

When Workers Share in Profits: Effort and Responses to Shirking

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This paper summarizes new evidence from the National Bureau of Economic Research “Shared Capitalism” Project on the extent to which workers’ earnings depend on the performance of their firm or work group in the US and advanced Europe and on the impact of sharing arrangements on economic behavior. The evidence shows that: 1) a large and growing proportion of workers are covered by shared capitalism through worker profit-sharing, bonuses, or worker ownership of shares; 2) outcomes for workers and firms are higher under shared capitalism than under other work and pay arrangements; and 3) that worker co-monitoring helps overcome the free rider problem that arises when part of pay depends on the productivity and effort of all workers. [JEL Classification: J33]

The notion that capitalism works better when firms and workers share in the pecuniary rewards from the success of their firm and when they participate in decision-making has a long tradition in economic and social thought, going back to Alfred Marshall, John Bates Clark, James Meade among others. Many

* <freeman@nber.org>. This is a revised version of the “Angelo Costa” Lecture held at LUISS University, Rome, on January 15, 2008. The paper is based on joint work with KRUSE D. and BLASI J.R. The research papers on which it is based are in the NBER conference volume, edited by FREEMAN R.B., KRUSE D., and BLASI J.R., *Shared Capitalism at Work: Employee Ownership, Profit and Gain Sharing, and Broad-Based Stock Options*, forthcoming, 2009. I have made particular use of three co-authored papers. KRUSE D., FREEMAN R.B. and BLASI J.R., «Do Workers Gain by Sharing? Employee Outcomes under Employee Ownership, Profit Sharing, and Broad-based Stock Options»; FREEMAN R.B., BLASI J.R., MACKIN C., KRUSE D., «Creating a Bigger Pie? The Effects of Employee Ownership, Profit Sharing, and Stock Options on Workplace Performance»; FREEMAN R.B., KRUSE D., BLASI J.R., «Worker Responses to Shirking Under Shared Capitalism».

business leaders have also found attractive the notion that firms do better when they share the returns from success with workers. Governments throughout the advanced world have been sufficiently impressed with the potential of shared capitalism to give firms financial incentives for promoting worker ownership of shares and in some cases have required firms to pay part of wages in profit shares. The 1991 Promotion of Employee Ownership and Profit Sharing report by the EU (the “Pepper Report”) directed attention to profit sharing and employee ownership and called on member states to promote participation by employed persons in profits and enterprise performance.

To succeed in improving output, sharing arrangements must overcome the incentive to free ride that arises whenever someone gains only part of the reward from their activity. Why should an individual give full effort in an N person firm if only $1/N$ th of the payoff from that effort rebounds to the individual? It makes rational “prisoners’ dilemma” sense to put out minimum effort and gain part of the rewards from the effort of others – the suckers in prisoners’ dilemma terminology. If firms and workers did nothing to counteract the incentive to free ride, few if any firms would introduce shared compensation modes of payment. Those that chose sharing arrangements would presumably do no better than hierarchical enterprises that operated without any sharing arrangements.

The facts are otherwise. Section 1 of this paper documents that the proportion of workers covered by shared capitalist pay arrangements is large and growing in the US and European Union. Section 2 shows that firms with sharing arrangements tend to do better for workers as well as for the business than do firms without these arrangements. This raises the question: how do shared capitalist firms overcome the free rider problem? Section 3 shows that one way they overcome free riding behavior is through worker co-monitoring at work sites.

1. - Defining the Terrain

There are several ways in which firms share the rewards (and

risks) of business with workers in what we call shared capitalist arrangements:

Profit-sharing rewards workers based on the profit of the company by paying workers cash through bonuses on a yearly or more frequent basis or by placing the workers' share of profits in a retirement plan (called "deferred profit-sharing"). Sometimes profit sharing is paid to workers in company stock, so what is received as a profit share becomes employee ownership.

Gain sharing offers workers payments based on the performance of their work units rather than of the whole enterprise. These systems often measure performance in productivity or cost saving rather than in terms of profits. This means that non-profit enterprises, including government agencies, can do gain sharing while they cannot readily engage in profit sharing.

Employee ownership offers employees ownership of part or all of a firm through shares of listed firms or through comparable legal arrangements of non-listed firms. Countries often give tax privileges to employee ownership plans. In the US, the main vehicle is the Employee Stock Ownership Plan (ESOP) – which federal legislation established to allow companies to borrow money to fund worker ownership and repay in installments from company revenues. Under this scheme workers gain an ownership stake without investing their own money to buy the stock. ESOPs are tax privileged so that firms have an incentive to establish them even if ownership has no effect on productivity or other "real economy" outcomes.

Employee Stock Purchase Plans allow workers to buy stock with deductions from their paychecks with a discount from the market price. The United Kingdom tax code privileges this form of employee ownership. In the US employees can purchase stock through their company 401k plan, a retirement plan in which they make pre-tax contributions from their pay. Sometimes corporations match employee contributions to 401k plans with company stock.

Finally, *stock options* are a hybrid between profit sharing and employee ownership. A stock option gives the worker the right to buy the stock at a set price anytime during a specified period fol-

lowing the option grants. The employee can get the upside gain of a rise in the share price without the downside risk of losing part of their investment.

