Panel A confirms a very high



(nearly 90%) participation rate for the NBER companies and a perhaps surprisingly high 36 percent incidence of employee ownership in the national sample of private-sector employees.<sup>8</sup> The GSS asked respondents: “Do you own any shares of stock in the company where you now work, either directly or through some type of retirement or stock plan?” Those who answered affirmatively were asked for “a general estimate of how much cash you would get if all this stock were sold today.” They were not asked how they acquired their company stock, but it is likely that the majority of the GSS employee-owners did so through an employer sponsored program (rather than simply through open market purchases).<sup>9</sup>

The two most important sources of company stock ownership in the NBER study are (1) ESOPs (including KSOPs and 401(k) plans that hold company stock), in which stock accumulates in employees’ retirement accounts and (2) stock option plans, where employees are free to (and usually do) sell their shares immediately upon exercising their options. Consequently, we expect company stock ownership to be higher for employees in the subset of nine ESOP companies than for employees of all 14 companies in the NBER study. It is important to note that although this is the case (see Panel B of Table 2), it is not necessarily because the ESOP employees have been granted more stock but rather because they are restricted from selling it. Company stock holdings per employee (including those with no stock) are about \$50,000 in the NBER full dataset, and \$73,500 for the nine NBER ESOPs.

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<sup>8</sup> Note that this estimate is based on a sample of permanent, full-time, private sector employees, who are 18 or over and have been in their current job for at least one year, and who knew whether or not they owned any stock in their company – all conditions likely to raise the likelihood of owning company stock. It is considerably higher than the 25% incidence of company stock ownership we get based on all private sector employees and counting ‘don’t knows’ as not owning company stock.

<sup>9</sup> Freeman (2007:2) indicates that the great majority of private sector employees who own shares in their company do so via either ESOPs or 401(k) plans.

According to the GSS, employees nationwide own on average \$13,200 worth of their employers' stock.

We see in Panel C that the average stake of *employee-owners* (i.e., employees who own some company stock) is \$58,000 for all NBER companies and \$82,800 for the NBER ESOPs.<sup>10</sup> The average ownership stake of employee-owners in the GSS national sample is \$49,000. For the NBER shared capitalist firms, non-managers own roughly one-third as much company stock as managers, and the median holdings of all employee-owners is only a little more than quarter of the mean.<sup>11</sup> We further pursue these distributional issues below.

Panel D shows the value of employer stock holdings relative to fixed pay. In both the NBER full sample and the ESOP subsample this ratio is 60-65 percent higher for managers than other employees, but for the GSS national sample it is almost 30 percent lower. This difference may be due to open market purchases possibly being a more important source of company stock ownership in the GSS data, but we do not know since the GSS does not indicate how respondents' acquired their employers' stock.

Finally, Panel E gives NBER employees' estimates of the value of their company stock relative to their total wealth. On average these ratios are higher for the ESOP companies than the full sample, reflecting the higher levels of company stock ownership in the ESOPs (Panel C).

While company stock represents somewhat over half of pension assets, on average, for the full

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<sup>10</sup> A caution is in order here: One company (number 12 in Table 1) accounts for over half of the employees in the entire NBER dataset and has a proportionately large influence on the results reported for the full NBER data set. Differences between the values reported for the full data set and the subset of nine ESOPs are as likely to be due to unique aspects of this particular company as to general differences between ESOPs and other employer stock ownership programs.

<sup>11</sup> The ratio of mean to the median employer stock holdings is a rough measure of the degree to which the distribution of company stock ownership is skewed to the right, with a relatively small number of employee-owners holding much more stock than the bulk of more typical owners. For perspective, Wolff (2004: Table1) reports a 13:1 ratio of mean to median household financial net worth in 2001 (\$298,500 vs. \$23,200).

sample of NBER employees (not shown in tables), it represents only about 20 percent, on average, of their total wealth.

### How Company Shares are Shared

Both ESOP stock allocations and stock option grants vary directly with pay. In ESOPs, which are governed by the ERISA, stock is usually allocated to ESOP accounts in proportion to their taxable earnings (with a cap of \$170,000 in 2001). The longer an employee has been in any stock plan, the more stock he or she can potentially accrue. Since differences in company stock ownership attributable to differences in length of employment do not constitute unequal treatment, it would be useful to have an estimate of differences in company stock holdings of employee-owners controlling for differences related to length of service. These estimates are reported in Table 3.

