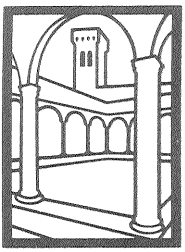

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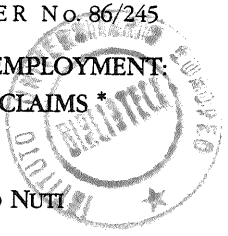
PROFIT-SHARING AND EMPLOYMENT: CLAIMS AND OVERCLAIMS *

by
Domenico Mario NUTI



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DEPARTMENT OF ECONOMICS

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PROFIT-SHARING AND EMPLOYMENT: CLAIMS AND OVERCLAIMS

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1. Introduction

It has long been established that pay formulas containing an element of profit-sharing have non-inflationary employment promotion properties (Vanek, 1965), except in self-managed enterprises (e.g. Vanek, 1970). In recent literature economy-wide profit-sharing combined with workers' strict exclusion from employment decisions is being promoted as a scheme guaranteeing the achievement of a blissful state of non-inflationary excess demand for labour, absorbing all or part of possible deflationary shocks (Weitzman, 1983, 1984, 1985a, 1985b, 1986). Weitzman's proposal is reminiscent of the set-up in Catch-22, where a wheeler-dealer retrades and speculates with army supplies originally meant for the soldiers, who are supposed instead to benefit from their share in the profit of his operations; everybody has a share, nobody has a say, and the main beneficiary of the scheme is its proposer. The purpose of this paper is that of separating the beneficial effects of profit-sharing which are neither new nor controversial from the new propositions put forward by Weitzman which I shall argue to be overclaims.

2. Employment promotion through profit-sharing

The employment promotion effects of profit-sharing were first noted by Jaroslav Vanek (1965), who compares the macroeconomic effects of replacing a given wage rate with a lower rate plus a compensatory profit-

sharing agreement such as to leave unchanged each labourer's money income for a given number of hours worked. The new arrangement has the same effects of a lower money wage except for the additional employment effect on aggregate demand due to the postulated higher propensity to consume out of profits distributed to workers than out of residual profits. Abstracting from this, which is a benefit in keynesian underemployment equilibrium, the effects of a lower wage with or without compensatory profit-sharing are the same and depend on the behaviour of prices.

If prices fell in the same proportion as money wages the real wage would remain unchanged and therefore the marginal physical product of labour and the employment level would be unaffected; any profit shared by workers would come from what previously accrued to entrepreneurs. If prices remained unchanged the real wage would fall in the same proportion as money wages and employment would expand until the marginal physical product of labour falls to match the full reduction of real wage; only the profit shared by the newly employed makes a dent in the profits previously accruing to entrepreneurs. Neither extreme position of constant or fully flexible prices, however, is a possible equilibrium for an unchanged quantity of money. If prices remained unchanged a higher real output would require a higher quantity of money without which there would be no effective demand for the additional output and therefore prices would be under pressure to fall. If prices fell proportionally as much as wages an unchanged real income would require a fall in the quantity of money, without which effective demand would be driving up prices and eroding some of the price fall. An unchanged quantity of money, which Vanek calls "neutral" monetary policy, would achieve real and monetary equilibrium at a price level lower than before though higher than if proportional to wages, and at an employment level higher than before though not as high as that corresponding to constant prices.

Vanek's model, which he presents diagrammatically, could be summarised as follows:

(1) $Y = F(N)$,

where Y = real output, N is labour employed initially lower than the full employment level N_f; $F'>0$ for $N<N_f$ and $F''<0$;

(2) $F' = F'(N)$;

(3) $w/p = F'$

where w is the money wage rate in the wage economy or the fixed component of pay in the profit-sharing economy, the equality between the marginal physical product of labour and the marginal real cost of labour to firms being the profit maximisation condition in both economies, implicitly assumed as perfectly competitive (otherwise the marginal revenue product of labour would become relevant for profit-maximisation by firms);

(4) $Q(i, M, p, Y) = 0$

where i is the money rate of interest and M the quantity of money, the equation expressing the simultaneous achievement of the Hicksian IS-LM equilibrium in the monetary and real sectors of the economy, i.e. a constellation of variables such as to equalise the demand for money with its quantity M and the combined supply of savings and imports with the combined investment and exports demand. For given w and M this simple system determines the equilibrium levels of i, p, Y and N.