Table 1 shows the extent of shared capitalist arrangements in the US in 2002 and 2006. The data for the Table comes from questions on the General Social Survey (GSS) – a national probability sample survey conducted annually by the National Opinion Research Center of the University of Chicago – that the NBER placed on the survey. These questions have made the GSS the major source of information on these forms of compensation. In 2002 GSS obtained data on 1,145 employees in for-profit companies about the ways in which they were paid. In 2006 it obtained data for 1,081 employees in for-profit companies.

The line “any of the above” in the Table shows that nearly half of workers in US firms had some form of shared capitalist compensation in 2006. This was modestly larger than the share in 2002. Profit sharing was the most common shared capitalist mode of pay, followed by gain sharing, and then ownership of company stock and stock options. GSS data (not given in the Table) show that profit and gain-sharing bonuses were sizable. The

TABLE 1

PERCENT OF EMPLOYEES COVERED BY SHARED
CAPITALIST COMPENSATION SYSTEMS IN US, 2002 AND 2006

Profit sharing	2002	2006
In profit-sharing plan	33.5	38.4
Received profit share last year	23.8	30.2
Gain-sharing		
In gain-sharing plan	23.2	26.8
Received gain-sharing bonus last year	17.1	21.3
Own company stock	21.2	17.5
Stock options		
Hold stock options	13.1	9.3
Granted options last year	na	5.3
Any of above	43.1	46.7

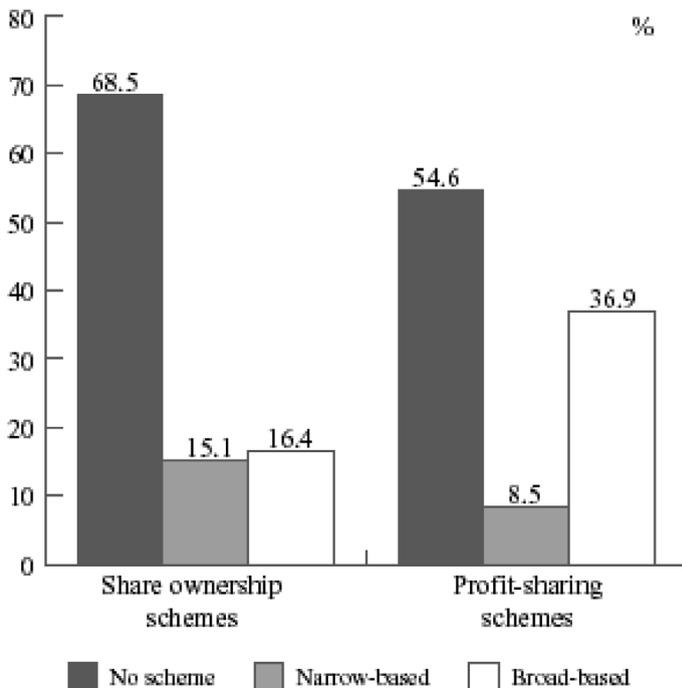
Source: tabulated by KRUSE D. - BLASI J.R. - FREEMAN R.B. from *General Social Surveys*; www.nceo.org/gss_2006_files/sheet001.html.

mean *ratio* of bonus to workers pay in 2006 was 10% while the median *ratio* of bonus to pay was 5-6%. The GSS data also show a high *ratio* of the value of ownership of company shares to salary: a mean *ratio* of the value of ownership of company shares to salaries of 57% and a median *ratio* of 25% (Kruse, Blasi, Freeman, chapter 4, Table 1).

Turning to Europe, Graph 1 shows the proportion of business units with 200 or more employees in advanced European countries that reported that they had “broad-based” profit sharing schemes or had a “broad-based” employee ownership scheme in

GRAPH 1

PREVALENCE OF SHARED CAPITALIST COMPENSATION AMONG
LARGE EU COMPANIES 1999-2000



Source: PENDLETON A. - POUTSMA E. - VAN OMMEREN J. - BREWSTER C., *Employee Share Ownership and Profit-Sharing in the European Union*, European Foundation for the Improvement of Living and Working Conditions, 2001.

2001. The term broad-based means that the plans cover many workers rather than being exclusive to top executives, though it does not mean that the plan covers all workers. The proportion of units with profit sharing generally exceeds the proportion with ownership schemes. Additional data for the EU's 2,500 largest business groups from the European Federation of Employee Share ownership (2008) shows that by 2007 80% of these huge firms had some such schemes the result of a massive logistic curve type growth that began in the 1980s. These firms employed about 32 million workers in 2007.

Italy ranks low in having shared capitalist modes of pay. In Graph 1 Italy is lowest among the countries in the proportion of large firms with profit sharing and is 3rd lowest in the proportion of large firms with share ownership. The European Federation data show that Italy's largest groups come closer to the European average in the proportion with shares schemes, though they still fall below the continent average. Having ownership schemes does not, however, reflect the extent of employment fi-

TABLE 2
FIVE OF TOP 10 EU MAJORITY EMPLOYEE-OWNED FIRMS IN ITALY

		Employees		
1	Mondragon Corporación Cooperativa	78,455	all industries, distribution financial services	ES
2	John Lewis Partnership	64,000	department stores and supermarkets	UK
3	Consorzio Cooperative Costruzioni	20,000	Domestic building	IT
4	Coveco – Consorzio Veneto Cooperativo	17,000	Building, civil engineering	IT
5	Conscoop	12,500	Building, civil engineering	IT
6	Manutencoop	12,000	Facility management	IT
7	Unipart	10,000	Logistics	UK
8	Arcadis	9,208	Ingénierie & services architecturaux	NL
9	Mott MacDonald	9,000	management, engineering, development consultancy	UK
10	Team Service	8,000	cleaning services	IT

Source: MATHIEU M., *European Federation of Employee Share Ownership*, 2006.

nancial involvement. Table 2 shows that Italian cooperatives place the country high in number of workers in *majority employee owned* firms.