The columns headed “Actual” in Table 3 reproduce the corresponding columns in Table 2C. The “Adjusted” columns control for differences in years of service between managers and others and between the mean and median employee-owner. The adjusted stock value for “other” (i.e. non-managerial) employees is obtained by regressing stock value on job tenure for these employees and using the resulting equation to find the expected stock value for non-managerial employees who have the mean job tenure of managerial employees<sup>12</sup>. This has negligible effect (a 1.7% decrease in the gap, measured relative to managers’ stock ownership) for the full sample and a modest effect (a 8.9% decrease) for the ESOPs.

The second ownership gap we consider is that between the mean and median owner. As mentioned in footnote 11, the mean-median gap provides a rough measure of the degree to

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<sup>12</sup> Mean job tenure was 2.0 years longer for managers than for others in the full sample and 2.8 years longer in the subsample of ESOP companies.

which the distribution of company stock ownership is skewed to the right, with a few high rollers pulling the mean further above the median. For this comparison each employee-owner's company stock holdings are adjusted by the expected difference between the value of company stock for someone with that employee's job tenure and the value for someone with the sample mean job tenure<sup>13</sup>. We find that controlling for job tenure reduces the mean-median gap by just 6% for the full sample, but by 50% for the ESOP sample. Median ESOP company stock ownership (\$22,500) is nearly tripled (to \$64,405) when the effect of the median employee-owner's shorter job tenure is controlled.

We note that the larger effect of controlling for years of service in the nine ESOP companies (vs. the full 14 company sample) is due to the much larger average effect of job tenure on the value of company stock holdings in the ESOPs (\$8,369 per year vs. \$1,269 per year). This is due to the above-mentioned fact that company shares accumulate over time in ESOP accounts, in contrast to stock option plans where employees typically sell their shares immediately upon exercising their stock options.<sup>14</sup>

### Do Employee Owners Pay with Lower Wages?

Neoclassical skeptics of employee ownership suggest that (for equivalent workers and working conditions) whatever value ownership confers on employees must be offset by correspondingly lower wages, since the market insures that total compensation must be the

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<sup>13</sup> Operationally, adjusted company stock ownership values are calculated by regressing stock value on job tenure and using the coefficient of job tenure  $\hat{\beta}$  to calculate the adjusted stock value for individual  $i$  as his or her actual holdings minus  $\hat{\beta}$  times the difference between that person's actual job tenure and the sample mean job tenure. We then calculate the mean and median adjusted values. (The means are the same as the unadjusted means because the regression line passes through the means of the dependent and independent variables.)

<sup>14</sup> In fact, for the subsample of the five non-ESOP companies in the NBER study, in which stock options were the main form of shared ownership, there was no statistically significant relationship between company stock ownership and length of service.

same everywhere. And there are reasons, besides competitive theory, to suppose that employees receiving company stock might pay for it with lower wages. Unionized workers in airlines and trucking – industries under the pressure of deregulation in the late 1970s and ‘80s – made large wage concessions in return for ownership shares to save their companies and their jobs (Blasi, 1988:94; Russell, 1985:200). Some high tech startups, such as Amazon, acknowledged a compensation strategy of luring talent on the cheap with stock options and below-market pay.<sup>15</sup> Statistical evidence for wage substitution is harder to come by than anecdotal evidence. The preponderance of empirical evidence, however, goes the other way. Blasi, Kruse and Bernstein (2003:215) cite a study of 490 firms with broad-based stock options that paid their employees 8 percent more than all other public companies when most of them introduced their stock-option plans in the mid 1980s and continued to pay 8 percent more a decade later. Blasi, Conte and Kruse (1996) found that compensation per employee was 23 percent higher in publically traded companies with more than 5 percent of their stock held in broad-based employee stock ownership plans than in other firms. Kardas, Scharf and Keogh (1998) found mean and median wages of ESOP companies in Washington State to be higher than a matched set of control companies. And Kruse and Blasi (2001), matching 1,176 pairs of ESOP and non-ESOP companies, found that the ESOP companies were over four times more likely to have traditional defined benefit plans and over five times more likely to have 401(k) plans – in addition to their ESOPs.

