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PROFIT SHARING—CAN IT WORK?

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1. Introduction

IN July 1986 the British government published a Green Paper proposing important changes to the way workers are paid. This government initiative has been stimulated in part by the belief that something has gone wrong with the 'wage system', under which employees are paid a roughly fixed wage and unemployment fluctuates severely. The Green Paper argues that Britain's economic prospects would be improved by a move to a method of remuneration which would make pay more flexible.

There are at least two ways to have workers' remuneration change more readily with firms' commercial performance. One is to link wages to profits by using cash-based profit sharing (where workers are made cash payments which vary with their employer's profitability). A second is to have workers paid partly in their firm's own shares. At present Britain provides certain tax advantages to the latter.

In this paper we attempt to assess the case for a radical reform of the remuneration system. We begin with an examination of the theoretical arguments, and then turn to the empirical evidence.

2. The macroeconomic role for profit sharing

2.1. *The background*

There seems little doubt that it is Britain's disappointing macroeconomic performance which has stimulated government interest in the possible macroeconomic role for, and microeconomic effects of, profit sharing. Unemployment now stands at approximately 3.3 million (it would be higher still, but for recent changes in definition) compared to 0.3 million in 1960. Yet the real wage rate in Britain continues to rise faster than productivity, and there is a widely held belief that workers are being priced out of jobs. The latest and best empirical research supports this view and provides measures of the responsiveness of aggregate employment to the cost of labour. Numerous studies by economists now show that, put crudely, a 1 per cent rise in the real wage leads eventually to an approximate 1 per cent fall in employment. This result emerges from Layard and Nickell (1985a, 1985b, 1986), Newell and Symons (1985), Bean, Layard and Nickell (1986) and Carruth and Oswald (1986), *inter alia*. Similar findings can be seen throughout the articles in Greenhalgh, Layard and Oswald (1983) and the Unemployment symposium issue of *Economica,* 1986.

We have benefited enormously from discussions with, and comments from, Laurie Brennan, Peter Elias, Saul Estrin, Felix Fitzroy, Dan Mitchell, Peter Sinclair and Sushil Wadhwani.

It has been suspected for some time that the unconstrained behaviour of wage rates can produce undesirable results. Ten years ago the (Labour) government of the day attempted to use a statutory wages and incomes policy to influence pay. That is now believed by some to be politically unacceptable, so the search has started for new ways to intervene in the labour market. Advocates of profit sharing and employee share ownership programmes take the view that what is required is a change in the very method of remuneration.

It is natural to begin with an examination of what economic theory suggests about the possible consequences of 'sharing' arrangements. That is what Section, 2.2 does. The following Section, 2.3, summarises the empirical evidence. It describes tests done—by ourselves and others—of the various theories of profit sharing and employee share ownership.

2.2. *Theoretical underpinnings*

The macroeconomic case for sharing schemes has been dominated by the work of Martin Weitzman. In *The Share Economy,* published in 1984, and in numerous articles, especially 'The Simple Macroeconomics of Profit Sharing' in the 1985 *American Economic Review,* Weitzman outlines a theoretical argument in favour of remuneration systems based partly upon profit sharing. When workers are paid fixed wages, the author argues, an economy automatically behaves in an unsatisfactory way. Changes in demand or in world prices generate large fluctuations in employment; economic cycles occur and needlessly high unemployment is produced. The author believes that the way around this is to "vaccinate capitalism against stagflation". This would be achieved, Weitzman contends, by switching to a world in which workers' wages are tied explicitly and substantially to their employers' profit levels. Outside disturbances, according to Weitzman, then merely alter wages and prices, and unemployment is avoided.

Weitzman's 1984 book is deliberately polemical. It contains no formal theoretical framework and nothing an economist would regard as convincing empirical evidence. The rigorous version of the argument is the 1985 paper, although there is again no empirical proof. In it a formal model of the economy is constructed which is used to discuss the economics of profit sharing.

The Weitzman argument is probably widely misunderstood. Most of those who propound the merits of sharing schemes and cite Weitzman (1984) approvingly do so, in our view, for quite different reasons from the author. In fact there are three main ways to make a macroeconomic case for profit sharing and similar ideas. They may be described as:-

(i) the morale and productivity argument
(ii) the wage flexibility argument
(iii) Weitzman's macroeconomic argument.

It is useful and topical to begin with the third.