The data in Graph 1 and Table 2 are not comparable with the US data in Table 1. The US data are based on surveys of a representative sample of workers not on a survey of large establishments or business groups. To obtain EU figures comparable to the US, I turn to the European Working Conditions Survey (EWCS), which asked *workers* the following questions about whether they were paid through shared capitalist arrangements:

— “What does your remuneration include?”:

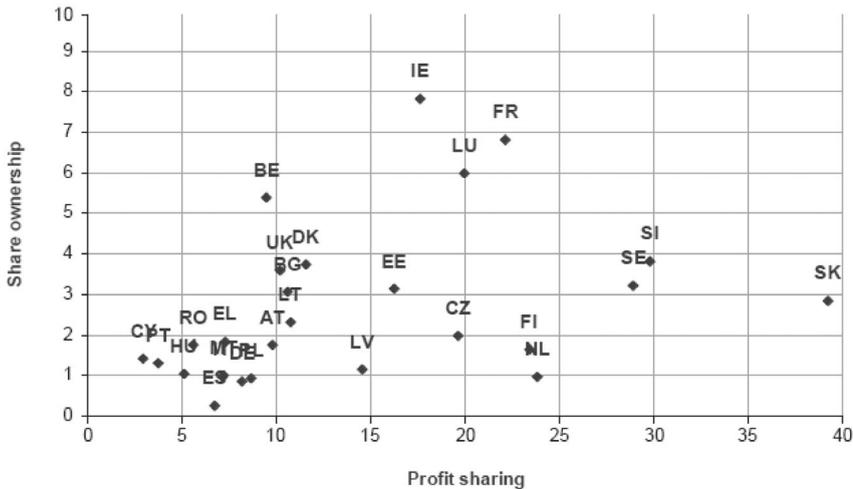
a) Payments based on the overall performance of the company where you work (profit sharing schemes);

b) Payments based on the overall performance of a group; income from shares in the company your work for?;

— “Thinking about the payments based on the overall performance of the company, are the payments based on the overall

GRAPH 2

LEVELS OF FINANCIAL PARTICIPATION IN THE EU
IN THE PRIVATE SECTOR (%)



Source: Fourth European Working Conditions Survey, 2005.

performance of the company calculated according to a predefined formula?”;

— “Do you receive these payments on a regular basis?”.

The EWCS covers representative samples of workers, who responded with a relatively high response rate, rather than from large enterprises, who had a smaller response rate that potentially biased it toward high rates of coverage. By differentiating coverage among workers, moreover the EWCS would invariably produce lower rates of shared compensation even within large enterprises that are likely to have schemes.

Graph 2 gives the European Foundation for the Improvement of Living and Working Conditions’ (2007) tabulations of shared capitalism in Europe from the 2005 Working Conditions Survey. It shows markedly lower rates of participation in share ownership and profit sharing for workers than those given in Graph 1 for large establishments and the 80% rate reported for the 2,500 largest business units. Critically, it shows much lower coverage of workers by shared capitalism in the EU than those given in Table 1 for the US. Comparisons of the 2005 ECWS with the earlier 2001 ECWS shows that, while shared capitalism is less common in the European Union than in the US, in the 2000s it increased more rapidly in the European Union than in the United States.

In both places, profit-sharing, employee ownership, and related sharing arrangements are sufficiently widespread to make

TABLE 3

CHANGES IN VARIABLE PAY AND CHANGES IN PRODUCTIVITY
AND HOW HARD PEOPLE WORK: THE VIEWS OF BRITISH
MANAGERS

Change in Variable Pay	Labour Productivity Up a Lot	How Hard People Work Up a Lot
Raise a Lot	21%	55%
Raise a Little	10%	44%
No Change	8%	40%
Lower	8%	40%

Source: FREEMAN R.B. - CONYON M.J. (2004).

this form of operating business more than a “niche” in the various economies.

2. - Shared Capitalism Effects on Outcomes

There is substantial production function literature on the effects of profit sharing and employee ownership on the outcomes of firms, as reviewed by Kruse and Weitzman, Blasi and Kruse, and Kruse. The production function studies find that firms with shared arrangements have better outcomes than otherwise comparable firms without shared capitalism, usually by modest amounts on the order of 2% to 5%. But the studies also show considerable variation among firms. In the US at least profit sharing tends to have larger effects on output than employee ownership. This presumably reflects the fact that some large firms introduce ESOPs primarily for financial reasons and do not treat workers as owners or partners in the operation of the business. It also presumably reflects the fact that workers do not gain the financial payoff from an ESOP until they retire, which for most will be many years in the future.