Vanek infers from the model that the replacement of a given wage rate by a lower rate plus a fully compensatory profit-sharing arrangement will have the following effects under a neutral monetary policy: i) a higher level of labour employment in the economy; ii) a higher real income; iii) lower prices; iv) an expansion in the volume of exports, because of greater international competitiveness made possible by lower prices; v) lower import propensity due to import substitution at lower domestic prices; vi) higher or lower volume of imports according to whether or not the import substitution effect is larger than the import requirements of additional output; vii) probably though not necessarily an improvement in the balance of payments, i.e. as long as the combined

effect of import substitution and export promotion through lower prices is sufficient to offset the import requirements of additional output; viii) a reduction of corporate profits after taxes and after labour-share disbursements, because the newly employed add to profit less than what they receive as profit share; ix) will have an indeterminate effect on the state budget; a loss is due to the tax rate applicable to workers' incomes being lower than that earlier applied to profits, but a smaller or higher amount of additional tax revenue (and unemployment benefits saved) will accrue to the government because of the higher level of activity; x) the share of labour in national income will necessarily increase, because of the positive change in income and the negative change in the amount of profits going to entrepreneurs.

Alternatively, the government could decide to prevent prices from falling as a result of the new arrangement and follow a policy of price stability which, in the circumstances, corresponds to monetary expansion to raise aggregate demand and enable firms to sell the additional output they wish to produce at a lower real wage without lowering prices. In that case for given $\underline{w}$ and $\underline{p}$ Vanek's model determines $\underline{i}$, $\underline{M}$, $\underline{Y}$, $\underline{N}$; its predictions differ from the earlier case in the following respects: (i) stronger employment effects from profit-sharing; (ii) stronger real income effects; (iii) no longer holds by assumption; (iv) exports remain unchanged; (v) import substitution does not occur; (vi) imports increase; (vii) the balance of payments deteriorates; (viii) corporate profits do not change; (iv) and (x) continue to hold.

In addition to these effects Vanek expects that the higher income and therefore fuller utilisation of existing capital equipment, in the absence of a systematic effect on the interest rate in either direction, would promote capital formation and technical change thus raising the economy's growth rate.

3. Profit-sharing as employment subsidy

In spite of the considerable advantages listed by Vanek, from his analysis profit-sharing is not a pay formula incontrovertibly superior to the fixed wage. Within Vanek's framework profit-sharing will not be introduced by firms unless total pay per worker is lower than the alternative fixed wage, to compensate for the lower profits and profit share predicted by Vanek. A lower pay per worker, however, would sacrifice employed workers in favour of those unemployed who would benefit from the employment generated by profit-sharing, but the same kind of trade-off between individual real pay and total employment is available under a fixed wage system. It is true that with profit-sharing a given cut in real pay per man generates more employment, because the marginal cost of labour is by definition lower to employers, but the additional employment effect is paid for by employers getting lower profits than if the same pay was made up of a fixed wage (as Vanek shows in his paper, point (viii) above). If employers could be persuaded or forced (through taxation) to subsidise employment to the same extent the effect would be exactly the same. It is the implicit subsidy on employment, and not the pay formula as such, which generates beneficial effects. Starting from a situation where the government has already subsidised all it considers worthy of subsidy and has already taxed the public to match to the desired degree these subsidies and its other expenditure, there is no room for improvement through pay reform other than sheer benefaction on the part of employers or of those already employed. Alternatively, if an expansionary monetary policy accompanies the introduction of profit-sharing, the necessary deterioration in the balance of payments will deter the government from promoting profit-sharing or undertaking the equivalent policy of employment subsidisation financed out of profit tax. Thus Vanek provides not only an analysis of the effects of the possible introduction of pofit-sharing but, indirectly, an indication of a good reason likely to prevent its introduction