Martin Weitzman's principal idea is that it might be possible to create a world in which there is constant excess demand for labour. Consider a typical East European nation in which there are always shortages of goods, prices do not move to clear markets and queuing is part of life. This is, in a nutshell, exactly what the author hopes might be possible in the *labour* markets of the industrialised West.[1] Firms in such a world could never get quite as many employees as they would like; they would continually queue up for the few available spare workers. Small macroeconomic shocks would then be quite harmless because the general shortage of workers would always exist. To quote Weitzman:

> "Although share and wage systems have identical resource-allocation patterns in stationary equilibrium, there is a marked difference in the degrees of tension of their respective labour markets. The wage system has supply *equal* to demand in the labour market. A wage firm wants to hire exactly as much labour as it is hiring under its current wage contract. But the share system has demand for labour *greater* than supply of labour. A share firm always wants to hire more labour than it is actually able to hire . . ." (1984, p. 91)

Although obviously extreme, this is a very original idea. That it occurred to Martin Weitzman may perhaps be because his professional work until recently was focused primarily on the study of the economies of the Eastern Bloc.

How could we create an economy in which there were perpetual shortages of labour? One way would be to make labour extremely cheap, which would induce firms to hire more labour than otherwise. One difficulty here is that workers must be paid enough to persuade them to work, another is that there would be undesirable effects on income distribution. The ideal, therefore, is a remuneration system in which the employer has to pay only a small amount for each extra worker, and where that extra individual's total pay is made up to the required amount by some other method. The Weitzman solution is to make an employee's remuneration the sum of two such components. First, there is a base wage as paid under the normal remuneration system. Second, there is a profit-related amount, the share, which is some proportion of the per capita profit earned by the company. The firm will wish to employ any worker who would contribute in extra sales revenue more than the base wage—because any profit produced above that base wage will be distributed in part to the company. Hence the trick for the 'sharing economy' to be successful is to ensure that base pay is sufficiently low that firms will be unable to find as many employees as they would like. In this kind of world, unemployment disappears. It is not clear, however, that those politicians and others who believe in the promotion of sharing schemes have anything like this in mind. The other and more popular ways to provide a rationale for profit sharing programmes are to

[1] We owe this point to Saul Estrin.

show that they either induce genuine wage flexibility or raise productivity by changing workers' attitudes.

The wage flexibility argument is the most straightforward and is somewhat like the Weitzman approach. If a sharing remuneration system worked efficiently, firms would have much less incentive to sack workers in a slump. An extreme example would be that of a company which employs a single salesman who works on a contract which says that he or she will receive one half of any profits. A reduction in sales, caused by a slump, will not automatically mean redundancy for this individual. Although disappointed by the fall in its own profits, the firm will still find it attractive to keep on the salesman. Both sides gain or lose as economic conditions alter.

In many ways it is the final possibility, the productivity argument for sharing schemes, which is the most tantalising. A rigorous account of it has yet to appear in this part of the literature, but the idea is a simple one. In a small firm where one individual's own efforts affect the whole enterprise's profit, the introduction of a profit sharing policy might encourage each individual to work harder. That this incentive argument might, in this case, be effective is hard to dispute. For a large organisation, however, it seems unlikely that there would be significant gains. Workers would be well aware that their individual efforts could never materially affect company profits.

The only obvious way to object to such pessimism is to claim that, after the implementation of a profit sharing scheme, workers' attitudes would change. If individuals do not behave in a rational and selfish way, balancing private gains with the private costs of higher effort, sharing schemes have a much greater chance of raising productivity. Such a view of human nature would be taken by certain psychologists. On this view a sharing arrangement might so improve the climate of industrial relations that employees would, perhaps unconsciously, improve their performance.

James Meade has recently proposed that the conventional wage system needs to be modified. Meade (1986a,b) argues that much of Britain's economic problem stems from "the sense of alienation between 'us', the workers, and 'them', the capitalist bosses". This difficulty would be dramatically reduced, he believes, by moving to a 'sharing economy.' Meade's suggestion is that workers should receive special share certificates in their own company, and that if necessary new workers should be hired on lower wage scales than existing employees.

There is now much other theoretical work on the economics of profit sharing and related ideas. This literature includes Bradley and Smith (1985), Estrin (1985), Grout (1985), Hart (1983), Jackman (1985), Kovenock and Sparks (1985), Nuti (1985), and Samuelson (1977). Although these differ in detail, all fall within the three-argument classification suggested earlier. Related work includes Hart (1983) and Oswald (1982, 1986).