Table 3 presents evidence on the effect of shared capitalist arrangements on outcomes according to managers in the United Kingdom. It cross-tabulates management reports from the UK's Workplace Employment Relations Survey (WERS) on changes in “variable pay” (the survey's measure of sharing) and changes in labour productivity and management on how hard people work. The strong positive link between the variables is consistent with econometric calculations that control for diverse other factors between UK worksites and other data on the effect of shared capitalist arrangements on the performance of UK firms (Conyon and Freeman, 2002).

The NBER shared capitalism project obtained data from over 40,000 workers at hundreds of work sites and asked them about the extent of shared compensation and, separately, about their behavior and that of their fellow employees. These data differ from the WERS data in that they rely on worker rather than manage-

ment reports or production function data. Table 4 summarizes the results from multivariate regressions of diverse outcome variables on specified measures of shared capitalism and an extensive list of covariates.

Panel A shows link between outcomes likely to benefit the firm and shared capitalist compensation in terms of the sign of the estimated parameter on the shared capitalist variable, where a plus sign reflects a statistically significant relation that benefits the firm.

TABLE 4

ESTIMATED EFFECT OF SHARED CAPITALISM ON OUTCOMES
OF CONCERN TO FIRM AND WORKERS

<i>A) Outcomes that Benefit the Firm</i>					
	Profit sharing	Gain sharing	Ee. own.	Stock options	
Turnover	+	+	+	+	
Loyalty	+	+	+		
Willing to work harder	+	+			
Frequency of suggestions	+	+	+		
Absenteeism		-	+		
Taking action against shirking	+	+	+	+	
Culture for innovation		+	+	+	+
+ favorable effect					
- unfavorable effect					
<i>A) Outcomes that Benefit the Worker</i>					
	Profit sharing	Gain sharing	Ee. own.	Stock options	
Participation in decisions		+		+	+
Co. treatment of employees		+	+	+	
Supervision					
Training	+	+	+		
Pay and benefits	+	+	+	+	
Job security		+	+	+	+
Job satisfaction	+	+			

Source: Panel A: FREEMAN R.B. - BLASI J.R. - MACKIN C. - KRUSE D., *Creating a Bigger Pie? The Effects of Employee Ownership, Profit Sharing, and Stock Options on Workplace Performance.*

Panel B: KRUSE D. - FREEMAN R.B. - BLASI J.R., *Do Workers Gain by Sharing? Employee Outcomes Under Employee Ownership, Profit Sharing, and Broadbased Stock Options.*

The positive signs on turnover, for instance, means that the various forms of shared capitalism reduced turnover. With the sole exception of the impact of gain sharing on absenteeism all of the estimated coefficients are positive, indicating that shared capitalism benefits the firm in ways that should improve firm productivity and profits. Erika Harden, Douglas Kruse, and Joseph Blasi (2007) show that the shared capitalist variables are also positively related to indicators of innovative activity.

Some critics of shared capitalism have argued that what is good for the firm must be bad for workers. In their view shared capitalist compensation is simply disguised speed-up of work. Panel B of Table 4 summarizes the results of the NBER analysis on the link between shared capitalist compensation and outcomes likely to benefit the workers, again from multivariate analyses with an extensive set of covariates. The plus signs indicate statistically significant results favorable to workers. The only factor that is not significantly improved for workers is the extent of supervision, which is largely independent of shared capitalist forms of pay.

Finally, the NBER data set contains information on over 300 worksites that allows us to aggregate the data by worksite and then to relate the average reported extent of shared capitalism at the workplace to the average perception of co-worker effort and productivity at the workplace. This creates a stronger and more appropriate test of the link between shared capitalist pay and behavior than analyses of the relation between variables for individuals. At the individual level, a positive correlation between shared capitalism and outcomes could reflect differences between workers within a workplace rather than differences among workplaces. In the worst case, one worker could report lots of shared capitalist pay and work effort while a co-worker could report little shared capitalism and little effort. The result would be a strong positive correlation between shared capitalism and reported effort among individuals but no relation at the more appropriate establishment unit.

To deal with this disaggregation problem, we aggregated individual worker reports on various outcome variables and shared capitalist modes of pay into establishment level averages and examined the link between the establishment level variables. Graph

3 displays the scatter plot of observations for the site averages and shows the regression line linking them. The plot shows that the greater the amount of shared capitalist compensation at a work-site, the greater is the effort workers say co-workers give to the firm, the more they say co-workers are interested in how the firm is doing; and the more encouraging they say co-workers are to other workers. Additional analyses in Blasi, Kruse, Freeman (chapter 4) give similar results for other measures of outcomes likely to affect productivity.