What do our data say on this issue? We begin with a broad comparison of the earnings in the NBER shared capitalism dataset and the GSS dataset, as reported in Table

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<sup>15</sup> Statistical evidence for wage substitution is harder to come by than anecdotal evidence. One tangentially related study of Italian producer co-ops by Pencavel, Pistaferri and Schivardi (2006) finds that “a worker in a co-op earned 15-16% less than a worker in a capitalist enterprise,” controlling for age, gender, region, establishment size, industry and occupation.

4A.<sup>16</sup> Average earnings are 69 percent higher in the NBER full dataset and 25 percent higher in the NBER ESOPs than they are in the GSS national sample, and median earnings are 65 percent and 48 percent higher, respectively. Far from compensating for ownership differentials, these earnings differentials rival the differentials in employee ownership found in Table 2. Employees of the shared capitalism companies are enjoying the best of both worlds in this regard.<sup>17</sup>

A possible theoretical explanation for the higher earnings of the NBER employees might be that it is compensation for greater risk associated with more variable pay. But the variable pay component of NBER employees' earnings (not shown in the tables) is less than 8 percent of their total earnings (and a much smaller percent for the NBER ESOP employees) – to the effect that their *fixed* pay exceeds GSS employees' *total* pay.

Earnings inequality, measured as the ratio of 90<sup>th</sup> to 10<sup>th</sup> percentile earnings is highest for the NBER full dataset (5.1:1) and lowest for the NBER ESOPs (3.7:1) with the national sample in the middle. If shared capitalism fosters egalitarian wage norms, they are more apparent in privately held, majority-owned ESOPs than in the other forms of employee stock ownership represented in this study.

Table 4B presents employees' responses to a question about how easily they could find another job with the same pay and benefits as their current job. The higher the number,

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<sup>16</sup> These differences, as big as they are, almost certainly *understate* the difference between the employees of companies with shared ownership and those without it, since almost a third of GSS employees are also employee-owners, largely through the same kinds of company sponsored plans as the NBER employees.

<sup>17</sup> Many of the NBER employees apparently would not agree with this conclusion, however, as almost 40% of them indicated that they believed that their fixed annual wages were less than those of employees with similar experience and job descriptions in their region (another 18% believed they were paid more). In the present discussion, however, the issue is not whether they feel underpaid, but *whether they are more or less likely than the comparison group* (the GSS employees) to feel underpaid, relative to the market. We do not know, since this question was not asked in the GSS.

the more difficult the respondent believes it would be to replace their current pay and benefits. We note that where NBER – GSS differences are statistically significant, those differences indicate that the NBER employees believe it would be *more* difficult than the GSS employees. Thus, the NBER employee-owners are more likely than the GSS national sample employees to feel that their pay and benefits are the best they could get – a result that appears inconsistent with the hypothesis that company stock employee ownership and employee compensation are substitutes.

Next we ask the question, “In the NBER shared capitalism companies what is the relationship between annual pay (labor income) and annual ownership gains (capital income), controlling for the positive relationship between the two that is just an artifact of the rules that allocate stock in proportion to pay?” The key independent variable in this analysis is the ratio of the value of the employee’s accrued company stock *per year of service* (a rough measure of his or her average annual capital gains income) to his or her fixed pay. A negative relationship between this variable and pay suggests that the more important ownership income is relative to pay, the lower pay will be – in other words, ownership substitutes for pay. A positive relationship is inconsistent with the substitution hypothesis.

In Table 5A seven different measures of pay are regressed on this independent variable, controlling as noted in the table note for an extensive list of personal and job-related determinants of pay. The first two dependent variables in Panel A are the log of fixed and total pay. The next four are employees’ assessments of their pay (fixed and total) relative to the pay of employees with similar experience and jobs at other companies in their region. The last dependent variable was introduced in Table 4B – how hard would it be to find another job with comparable pay and benefits as the one you now have? In 12 of the 14 regressions, the

coefficient of the key ownership share variable is positive; in six of these it is statistically significant (at better than a 5% level of significance), and in every case where the relationship is statistically significant, it is positive. These results suggest that if there is any relationship between company stock ownership and pay, it is complementary.

Panel B of Table 5 presents similar regressions based on the GSS dataset. Here the four dependent variables are log earnings, assessments of pay and fringe benefits, and the difficulty of finding another job with comparable pay and benefits. In all four regressions the signs of the key coefficient are consistent with complementarity between company stock holdings and compensation (pay and benefits).