Theoretical ideas ultimately need to be tested empirically, but it is possible before that to consider theoretical objections to those ideas. In the

case of profit sharing schemes, there are a number of standard points, which for brevity are simply listed below.

1. Sharing programmes expose workers to a significant amount of income risk. This is ignored by Weitzman and nearly all the other writers in this literature, yet it is clearly a central part of union objections to income sharing arrangements.[2]
2. Under profit sharing, current workers will wish to prevent the firm from hiring extra individuals (which is not a difficulty under a conventional wage system), because any expansion in employment drives down the existing employees' remuneration.
3. If profit sharing is such a good thing, why is it necessary to subsidise it? Firms ought to see that it is in their own best interests. The reason why governments should become involved is not explained successfully in the literature although it is sometimes claimed, perhaps sensibly, that trade unions and firms need to be encouraged to take into account the interests of the unemployed.
4. Weitzman's claims for the attractiveness of the share economy rest upon the notion of an equilibrium in which there is continual excess demand for labour. This is not easy to take seriously. Competition amongst firms to hire the limited quantities of labour would naturally and gradually force up the wage level. The familiar wage system, in other words, might be expected to reappear.

There are also practical objections.

5. If the wage system is efficient, purely cosmetic sharing schemes may grow up. Significant economic resources may be needed simply to police any government subsidies of tax concessions.
6. Unions which agree to profit sharing are likely to want some control of the workplace, because under profit sharing programmes they are more like partners in the enterprise.
7. It seems undesirable to encourage workers to invest financial capital in their own firm's shares, because their human capital is already tied up in the enterprise. It is a standard point that risk averse agents prefer a diversified portfolio.

Similar objections are discussed in detail by Meade (1986b) and Wadhwani (1986). Mitchell (1986) is much less pessimistic.

2.3. *Empirical evidence*

In this section we examine the empirical evidence that exists on the role and influence of two broad forms of 'sharing' remuneration schemes. One is

[2] The implicit contract literature (Rosen (1985), for example) makes an interesting contrast. The principal *raison d'etre* of that literature has been that workers' aversion to risk makes fixed wage contracts optimal. It is curious that Weitzman and other proponents of profit sharing have disregarded all this influential work.

profit sharing, under which an employee receives a payment which depends on the size of the employer's profits. The second is employee share ownership, under which workers receive, or have an option to purchase cheaply, the shares in the employing company. In some cases firms make profit sharing payments in the form of shares which cannot immediately be sold. Initially we examine the rather limited amount of evidence that exists for the United Kingdom. We then draw comparisons with the evidence from other countries such as West Germany, Japan and the United States where profit sharing tends to be more prevalent.

(1) *United Kingdom*

Various governments in the United Kingdom have tried to encourage profit sharing and share ownership. The Finance Act of 1972 provided tax advantages for certain executive share options and for share based profit sharing schemes, whilst the 1973 Finance Act extended to all employees tax advantages which were related to Save As You Earn (SAYE) contracts. The statutory wages and incomes policy referred to earlier suspended these schemes via the Finance Act of 1974. But there then came a succession of Finance Acts which all made significant changes and provided extra tax relief, notably the Finance Acts of 1978, 1980, 1982, 1984 and 1985. (For further information see Outram (1985), Bradley and Gelb (1986) and Creigh, Donaldson and Hawthorn (1981).) Currently there are three kinds of approved employee share schemes which attract tax relief.

(a) Share schemes introduced in the 1978 Finance Act covering all employees. As can be seen from Table 1, by December 1985 the Inland Revenue had approved 510 schemes out of the 708 submissions it had received. The early growth in these schemes was partly the result of companies such as ICI, which already practised profit sharing, taking up a the tax concessions after 1978 for approved schemes (Incomes Data Services, 1986 p. 8).

TABLE 1
Submissions to the Inland Revenue (cumulative totals).

	Finance Act 1978			*Finance Act* 1980		
	Submitted	*Dropped*	*Approved*	*Submitted*	*Dropped*	*Approved*
Up to March 1979	96	—	3	—	—	—
1980	228	—	117	—	—	—
1981	327	—	210	82	—	22
1982	400	—	278	195	—	137
1983	476	89	344	267	12	215
1984	552	107	392	362	20	288
1985	635	116	462	516	27	403
Up to Dec. 1985	708	133	510	597	45	499

Source: Incomes Data Services (1986, p. 8).