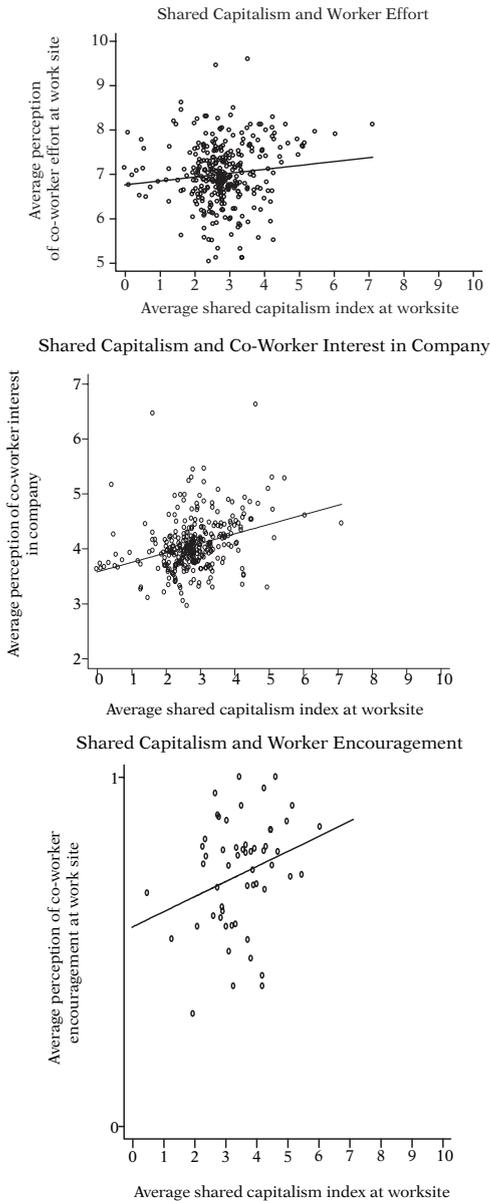
The studies of shared capitalism based on production functions and on management or worker reports of outcomes would be more convincing if they were based on an experimental design that eliminated the endogeneity of the choice of shared mode of compensation and related practices, but no firm or group of firms has altered its compensation practices in an ideal random way. While it is thus possible that observed relations reflect the impact of some unobserved factor, the collage of evidence of different types and across different countries is compelling. At the minimum, we know that shared capitalism is associated with positive economic outcomes. If we interpret the patterns as causal, the interesting issue is to find the mechanisms by which shared capitalist firms manage to overcome the incentives to free ride that could undermine the *modus vivendi* of sharing arrangements.

3. - Worker Co-Monitoring to the Rescue?

The NBER project focused on the hypothesis that worker co-monitoring was an important deterrent to free riding behavior and that it contributed to the success of shared capitalist enterprises. The hypothesis has two parts: 1) that workers are more likely to take action to reduce “shirking” behavior by fellow workers when they are paid through shared capitalist compensation than when they are paid purely on individual performance; and 2) that in turn worker co-monitoring or anti-shirking behavior improves worker activity and outcomes at workplaces.

GRAPH 3

RELATION BETWEEN SHARED CAPITALISM AND OUTCOMES AT THE LEVEL OF THE WORKSITE



Source: FREEMAN R.B. - KRUSE D. - BLASI J.R., *Worker Responses to Shirking*.

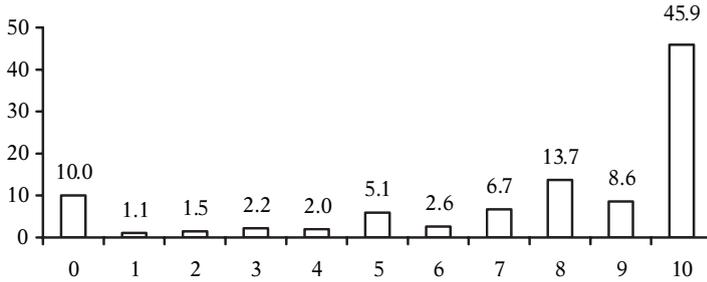
The first part of the hypothesis follows directly from rational responses to incentives. Workers should have different attitudes toward co-workers depending on the structure of the workplace and form of compensation. In a tournament race for promotion, any given worker has an incentive to encourage shirking by fellow employees. If a co-worker slacks off, this increases the chance that the non-shirking worker will win the promotion. In a piece-rate pay system workers will often discourage peers from going all out since management may then lower the rate per piece and harm the entire group. Shared capitalist compensation systems lie at the other end of the spectrum. They give workers reason to monitor the activity of fellow employees and to help them get up to speed at the workplace. When worker A receives part of her pay through profit-sharing or share ownership or stock options, worker B's failure to do his job "takes money out of A's pocket". Worker A and other workers would be better off if the shirker did his part.

The notion that worker co-monitoring may help explain the success of profit sharing and employee ownership is an old one, but until the NBER project there was no major survey of workers that asked about co-monitoring behavior, much less linked this behavior to the structure of work and form of compensation. To fill this gap in our understanding, the NBER project asked workers on the GSS and on the NBER survey of firms about the ease of observing co-workers' performance, and how they would respond to seeing fellow workers shirk. The first goal of our survey was to find out whether employees could observe fellow employees' work activity – which is a necessary precondition for acting against shirking. We asked: "In your job how easy is it for you to see whether your co-workers are working well or poorly? On a scale of 0 to 10 please describe with 0 meaning not at all easy to see and 10 meaning very easy to see".