Finally, we consider the extent to which employer stock substitutes for other forms of wealth. The estimates presented in Table 6 are based on the NBER data – two equations for the full dataset and two for the nine NBER ESOPs. The first result shown, the coefficient of .873 on the value of employer stock in all plans, indicates that each additional dollar of employer stock held in any of the four employee stock ownership plans listed in the table adds \$.87 to total wealth and implies that \$.13 is substituted for other wealth. For the nine NBER ESOP companies the coefficient is .447, implying that each additional dollar of employer stock reduces other wealth by \$.55 and adds only \$.45 to total wealth.

The other regressions in Table 6 consider the effects on total wealth of a dollar increase in any of the four different plans – ESOPs, 401(k)s, stock options or employee stock purchase plans. For the first three of these plans, an additional dollar in the plan reduces other wealth by anywhere from not at all to \$.67. A additional dollar of company stock in an employee stock purchase plan (ESPP), however, would seem to have the effect of raising wealth by anywhere from \$1.29 (in the ESOPs) to \$3.28 (in the full sample of NBER



companies). This is not plausible. A possible explanation for these results is simultaneity bias. Despite extensive controls, increases in wealth may be causing increases in ESPP, as well as increases ESPP causing wealth to increase. If this is happening, it would result in our overestimating the coefficient of ESPP.

The overall impression that we get from these estimates is that increasing employee stock ownership by a dollar in these various company plans will not raise employee wealth by a dollar, but by something less – perhaps around 50 cents – as company stock is partially substituted for other assets.

#### The Distribution of Employee Stock Ownership and the Distribution of Wealth

In this section we assess the distribution of employee stock ownership and of total wealth. Table 7A considers the distribution of employer stock across employees and compares it with Edward Wolff's estimates of the distribution of all stock across households. In the two NBER samples the top 10 percent hold about two-thirds of employer stock. In the GSS most employees hold no company stock and the top 10 percent hold almost all (93%) company stock. By way of a rough comparison, Wolff (2004) finds that the top 10 percent of households hold 77% of all stock.<sup>18</sup>

What we perhaps can say here is that the share of wealth going to the 'middle class' (the 50% of households below the top 10%) might increase somewhat if every household had an ESOP whose value put it at the same percentile of the ESOP wealth distribution as that

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<sup>18</sup> Comparisons between our data in which the unit of observation is the individual employee, and Wolff's, in which the unit of observation is the household are of limited value. Other things being equal, one would expect more wealth inequality across households (which have one or multiple potential wealth holders) than across employees (which each have exactly one). As a result, we cannot be sure that the apparently somewhat greater equality of distribution of the company stock in the NBER sample, compared to Wolff's estimates, is not just an artifact of their different units of observation.

household's percentile in the distribution of total wealth. Turning to Panel B of Table 7, we see the 'middle class's' share of net worth is almost twice as high in the NBER data than it is in in Wolff's household data. The distribution of wealth among employees in the NBER shared capitalism dataset is more equal than the distribution of wealth across households in Wolff's Survey of Consumer Finances dataset. But we don't know how much of this difference is due to their different units of measure.

Finally, Table 8 compares the mean and median pension wealth of employees of the NBER ESOPs with Wolff's (2001) estimates of mean and median household pension wealth. This comparison probably favors Wolff's measure because households can have more than one member with a pension plan. (Presumably all households have or had at one time at least one employed member.) We are probably on safer ground comparing the 47-64 year old pre-retirement age groups, since nearly all of these households are likely to have at least one member who is currently employed or was employed at some earlier time and are therefore likely to have pension assets. If this is true, we can say that the NBER ESOP employees' mean and median pension values compare favorably to Wolff's mean and median household pension values.

### Conclusions

The NBER Shared Capitalism Project employee surveys confirm that shared ownership builds wealth for employees. The average value of company stock held by the more than 22,000 employees with company stock is \$58,000. For the subsample of nine majority employee-owned ESOPs the average value of company stock is almost \$83,000. However, median values are only \$16,000 and \$22,500, respectively, and the average

holdings of managers are roughly three times the average holdings on non-managers – more than can be explained by their higher pay or longer tenure. Nevertheless, comparison of the NBER and GSS employees shows that if all employees worked for companies like those in the NBER study, especially the majority-owned ESOP companies, a lot more employees would own a lot more company stock.