TABLE 2
Distribution of participating employees by age of share ownership scheme in the private sector.

Age of scheme	*% of all participating workers*
Less than 1 year	16.0
1 year/less than 2 years	22.3
2 years/less than 10 years	29.1
More than 10 years	32.3
Not stated	0.3

Source: Blanchflower and Oswald (1986).

(b) Savings related share option schemes for all employees, introduced in the Finance Act of 1980. Table 1 illustrates that by December 1985 the Inland Revenue had approved 403 out of the 516 proposals submitted to it under this legislation.

(c) Discretionary share option schemes introduced in the 1984 Finance Act. By December 1985, 1,831 executive schemes had been submitted to the Inland Revenue and 1,210 had been approved.

There are no reliable estimates of the large number of companies who operate their own non-tax concessionary schemes. These usually take the form of cash based profit sharing schemes covering all employees.

The most comprehensive set of estimates of the number of *individuals* covered by share ownership schemes is available from the 1980 Workplace Industrial Relations Survey (WIRS). This was a nationally representative survey of approximately 2,000 establishments of at least 25 employees (full and part-time) in both the private and public sectors.[3] Managers were asked to report whether or not a share ownership scheme operated in their establishment. If a scheme was operated, managers were asked when it was introduced, the number of individuals who were eligible and the number who actually participated in the scheme. Table 2, based on the survey, confirms the fact that share ownership schemes have become more common since 1978. Despite the recent growth, however, in 1980 one third of all participating workers were in schemes more than ten years old. Table 3 reports the distribution by industrial sector of British workers in share ownership schemes. They were particularily important in chemicals; retail food; mining, quarrying and construction; printing and banking. They were especially unusual in shipbuilding; post and telecommunications; and paper. Roughly ten per cent of workers in the private sector were eligible to participate in such schemes by 1980 and half of those actually did so. Data were not available on the average value, or the variation in the value. of holdings across individuals.

[3] For further details of these data see Daniel and Millward (1983), Blanchflower (1984) and Blanchflower and Corry (1986).

TABLE 3
Coverage of share ownership schemes across employees.

	% employees eligible to participate	*% of eligible employees who participate*	*Number of employees who participate* (000's)
Food	13.3	19.9	13.5
Drink & tobacco	15.0	60.4	24.6
Chemicals	21.4	80.3	69.9
Metal manufacture	7.2	7.1	2.2
Mechanical engineering	3.8	13.4	4.5
Instrument engineering	3.4	—	—
Electrical engineering	10.1	0.7	0.1
Other electrical	7.9	36.9	17.1
Shipbuilding	—	—	—
Motor vehicles & tractors	11.1	41.6	14.8
Other vehicles	4.9	27.6	3.3
Metal goods n.e.s.	12.9	26.8	15.7
Man-made fibres, spinning & weaving	—	—	—
Other textiles and leather	7.8	2.7	0.7
Clothing & footwear	3.2	100.0	7.9
Bricks, pottery & glass	11.8	23.8	5.2
Timber & furniture	16.4	14.0	6.2
Paper	—	—	—
Printing	5.1	46.2	35.5
Other manufacturing n.e.s.	0.1	40.2	0.8
Mining, quarrying & construction	5.5	76.2	32.9
Gas, electricity & water	2.0	100.0	6.4
Road transport	1.2	14.3	0.4
Rail, sea & air transport	2.8	78.0	8.2
Posts & telecommunications	—	—	—
Wholesale distribution	12.7	59.6	25.0
Retail food	10.9	30.5	10.0
Other retail distribution	28.0	69.1	95.2
Dealing in materials	6.0	11.4	1.5
Insurance	13.8	63.2	12.4
Banking	55.0	65.8	65.2
Other business services	11.5	77.6	22.7
Education	—	—	—
Medical services	—	—	—
Other professional services	0.5	100.0	1.6
Hotels & pubs	1.3	96.1	5.5
Other miscellaneous services	—	—	—
Other services	—	—	—
Private manufacturing	9.0	40.6	222.0
Private non-manufacturing	10.5	64.5	287.0
Private sector	9.6	51.3	509.0

Source: Blanchflower and Oswald (1986) and 1980 Workplace Industrial Relations Survey—own calculations.