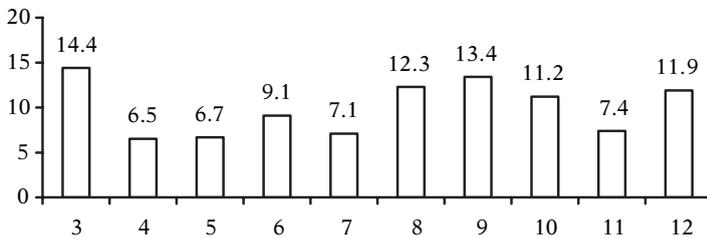
The top panel of Graph 4 displays the frequency distribution of answers from the GSS. The distribution is concentrated at the upper end. Forty-nine percent of workers gave the highest possible answer (10) about the ease of detecting how co-workers are doing, and another 28% giving answers in the 7-9 categories. Look-

GRAPH 4

A: GSS PERCENTAGE DISTRIBUTION OF WORKERS BY HOW WELL THEY CAN SEE WHEATHER CO-WORKERS ARE WORKING WELL OR POORTY



B: GSS FREQUENCY DISTRIBUTION OF SUMMATED RATING OF RESPONSES

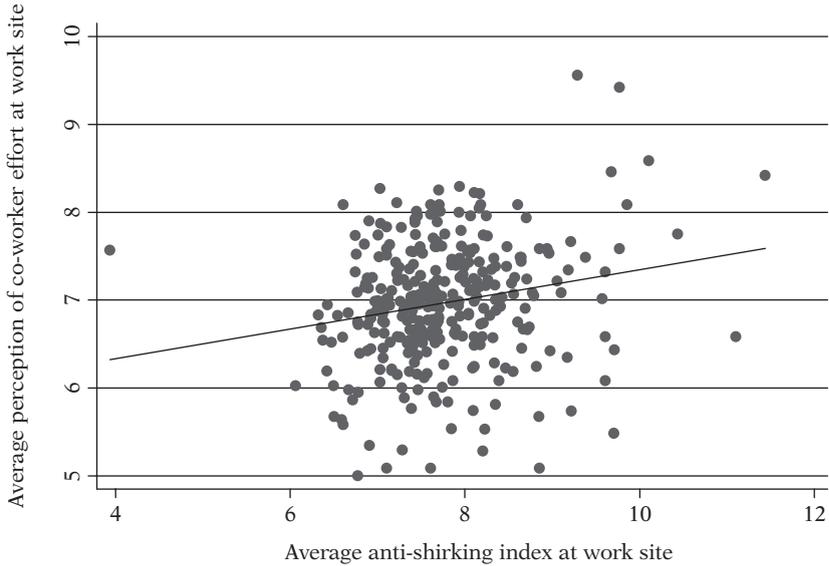


Source: FREEMAN R.B. - KRUSE D. - BLASI J.R., *Worker Responses to Shirking*.

ing at which employees report observing co-workers shows sensible variation in these responses among employees. Workers who answered with 7 or more to the question reported disproportionately that they worked in a team as opposed to working by themselves and that they relied on coworkers and supervisors for help compared to workers who answered 3 or less on whether they knew how co-workers performed (Freeman, Kruse, Blasi, chapter 2). In addition, 13% of those who answered 7 or higher reported that they are managers compared to 7% of those who answered 3 or less. We asked the same question in the NBER survey. The distribution of responses was less concentrated than the distribu-

GRAPH 5

THE RELATION BETWEEN ANTI-SHIRKING BEHAVIOR
AND WORK SITE EMPLOYEE EFFORT AND PERFORMANCE,
IN NBER DATA SET



tion in the GSS but even so 62% of respondents gave a response of 7 or more to the observability question.

Given that most workers can observe the effort of co-workers, what do they do if they catch someone shirking? We asked:

If you were to see a fellow employee not working as hard or well as he or she should, how likely would you be to:

- a) Talk directly to the employee;
- b) Speak to your supervisor or manager;
- c) Do nothing;

d) (*contained on only some company surveys*) Talk about it in a work group or team.

The responses use a four-point scale: not at all likely, not very likely, somewhat likely, and very likely. To summarize the responses to these questions, we formed a summated rating (Bart-

holemew *et al.*, 2002) index of anti-shirking behavior based on a 1 to 4 scale, where 1 measures the lowest intervention and 4 the greatest intervention. To form the index, we simply added the values of responses across questions so that the anti-shirking index ranged from 3 to 12 for the observations based on the A to C responses. In this metric a 12 means that the worker reported that it was very likely they would talk to the shirking employee, very likely that they would talk to the supervisor, and not at all likely that they would do nothing. A 3 means that they said it was very unlikely they would talk to the shirking employee, very unlikely they would talk to the supervisor, and very likely they would do nothing. The index varied from 4 to 16 for the sample that included the D response as well.

The bottom panel of Graph 4 summarizes the responses from the GSS. It shows great individual variation in anti-shirking behavior. If we organize the data into five bins, grouping the 3 and 4 responses, the 5 and 6 responses, and so on, the distribution is roughly uniform. There is also wide variation in the anti-shirking index in the NBER company survey data.

A critic might note that these questions are based on hypothetical situations: "... if you were to see ... how likely would you," and might wonder if the responses reflect actual behavior or not. To deal with this critique, in some company surveys we added a question, "Have you ever seen one of your fellow employees not working as hard or well as he or she should over an extended time period?" Fifty nine percent of the respondents said yes. We then asked what they in fact had done in response. Their answers correlated highly with the respondents' reported likelihood of taking this action. This comes as close to validating the potential worker behavior as one can do with a survey (Freeman, Kruse, Blasi, 2009, chapter 2).