The NBER shared capitalism companies' pay levels are almost as favorable as their employee stock holdings, *vis a vis* the representative national GSS. Employees of the NBER shared capitalism companies have 69 percent higher earnings than employees in the GSS, in addition to owning more stock in the companies they work for. There is no evidence in the NBER versus GSS comparisons of a compensating wage differential in which employee-owners' higher wealth is off-set by lower wages. Nor is there any evidence within each sample that employees whose company stock value is growing faster (relative to their wages) receive lower wages. In fact, where a relationship exists at all, we find that pay is complementary with employees' company stock holdings (per year of tenure at the company), relative to pay.

Finally, it appears that 'middle class' employees of the NBER shared capitalist companies (those between the 40<sup>th</sup> and the 90<sup>th</sup> percentiles of employer stock ownership) hold a larger share of company stock than the share of total stock wealth held by the corresponding bracket of households in Wolff's data on the national distribution of stock wealth (32% vs. 22%).

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Table 1: NBER Company Plans and Disposition of Company Stock

<u>Company</u> <sup>1</sup>	<u>Plans</u>	<u>Stock is Publicly Traded/Private</u> <u>ly Held</u>	<u>Percent of Stock Held by Employees</u>	<u>Participation Rate (% holding co. stock)</u> <sup>4</sup>	<u>Value per Employee-Owner</u> <sup>4,5</sup>
<b>1</b>	ESOP	Private	100%	88.5%	\$239,139
<b>2</b>	ESOP	Private	100	81.9	23,827
3	ESPP, SOP	Public	n.a.	97.1	138,430
<b>4</b>	ESOP	Private	77	64.1	26,155
<b>5</b>	ESOP	Private	33 <sup>1</sup>	39.1	7,877
<b>6</b>	401(k), ESPP, SOP	Private	100	88.5	36,623
7	ESOP, ESPP, SOP	Public	5 <sup>3</sup>	88.1	15,865
<b>8</b>	KSOP	Private	100	77.5	166,713
<b>9</b>	ESOP	Private	100	69.3	38,411
<b>10</b>	ESOP	Private	75	52.0	40,407
11	401(k), ESPP, SOP	Public	n.a.	82.0	39,547
<b>12</b>	ESOP	Private	100	87.1	99,000
13	ESPP, SOP	Public	n.a.	60.3	175,687
14	401(K), SOP	Public	n.a.	67.7	27,952

Notes: ESOP – Employee Stock Ownership Plan

KSOP – A 401(k) plan with matching contributions of company stock to a companion ESOP.

401(k) – A 401(k) plan that holds company stock, as well as other assets.

(Note: All but one of these companies has a regular 401(k) plan.)

ESPP – Employee Stock Purchase Plan

SOP – Company grants stock options (broad based in all but one case)

1. Bold numbers indicate a subset of 9 ESOPs (or near-ESOPs) that are broken out in some subsequent analyses.

2. At time of survey, currently 67%.

3. 15% including unexercised stock options.

4. Includes only U.S. based, full-time employees (35 or more hours per week), age 18 and over, with at least one year of service.

Employees who didn't know if they owned their employer's stock (about 15% of this subsample) are assumed not to. In the case of stock option plans, employees who have ever received stock options are counted, even if they do not currently hold company stock.

5. Average value of employer stock for employees owning company stock.

Table 2: Employee Stock Ownership by Employee Position

	NBER Full <u>Dataset</u>	NBER ESOP <u>Companies</u> <sup>1</sup>	GSS National <u>Sample</u>
<b>A. <u>Percent Owning Employer Stock</u></b>			
Managers	96.3%	96.8%	41.4%
Others	85.4	87.7	35.6
All employees	86.9	89.1	36.3
(Sample size)	(26,656)	(4,352)	(545)
<b>B. <u>Value per Employee</u><sup>2</sup></b>			
Managers	\$ 116,939	\$ 187,483	\$ 22,300
Others	39,095	53,190	11,828
All Employees	49,992	73,518	13,231
(Sample size)	(25,846)	(4,314)	(545)
<b>C. <u>Value per Employee-Owner</u><sup>3</sup></b>			
Managers	\$121,611	\$ 193,713	\$ 70,778
Others	46,241	60,853	45,026
All Employees	58,014	82,765	49,056
All Employees (median)	16,000	22,500	10,000
(Sample size)	(22,272)	(3,832)	(147)
<b>D. <u>Value of Employer Stock as a Percentage of Annual Fixed Pay (NBER) or Earnings (GSS)</u><sup>3</sup></b>			
Managers	95.6%	169.3%	64.1%
Others	60.2	102.4	89.1
All Employees	65.6	113.5	85.4
(Sample size)	(18,586)	(3,227)	(142)
<b>E. <u>Value of Employer Stock as a Percentage of Total Wealth</u><sup>3</sup></b>			
Managers	21.9%	32.0%	
Others	19.0	25.2	
All Employees	19.5	26.4	
(Sample size)	(18,529)	(3,186)	