What do we know about the effects of these and similar schemes? This is now an active area of research in economics and a number of papers have already appeared.

Blanchflower and Oswald (1986a,b) have examined a sample of 637 manufacturing establishments, drawn from the 1980 WIRS data, in an attempt to determine whether or not the existence of share ownership schemes had beneficial effects on employment and investment. They could find no rigorous statistical evidence that the existence of such schemes affected firms' decisions about the number of jobs. This was true whatever the age of the scheme or the proportion of individuals who actually participated. Similarly, the presence of share ownership schemes was found to have had no significant influence upon an establishment's investment behaviour over the preceding two to three years.

In a recent paper Estrin and Wilson (1986) studied 52 firms in the UK engineering and metal working sectors over the period 1978–1982. The main concentration of firms was in the West Midlands and West Yorkshire. Five firms had introduced a profit sharing scheme under the 1978 Act and sixteen had their own non-tax concessionary value added scheme; one firm had both. Typically, bonuses paid were around 3 per cent of pay, although they reached 10 per cent in some firms. As would be expected, these bonuses varied significantly with the firm's economic situation over the trade cycle. In contrast to the results on share ownership reported by Blanchflower and Oswald, Estrin and Wilson found that the introduction of profit sharing increased employment in their sample of firms by around 13 per cent. In addition, total remuneration in firms with profit sharing was found on average to be 4 per cent lower than in firms without profit sharing. These estimates are surprisingly large. Because they are based upon a small sample of firms drawn from a narrowly defined sector, it is difficult to conclude anything about the overall representativeness of the authors' results. It should be said, however, that the authors themselves warn that their results should be treated as preliminary.

> "These findings are fairly strong evidence that the macroeconomic benefits for employment predicted by Weitzman may also hold at the enterprise level. The shift in employment may in part be associated with improved motivation and labour productivity, but the combined results of increased employment and reduced remuneration is consistent with Weitzman-type effects or a weakening of union power. However, these findings are preliminary and shed no light on the important proposition about the adjustment of profit sharing firms through the trade cycle. Further research is required before any final evaluation of the profit sharing proposal can be made." (1986, p. 31)

Richardson and Nejad (1986) analysed the impact of financial participation schemes on share price movements over the period 1978–1984 using a sample of 41 firms chosen from the UK multiple stores sector. This sector was chosen because it is reasonably competitive, relatively free from foreign

competition and unlikely to have its profit levels affected by the vagaries of the exchange rate. By the end of 1984, out of their sample of 41 firms, 23 were operating at least one employee share ownership scheme. Their main finding is that companies which introduced the schemes had a 5 per cent higher share appreciation than those that did not. This difference was statistically significant at the 10 per cent confidence level. However, it is questionable that one can infer from these results that share ownership schemes raise share prices. Indeed, as Richardson and Nejad point out:-

> "It may well be that the innovating firms introduced, or extended, financial participation as part of a much wider review of their management strategy. In this case, the use of financial participation might be an excellent index of improved management but not the sole cause of, or even an important contributor to, improved performance. Employee share ownership may, therefore, have been merely one element among many". (1986, p. 24)

It is apparent, therefore, that the limited amount of quantitative work that exists for the UK has produced conflicting evidence on the importance of sharing schemes in altering company performance. The evidence from a number of studies which have provided qualitative data on the effects of profit sharing is rather less equivocal. Wallace and Hanson (1984), for example, found that "profit sharing does significantly improve employee attitudes and employee views of the company". Their principal results, which were derived from interviews with 2,703 employees in 12 companies, are presented in Table 4 opposite. As can be seen from the sixth row of the Table, 51 per cent of respondents reported that they agreed, or strongly agreed, that profit sharing makes people try to work more effectively so as to help the firm be more successful. Interestingly enough, 96 per cent said that they agreed, or strongly agreed, that profit sharing should not be seen as a substitute for an adequate wage.

Broadly similar results were obtained by the Wider Share Ownership Council in their survey of *company* attitudes towards employee share ownership schemes. 138 companies were asked what effect they believed profit sharing or share savings schemes had on employee attitudes. As can be seen from Table 5, three quarters of firms reported that share schemes had resulted in some improvement in employee loyalty or attitudes. Moreover, approximately one third of all firms reported that such schemes had a significant effect. This compares with 40 per cent and 20 per cent, respectively, in the case of savings related schemes. Evidence regarding the effects of these two types of schemes upon productivity, staff turnover, recruitment etc. was much less clear cut.