Vanek's analysis is inadequate in two major respects. He claims that his conclusions hold even if only a part of the economy changes to profit-sharing, the degree of the different effects varying with the relative size of the profit-sharing sector, but his analysis contains no elements for explaining the actual scale on which profit-sharing might be introduced spontaneously in the economy. He also claims that the output of the profit-sharing sector will expand a good deal while the non-profit-sharing sector will contract; but the very coexistence of profit-sharing and fixed wage formulas is hard to explain without the introduction of additional elements of analysis. Within Vanek's framework either pay or profitability can be the same in the two sectors, not both; but then what makes entrepreneurs or workers in some sectors and not in others accept lower rewards than available elsewhere? Profit-sharing cannot be discussed without reference to its impact on the uncertainty faced by workers and firms.

4. Profit-sharing and uncertainty

Alternative pay formulas imply different probability distributions and, therefore, expected values and measures of dispersion (such as standard deviation) for the profitability of firms and for both unemployment risk and pay of workers, thus defining trade-offs for the consideration of both firms and workers.

Let us compare a fixed pay $\underline{y}$ with a profit-sharing scheme offering a fixed element $\underline{a}$ and profits $\underline{h}$ with a given probability distribution whose expected value is $\underline{E}(\underline{h})=\underline{y}-\underline{a}$ and standard deviation $\underline{s}(\underline{h})>\underline{0}$. By definition $\underline{s}(\underline{y})=\underline{0}$, thus workers will prefer $\underline{y}$ to $\underline{a}+\underline{E}(\underline{h})$ if they are risk-averse - as they are usually assumed to be. The probability $\underline{u}$ of unemployment, however, is different under the two arrangements, namely its expected value under fixed pay u_y is greater than under profit-sharing u_h; the dispersion of unemployment risk is not affected because neither the fixed wage nor the

fixed component of mixed pay are flexible during the cycle. The lower is $\underline{a}$ the lower is the expected unemployment but the higher is the dispersion of workers' earnings $\underline{a}+\underline{E}(\underline{h})$. Whether or not any of the infinite combinations of parameters $\underline{a}$ and $\underline{E}(\underline{h})$ adding up to $\underline{y}$ is preferred to $\underline{y}$ by workers will depend on their preferred trade-off between job security and income security. (Alternatively we could incorporate unemployment into an income probability distribution as the probability of zero income, and treat the choice by workers as one between expected value and dispersion of earnings under the two regimes; this would be tidier but would oversimplify the alternatives given the discontinuity in employment/unemployment status). The most attractive profit-sharing formula might be more, or less, or equally attractive than a fixed wage equal to their combined expected value.

For firms a profit-sharing arrangement involves cyclical flexibility of labour costs and therefore greater stability of profit levels and rates, i.e. $s(r_y)>s(r_h)$. Entrepreneurs are usually thought to be risk lovers or at most risk neutral, but their "failure aversion" and concern to stay well within a "solvency threshold" (Malinvaud 1986) is bound to set limits to their risk-love or neutrality; they may or may not be induced to regard greater stability of profit rates as an advantage. The attraction of a profit-sharing scheme will depend on their attitude to risk, the actual probability distributions of $\underline{r}_y$ and $\underline{r}_h$ and the cost of alternative ways of reducing risk (through diversification of assets etc.) which may be available to them.

For part of a fixed pay to be replaced by a profit share the terms have to be mutually advantageous to both workers and firms. It may be that workers are so job security conscious and gain so much additional security by accepting greater earnings dispersion that they are prepared to accept a lower average pay than the going fixed rate associated with high unemployment risk. Or it may be that entrepreneurs are so close to their "solvency threshold" that in order to stabilise profits they are willing to pay out profits whose expected value is higher than what would

make up the difference between the fixed component of pay and the going fixed rate. More often than not risk-averse workers and risk-loving entrepreneurs will go for a fixed rate, as we know from observation.