From these data I conclude that most workers can tell when fellow employees are/are not shirking and that workers vary greatly in their likely and past response to co-worker shirking. The natural question to ask next is "Do workers show more anti-shirking behavior when they share in the profits of the enterprise?"

To answer this question, we regressed measures of anti-shirking behavior on a summated rating index of shared capitalism, using several questions about shared compensation, and of specific forms of shared capitalism entered as independent variables in a separate regression. All of the regressions include a host of covariates, such as the ease of observing co-workers, the nature of jobs, the extent of supervision, the size of the workplace (which show less anti-shirking behavior in larger workplaces, consistent with the 1/N free rider pressure). The summary of results in Table 5 indicates that the index of shared capitalist compensation is significantly positively related to anti-shirking behavior in both the national GSS survey and the company-based NBER survey (except for the likelihood of talking in a work group in the GSS). However, the particular measures that are significant differ somewhat between the data sets. In the GSS, the *presence* of profit sharing and gain sharing are the most important determinants of anti-shirking behavior while in the NBER data the *intensity* of profit sharing and gain sharing matters most. The NBER results show a strong effect of the profit/gain sharing bonus size and of stock option holding and owning company stock on anti-shirking behavior.

Serendipity provided us with another test of the posited impact of shared capitalism on anti-shirking behavior. In the midst of our survey, one firm announced that they intended to introduce a new profit-sharing plan. They agreed to our administering the survey before the firm introduced the new plan, and six months later. The introduction of the profit-sharing plan led to a jump in the percent of employees saying they are eligible for profit sharing from 59% at the first survey to 88% at the second survey. Apart from this, only two variables in the survey changed significantly between the surveys: the percent that said they were very likely to talk to a shirking co-worker increased from 42% to 55%; and the percent that said they would do something about a shirker because poor performance would hurt the bonus or stock value increased from 39% to 56%. That only these variables changed between the surveys points toward a positive effect of profit sharing in attempts to combat co-worker shirking.

3.1 *Outcomes of Anti-Shirking Activity*

What happened as a result of anti-shirking activity?

Thirty five percent of the workers said that the employee who was not working well resented it. But larger proportions said that other employees appreciated the action (45%) and that the supervisor appreciated it (40%). Just over one-third said that the employees' performance improved (36%) while nearly the same proportion said that the employees' performance did not improve. This could be viewed as a moderately successful intervention, assuming that the shirking employees' performance did not worsen, which we unfortunately did not ask.

But anti-shirking activity could have a much broader impact on workplace behavior than this analysis of the shirking worker would imply. Knowing that co-workers are likely to do something if they see signs of shirking should itself reduce shirking and the need for co-monitoring interventions. There is a potential equilibrium where the threat of anti-shirking activity reduces shirking to zero and reduces observed anti-shirking behavior to zero as well. Our study does not have hard performance data linking the anti-shirking behavior to outcomes, but it shows that several measures of co-worker and facility performance are highly related to anti-shirking behavior. Among individual workers, those who report a higher likelihood of talking to a shirker, and a lower likelihood of doing nothing, rate their co-workers' effort higher, report that workers tend to encourage each other, and rate their facility at doing better on five measures of performance. Calculating site level averages, we found that work-sites with higher average scores on the anti-shirking index also had significantly higher average evaluations of workplace performance. This is illustrated in Table 5 for the employees' evaluations of co-workers performance. In additional analyses, we have found equally strong results with other measures as well (Freeman, Blasi, Kruse, 2009, chapter 2).

In sum, the evidence suggests that anti-shirking behavior by workers has positive consequences for worker effort and workplace performance.

TABLE 5

ESTIMATED EFFECT OF SHARED CAPITALISM ON ANTI-SHIRKING BEHAVIOR IN TWO DATA SETS: GSS OUTCOMES OF CONCERN TO FIRM AND WORKERS: SIGNIFICANT OF MEASURE OF SHARE

Measure of anti-shirking behavior or form of anti-shirking behavior	GSS- National Survey	NBER Company Survey
<i>Effect of index of shared capitalism on</i>		
Anti-shirking Index	+	+
Any Profit-gain sharing	+	
Profit-gain sharing share of salary		+
Any Stock options		+
Stock options as share of salary		
Employee ownership		+
Ownership as share of pay		
Mode of Anti-shirking behavior		
Talking to shirker	+	+
Talking to supervisor	+	+
Talking in group meeting		+

Source: FREEMAN R.B. - KRUSE D. - BLASI J.R., *Worker Responses to Shirking*.

3.2 *Why do Workers Co-Monitor?*

As the reader has probably noticed, there is a problem with the story thus far. Shared capitalism may work in part because worker co-monitoring reduces shirking behavior but why should anyone monitor fellow employees? The costs of intervening with the shirker fall on the intervener but that person gets only part of the benefit of the monitoring activity (in an N worker group the worker who intervenes gains 1/Nth of the benefit going to workers and none of the benefit that goes to capital). The free rider problem has not been defeated but rather moved to another domain of behavior: from shirking *vs* working to monitoring and intervening with shirkers *vs* remaining silent.