To sum up the evidence for the United Kingdom, there is only a little *quantitative* evidence of a significant impact of profit sharing schemes upon company performance or employment. The two studies that have found significant effects (Estrin and Wilson, 1986 and Richardson and Nejad, 1986) were based upon relatively small samples of firms drawn from two

TABLE 4
The Industrial Participation Association Survey, 1980. (%)

	Agree strongly	*Agree*	*Don't Know*	*Disagree*	*Disagree strongly*
1. Profit sharing creates a better atmosphere in the firm	10	55	16	18	1
2. It is popular because people like to have the bonus	24	69	4	3	—
3. It makes people take a greater interest in profits and financial results	11	65	7	16	1
4. It is good for the company and the employees	14	72	11	3	—
5. It strengthens people's loyalty to the firm	6	41	17	34	2
6. It makes people try to work more effectively so as to help the firm be successful	6	45	15	31	3
7. It is welcomed by the participants but should not be seen as a substitute for an adequate wage or salary	44	52	3	1	—
8. Most people are apathetic about profit sharing	2	22	25	47	4
9. It can cause disappointment or bitterness, because profits can go down as well as up.	3	39	10	45	3

Source: "Profit sharing and employee shareholding attitude survey" published by the Industrial Participation Association.

narrowly defined sectors—metal working and multiple stores. A plausible explanation for their results is that it is the well managed, well run firms that introduce profit sharing. The danger then is of attributing to profit sharing what should more correctly be attributed to the overall efficiency of the organisation.

TABLE 5
Comments on effectiveness of profit sharing schemes, 1981.

	% of respondents with profit sharing schemes answering		*% of respondents with savings related schemes answering*	
	Small effect	*Significant effect*	*Small effect*	*Significant effect*
Increased productivity	41	4	23	4
Improved loyalty or attitudes	45	32	40	20
Helped negotiations	36	4	18	2
Facilitated recruitment	35	9	30	5
Reduced staff turnover	36	3	23	5

Source: "Employee share schemes" by Copeman Paterson; from the Wider Share Ownership Council

Such *qualitative* evidence that exists does suggest that profit sharing has small, but significant, effects upon employees' attitudes to work. If this evidence is to be believed, however, we would expect to observe some productivity enhancement in firms with profit sharing which, in principle, should be measurable.

2) *International evidence*

In the United States in 1985, according to a recent survey (United States General Accounting Office, 1986), more than seven million individuals participated in approximately 4,174 Employee Stock Ownership Plans (ESOPs). Collectively, by 1985 they held assets of nearly $19 billion. To create an ESOP, a company establishes an Employee Stock Ownership Trust (ESOT) which borrows capital and buys company stock. The trust is guaranteed by the company, which is allowed to place up to 25 per cent of its payroll into the ESOT to pay off the loan. As the loan is paid off, stock is allocated to each employee's ESOP account. When employees leave or retire they sell their stock back to the ESOP.[4] ESOPs are of four basic types.

(a) Tax credit. An ESOP originating in the Tax Reduction Act of 1975, which allows employers to claim a tax credit for contributions to an ESOP. From 1975–1982 the credit was based upon an employer's eligible investment; a 1 per cent credit could be claimed for contributions up to that amount and an additional 0.5 per cent could be claimed for contributions that matched employees' contributions up to that amount. Since 1983, a credit of 0.5 per cent of employee payroll has been allowed.

(b) Leveraged ESOP. An ESOP in which money is borrowed by the ESOT for the purpose of buying stock of the employer. The stock is

[4] For further details see Bradley and Gelb (1986) who provide an interesting discussion of potential abuses of ESOPs.

normally held as security by the lender and released for allocation to participant accounts as the loan is paid off.

(c) Leverageable ESOP. An ESOP that is permitted to lever under the terms of the plan documents but has not done so by a given date.

(d) Nonleveraged ESOP. An ESOP other than a tax credit ESOP that is not permitted to lever under the terms of the plan document. Although these plans do not take advantage of the special tax credit or levering provisions of the tax code, employers may establish them to take advantage of higher tax limits on deductions for contributions that are available. Also some employers may be unaware that they may establish and maintain a stock bonus plan that is not an ESOP.