Notes: All measures are based on a sample of US-based, full-time (35 or more hours per week) employees of for-profit companies, who are age 18 and over and have at least one year of service. Employees who reported that they didn't know if they owned their employer's stock are dropped from these calculations

1. This is a subset of nine majority owned, privately held ESOP companies identified in Table 1.
2. Includes employees who own no employer stock.
3. Includes only employees who own employer stock.

Table 3: Employee Stock Ownership and Job Tenure

	<u>NBER Full Dataset</u>			<u>NBER ESOP Companies</u>		
	<u>Actual</u>	<u>Adjusted</u>	<u>Reduction in Gap</u>	<u>Actual</u>	<u>Adjusted</u>	<u>Reduction in Gap</u>
Managers	\$122,245	\$122,245	1.7%	\$194,895	\$194,895	8.9%
Others	46,368	<i>48,430</i>		61,204	<i>78,531</i>	
All Employees	58,281	58,281	6.0	83,304	83,304	50.3
All Employees (median)	16,000	<i>19,495</i>		22,500	<i>64,405</i>	
Growth of Stock Value per year of Service	\$1,269			\$8,369		
Sample Size	(21,929)			(3,793)		

Note: The 'tenure-adjusted' means for non-managers ("Others") and medians for all employees are italicized.



Table 4: Earnings and Difficulty in Replacing Earnings and Benefits  
in Shared Capitalist Companies and in General

	NBER Full <u>Dataset</u>	NBER ESOP <u>Companies</u>	GSS National <u>Sample</u>
<b>A. <u>Annual Earnings per Employee</u><sup>1</sup></b>			
Managers	\$ 120,989	\$ 94,575	\$ 60,542
Others	65,493	46,533	40,725
All Employees	73,012	54,009	43,257
10 <sup>th</sup> percentile	27,131	24,200	15,815
50 <sup>th</sup> percentile	51,800	46,500	31,396
90 <sup>th</sup> percentile	137,500	90,000	65,063
(Sample size)	(22,452)	(3,856)	(587)
<b>B. <u>Difficulty Replacing Income and Benefits</u><sup>2</sup></b>			
Managers	2.17 (4,042)	2.16 (734)	2.27 (26)
Others	2.31 (26,977)*	2.29 (4,450)*	2.14 (184)
All Employees	2.29 (31,019)*	2.27 (5,184)*	2.15 (210)

Notes: All subsamples are restricted to US-based employees of for-profit, private sector companies, who are 18 or over, usually work at least 35 hours per week and have at least one year of service with their employer.

1. All earnings from job (including overtime, bonuses and commissions). Sample sizes in parentheses.
  2. Respondents were asked "About how easy would it be for you to find a job with another employer with approximately the same income and fringe benefits you now have? Would you say (1) very easy, (2) somewhat easy, or (3) not easy at all?"
- \* Difference between NBER samples and GSS sample is significant at a .01 level of significance (one-sided test).

Table 5: Does Employer Stock Substitute for Pay?