One possible reason why some workers intervene to help or pressure co-workers to improve their performance is that this may materially benefit them. Fellow workers may appreciate that

TABLE 6

REASONS WORKERS GAVE FOR TAKING ACTION OR DOING
NOTHING AGAINST SHIRKERS AT THEIR WORKPLACE

	All (1)	Lower (2)	Upper (3)	Signif Effect of SC
<i>Why you might do something</i>				
I like helping others	44.9%	47.2%	42.8%	
Employee might help me in the future	31.0%	32.0%	29.7%	
Poor performance will cost me and other employees in bonus or stock	42.9%	32.0%	58.2%	yes
Other employees appreciate it when someone steps forward	23.9%	19.9%	32.0%	yes
Want to keep work standards high	46.6%	41.6%	58.9%	yes
Employee's poor performance could affect my own job	55.9%	53.2%	61.3%	yes
number of workers	32,386			
<i>Why you might do nothing</i>				
Employee not working well would resent it	41.3%	37.9%	44.7%	yes
Other employees would react poorly	23.4%	24.3%	21.8%	
It's the supervisor's job, not mine	44.7%	45.0%	39.7%	
Some other employee will probably take action	8.4%	10.5%	6.1%	
There's no financial benefit for me	7.7%	10.2%	4.9%	yes
Nothing in it for me personally	11.0%	13.3%	8.0%	yes
number of workers	30,363			

Source: FREEMAN R.B. - KRUSE D. - BLASI J.R., *Worker Responses to Shirking*.

worker A intervened with the shirker and look upon A as a leader in the workplace. Management may rate the worker who intervened more highly than other workers, and take this into account in promotions. On the firms behalf, many managements seek to develop a corporate culture in their firm that emphasizes company spirit, promotes group cooperation, encourages social enforcement mechanisms, and so forth (Weitzman and Kruse, 1990; Blasi, Conte, and Kruse, 1996; Blasi, Kruse, and Bernstein, 2003, pages 226-228).

One way to gain insight into the reasons workers engage in anti-shirking behavior is to ask them. The NBER survey asked why workers might or might not intervene with a shirking co-worker. Table 6 presents responses to this question. Over half of workers said they would be likely to do something because the employees' performance could affect their own jobs (56%). Almost half of workers said they would do something because they want to keep work standards high (47%), which I interpret as seeking to maintain a cooperative solution to reinforce high work norms. Almost as many workers expressed their concern for own financial well being, saying the poor performance would lead to lower bonus or stock value (43%). Forty-five percent said they simply like helping others and 31% said the employee might help them in the future.

Critical to our analysis, the reasons workers gave for intervening with shirkers are related to their participation in shared capitalism. For example, the percent saying that poor performance would lead to lower bonus or stock value is almost twice as high among those with a high value on the shared capitalism index (58%, in col. 3) than to those with a low value on the index (32% in col. 2). Similarly, the former group is more likely to say they would intervene with a shirker to keep the work standard high (59% compared to 42%). Column 4 shows that the shared capitalism index is positively correlated with five of the reasons for taking action.

Turning to reasons for not taking actions against shirkers, forty-five percent of workers who said they would not take action ascribed their behavior in part to the view that it was the supervisor's job. Forty-one percent expressed fear that the shirking employee would resent it. Twenty-three percent feared that other employees would react poorly. Eight percent said that some other employee would probably take action. Again, these responses are related to the mode of compensation. Shared capitalism is a strong predictor of the fear that the shirking employee would resent the action, perhaps because the intervener would be seen as acting out of a financial concern rather than concern for the worker. The shared capitalist index also predicts a lower likelihood that the

employee will say there is no financial benefit or “nothing in it for me personally”.

Evidence that people behave in ways that go beyond the standard model of a rational optimizing agent is not, of course, unique to anti-shirking behavior. In prisoner dilemma games, participants almost always cooperate more than is rational, in ultimatum games, participants appear to weigh “fairness” heavily in behavior, and individuals donate in to charity and volunteer their time, when *homo oeconomicus* would led Nigel do it. Fehr and Gächter (2000) have found that individuals punish defectors in laboratory experiments even when it is not in their individual self-interest to do so due to norms of reciprocity that many hold strongly. Anthropologists report that voluntarily “policing” cooperation occurs in many societies, which could mean that it is hardwired through evolution. Some economists have suggested how ostracism can be effective in promoting cooperation (Hirshleifer and Rasmusen (2003). Fudenberg and Maskin (1986) show how the free rider problem can be overcome in an ongoing relationship by a cooperative agreement among participants.

Whatever its underlying cause, anti-shirking behavior and other deviations from economic rationality have strong implications for the viability and success of shared capitalism.

4. - Conclusions

The NBER study of firm and worker performance when firms share profits with workers gives a reasonably favorable picture of profit sharing, gain sharing, employee ownership, and other forms of shared capitalism. Using new questions on the nationally representative GSS and on the NBER survey of individual firms, we have found that most workers believe that they can readily detect shirking by fellow employees; that those paid by some form of “shared capitalism” are more likely to act against shirking, and that workers in workplaces where there is more anti-shirking behavior report that co-workers work harder, encourage other work-

ers more, and that their workplace facility is more effective in ways related to productivity and profits. Those data sets and others show that shared capitalist arrangements are large and growing in the US and EU. The conclusion seems inescapable: shared capitalism has become a substantive successful part of modern capitalism.

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