The distributions of participants and assets in these various schemes in 1985 are presented in Table 6. Overall, 90.1 per cent of all ESOP participants were in tax credit ESOPs. The median tax credit ESOP had 430 participants, and held much larger amounts of assets than other types, although leveraged ESOPs had the highest asset value per participant. On average in 1985 participants had holdings of $5,226.

Since 1974, ESOPs have been granted increasingly favourable tax advantages; the legislation has had three main goals:

(1) the broader ownership of corporate stock
(2) the provision of more funds for capital formation
(3) improved performance of the sponsoring corporation.

Attention in the literature has focused particularly on the last of these goals; as in the case of Great Britain the evidence is conflicting. Marsh and McAllister (1981) found that the productivity growth rate of a sample of 125 ESOPs was greater in 1975–1979 than the national rate for their industries. However, Hamilton (1983) found that 10 matched firms had productivity at

TABLE 6
Estimates of the participants in and assets of ESOPs.[a]

	Participants			*Assets*[b]			
Type	*Number*	*%*	*median per plan*	*Total (millions)*	*%*	*median per plan*	*median per person*
Tax credit	6,391,029	90.1	430	14,800	79.3	864,446	2,952
Leveraged	158,238	2.2	54	1,450	7.8	444,708	8,660
Leverageable	293,274	4.1	37	1,445	7.7	272,663	7,149
Nonleveraged	238,406	3.4	40	961	5.2	209,397	5,098
Other	1,842	*	10	1	*	0	0
Total	7,082,789	99.8[c]	54	18,660	100.0	334,606	5,226

Notes: [a] based on plans active in 1983. [b] in constant 1983 dollars. [c] total does not equal 100.0 due to rounding. * less than 0.05%.

Source: "Employee stock ownership plans. Interim report and related trends" United States General Accounting Office, February 1986 Table 7.

least as high or higher than 10 ESOP firms in the same industry in 1978–1981.

One of the better known US studies is Conte and Tannenbaum (1978). They analysed whether firms which were partly or wholly owned by their employees behaved in a different way from conventional firms. Approximately 100 companies were studied. One third of those were directly owned by workers; the rest had large employee stock ownership plans. The authors obtained profit data from 30 of these companies, and showed that they had an average pre-tax profits to sales ratio equal to 1.7 of the overall average in the relevant industries. In other words, worker-owned firms appeared to be more profitable. However, there are two criticisms of this conclusion. First, the authors admit that the results are not formally statistically significant. Second, it is not hard to believe that the 30 firms willing to release their profit figures were those proud of their profitability levels. One of the few statistically significant effects discovered by Conte and Tannenbaum was that firms were more profitable the greater the amount of equity held by workers. The authors also interviewed managers and concluded that employee ownership "contributed substantially to the motivation of workers and . . . productivity and profitability". Subsequent work with a matched comparison of firms (Tannenbaum, Cook and Lohman, 1984), however, found no difference in the profitability of the two groups of firms.

Rosen and Klein (1983) found that 10 ESOP firms were not significantly more profitable than 10 matched firms on three measures of profitability (the ratios of net profits to net sales, to net worth and to net working capital) but outperformed the non-ESOP firms on a fourth measure (the ratio of net sales to net worth). However, Brooks, Henry and Livingstone (1982) found that employee share ownership had no significant effect on company profitability, whilst both Bhagat, Brickley and Lease (1984) and Livingston and Henry (1980) found that firms with such schemes were *less* profitable than comparable firms without them.

A number of US studies have examined the impact of participation schemes on attitudes and morale. Marsh and McAllister (1981) found an increase in employee morale after the introduction of an ESOP. Kruse (1984) surveryed attitudes at two U.S. firms with employee stock ownership plans and concluded that the existence of the plans had no effect. Long (1982) conducted a case study at an electronics firm that made changes in its participation structure. He contrasted the attitudes of individuals who had acquired small numbers of shares with those acquiring large numbers of shares and reported that:-

> "given the differences between the two groups in terms of personal characteristics, as well as stock ownership, the pattern of results is remarkably similar, and seems to suggest that the quantity of stock acquired had little impact on the extent to which changes in attitudes or perceptions took place." (1982, p. 208)

Using a sample of 65 medium-sized firms in the West German metal

working industry in 1977–79, Fitzroy and Kraft (1985a,b) examined the effects of profit sharing on productivity (1985a) and profitability (1985b). (These data are directly comparable to those used in Great Britain by Estrin and Wilson, 1986). In Fitzroy and Kraft (1985a) a strong positive relationship was found between profit sharing and total factor productivity; there was no correlation between hourly earnings and profit sharing after controlling for other relevant factors.[5] In Fitzroy and Kraft (1985b) it was found that profit sharing and employee ownership both have

> "strong and robust effects on profitability with none of the 'feedback' from profits to profit sharing which is sometimes posited" (1985b, p. 1)

The authors do accept the possibility, however, that it could be the best and most successful firms who provide profit shares to avoid worker discontent.