A. <u>NBER Dataset</u>	<u>Ratio of Ownership Gains to Fixed Pay</u>	
<u>Dependent Variable</u>	<u>Full Dataset</u>	<u>Nine ESOPs</u>
1. Log fixed pay	.006 (.012)	.000 (.042)
2. Log total pay	.114** (.013)	.068 (.043)
3. Fixed pay relative to market (5 point scale: 1. below, ... 5. above)	.073* (.040)	.016 (.175)
4. Fixed pay percent of market (percent below/above market)	.765 (.585)	-.294 (3.05)
5. Total pay relative to market (5 point scale: 1. below, ... 5. above)	.218** (.041)	.431** (.159)
6. Total pay percent of market (percent below/above market)	3.313** (.690)	7.155** (2.925)
7. Difficulty replacing pay & benefits (3 point scale: 1. easy, ... 3. not at all easy)	-.002 (.024)	.088 (.090)
B. <u>GSS National Sample</u>	<u>Ratio of Ownership Gains to Earnings</u>	
<u>Dependent Variable</u>		
1. Log earnings	.109 (.150)	
2. Paid what you deserve (5 point scale: 1. much less, ... 5. much more)	.290 (.245)	
3. Fringe benefits are good (4 point scale: 1. very true, ... 4. not true)	-.601* (.290)	
4. Difficulty replacing pay and benefits (3 point scale: 1. easy, ... 3. not at all easy)	1.304 (.683)	

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Notes: Each entry involves a separate regression. The key independent variable is the ratio of the value of employer stock, divided by years of tenure, to annual earnings. All regressions include controls for sex, age, education, job tenure, hours worked, management, salaried, hourly, union membership and company fixed effects. Equations A. 3, 5 and 7 and B. 2, 3 and 4 are ordered probits; others are OLS. Samples are restricted as indicated in Table 3. Standard errors are in parentheses. \* and \*\* indicate  $p < .05$  and  $p < .01$  in a one-sided test of significance.

Table 6: Does Employer Stock Displace Other Wealth?

<u>Independent Variables</u>	<u>Dependent Variable: Log wealth</u>			
	<u>NBER Full Dataset</u>		<u>Nine NBER ESOPs</u>	
Value of employer stock in				
All plans	----	.873** (.017)	----	.447** (.035)
ESOP	.593** (.068)	----	.413** (.044)	----
401(k)	.587** (.072)	----	.328** (.051)	----
Stock Options	.507** (.010)	----	1.004** (.363)	----
ESSP	3.281** (.106)	----	1.293** (.177)	----

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Notes: All regressions include controls for earnings sex, age, education, job tenure, hours worked, management, salaried, hourly, union membership and company fixed effects. Samples are restricted as indicated in Table 4. Standard errors in parentheses. \*\* indicates  $p < .01$  in a one-sided test of significance.

Table 7. Distribution of Stock Ownership and Wealth

Wealth Class	NBER Employees Full Sample	NBER Employees ESOPs	GSS National Sample of Employees	Wolff 2001 (Households)
	<u>A. Share of Employer Stock</u>			<u>Share of All Stock</u>
Top 10%	67.0%	63.3%	92.8%	76.9% <sup>a</sup>
Next 50%	32.0	35.2	7.2	22.4
Bottom 40%	1.0	1.5	0.0	0.7
	<u>B. Share of All Wealth (Net Worth)</u>			
Top 10%	42.9%	46.4%	---	71.5% <sup>b</sup>
Next 50%	51.8	48.3	---	28.2
Bottom 40%	5.3	5.3	---	0.3

Note: NBER and GSS samples are restricted to U.S. based, full-time employees, age 18 and over with at least one year of service with their employer. NBER sample employees who reported that they did not know if they owned employer stock are excluded.

a. Wolff (2004), Table 13a.

b. Wolff (2004), Table 2.

Table 8. Pension Wealth: NBER ESOP Employees and All Households

	<u>NBER ESOPs Assets in All Plans<sup>a</sup></u>		<u>Wolff 2001 Estimates of Household Pension Wealth<sup>b</sup></u>	
	<u>Mean</u>	<u>Median</u>	<u>Mean</u>	<u>Median</u>
<u>Age 18 and over</u>	\$108,961	\$34,000	\$94,800	\$10,900
Percent in employer stock	69.2%			
Sample size	4,240			
<u>Ages 47-64</u>	\$178,591	\$60,000	\$170,800	\$50,000
Percent in employer stock	67.8%			
Sample size	1,226			

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Note: a. See note in Table 7. There are nine companies with majority owned ESOPs. Assets include employer and other stock in ESOPs, 401(k) plans (in all but one case), employer stock acquired from stock options (in one case), and Employee Stock Purchase Plans (in one case).

b. Value of employees' Defined Benefit and Defined Contribution pension plans. Wolff (2005), Table 11.