An interesting paper by Freeman and Weitzman (1986) has recently appeared. It uses time series macroeconomic data from Japan, for the years 1958–1982, to examine the behaviour of employment, wages and bonuses. Because Japanese workers are paid large profit-related bonuses (they constitute 25 per cent of workers' pay and 10 per cent of net domestic product), the country might be thought of as a good example of a 'share economy'. Freeman and Weitzman show that bonuses behave much more cyclically than basic wages, and that higher bonuses are positively correlated with higher employment. Employment is negatively correlated with the basic wage. Although these are intriguing conclusions, it is not clear that they help us to decide whether profit sharing has desirable consequences. On the face of it a reduction in bonuses would in fact act to *reduce* the size of employment fluctuations. Nevertheless, the authors point out that wages are lower than they would be without any profit sharing. They argue that this is likely to have raised Japan's level of employment.

Wadhwani (1985) also looks at the macroeconomic implications of profit sharing in the Japanese economy. His conclusions are generally negative. The author shows, counter to conventional wisdom, that between 1950 and 1981 Japan did not have lower cyclical variability of output or lower inflation than other industrial countries. In addition, his empirical tests demonstrate that changes in aggregate demand do not produce smaller effects upon Japan's output than is true elsewhere. However, Japan's unemployment rate over the period was lower than the rate in almost all other OECD countries, which the author argues is impressive but is unwilling to attribute to profit sharing.

[5] Work on producer cooperatives in a number of countries has also reported a positive effect of profit sharing on productivity. Examples are Jones and Backus (1977) and Jones (1977) for Great Britain, Jones and Svejnar (1985) for Italy, Cable and Fitzroy (1980 a,b) for West Germany, Defourney, Estrin and Jones (1985) for France and Conte and Svejnar (1981) for the United States.

3. Conclusion

The purpose of this paper has been to summarise and assess the debate about the merits of profit sharing and employee share ownership. We have identified three ways to make the case for more income sharing in the British economy. They are, in our terminology, (i) the morale and productivity argument, (ii) the wage flexibility argument and (iii) Martin Weitzman's macroeconomic argument. We believe that the third is widely misunderstood (Weitzman's idea is that profit sharing could create an economy with perpetual labour shortages) and that it has attracted much enthusiastic attention because it produces what many see, if for different reasons, as the correct prescription. Our examination of the evidence makes us believe that there is little to be said for the view that, for employment reasons, the Government should do more to encourage employee share ownership schemes. The major studies in the UK and abroad have produced no evidence that such schemes influence employment. Blanchflower and Oswald's (1986) analysis of more than 600 British plants, for example, finds no effect. Those investigators abroad, like Conte and Tannenbaum (1978), who favour such schemes commonly draw conclusions which even they agree are not proved by their statistical work.

The argument for cash based profit sharing is less weak and more interesting. There is a little empirical evidence in its favour (Estrin and Wilson (1986), for example), although series research has only recently started. However, it is hard to believe that wider profit sharing will make any significant difference to unemployment. We are not convinced that there is a case for tax concessions to encourage profit sharing.

Those who propound profit sharing would be best served by stressing three points. First, Britain appears to have severe economic problems and it may therefore be worth experimenting even with untested, radical solutions. Second, profit sharing may change certain kinds of employee attitudes. Third, the success of the Japanese economy, and of UK firms like John Lewis, is intriguing and may—although this is merely a conjecture—be something to do with their adoption of cash-based profit sharing.

Can profit sharing work? There is little empirical evidence that it can, and there are probably better ways of stimulating employment, such as by cutting National Insurance contributions. However, if the British government is determined to alter the whole system of remuneration,[6] tax relief for cash based profit sharing is less objectionable than further expansion of employee share ownership.

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[6] At the time of writing the Chancellor of the Exchequer seems firmly committed to this idea.

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