There are two other reasons, however, why profit-sharing arrangements are not widespread. First, when part of a fixed pay is replaced by a profit share regarded as equivalent by workers the employment effect of this change and the consequent necessary dilution of the profit share will have to be considered by workers already employed. Workers will need information about demand and technology to find what fraction of profits can be regarded as equivalent to a given part of fixed pay which is being replaced; or they will need assurances that there will be no dilution i.e. no employment effect, or even better a certain amount of control over decisions directly or indirectly affecting employment, in which case however the employment creation effect will be at least partly lost. This is one of the reasons why profit-sharing arrangements are often associated with forms of workers' participation in decision-making.

Second, after the introduction of a profit-sharing pay formula a firm employing workers up to the point where labour's marginal product equates the fixed element of pay will soon realise that it could raise profits by switching back to a fixed wage and reducing employment, unless one of the following conditions obtains: i) the firm is close to its solvency threshold and is so anxious to stabilise profits as to accept the loss involved in employing some workers at an average cost higher than their marginal product; ii) existing workers are tenured in law or in practice and a profit share is paid to them in lieu of an increase in fixed pay; iii) the introduction of profit-sharing lowers average pay with respect to the alternative fixed wage or iv) raises labour productivity so that either lower average pay or a productivity increase compensates for the hiring of workers at an average cost higher than their marginal product. Condition (iii) is unlikely, in view of workers' risk-aversion; the other conditions explain why profit-sharing is often introduced in firms close to a financial crisis (where

the risk of unemployment for workers is also greater) or in firms where productivity effects are expected from profit-sharing.

5. Profit-sharing and productivity

In his pioneering 1965 article Vanek asserted that "... there is a strong presumption that profit participation in itself would improve the quality and efficiency of labor, and make workers more concerned about the success of their enterprise" (p. 212) but did not discuss these points. Subsequent literature has developed further Vanek's suggestions.

An improvement of "the quality and efficiency of labor" could not come from individual extra effort (as it does under a piece-rate system) since each of n workers employed will only get at most a fraction 1/n of the product of his own extra-effort (Samuelson, 1977) and on the contrary may reduce effort if he can get away with it, being exposed at most only to 1/n of the output loss deriving from his own lower effort. A productivity increase, however, can be expected from workers, costlessly to themselves, gaining from intelligent and effective use of any given individual level of effort, from cooperating with other workers and management and from monitoring and supervising each other's effort, efficiency and cooperation (Reich and Devine, 1981; Fitzroy and Kraft, 1985).

Workers' "concern about the success of their enterprise" - deriving directly from profit-sharing - is bound to reduce the number and intensity of conflicts in the workplace in general, making workers identify partly with the enterprise and lengthening their time horizon; this effect will be stronger if accompanied by measures of workers' participation in decision-making, as in German-style Mitbestimmung (Aoki, 1984; Cable, 1984; Fitzroy and Mueller, 1984; on Mitbestimmung see Nutzinger, 1983). When workers receive detailed and credible information and participate in decision-making they are more likely to accept unpopular decisions;

although conflicts made more tractable by the introduction of codetermination afterwards are bound to reappear over time (Furobotn, 1985).

Productivity improvements - without which, we have argued in the previous section, it is difficult to conceive the viability of profit-sharing other than as a crisis management instrument - are confirmed to be important both historically and in empirical studies. Mitchell (1985) refers to both of the points raised by Vanek. Workers' participation in enterprise revenue or profit has been introduced in modern capitalism, historically, as "a way of putting the employee on the side of management, thereby boosting production and efficiency" as well as "as a way of building employee loyalty, thus avoiding industrial unrest and unions" (Mitchell, 1985, p. 38). No wonder, therefore, that profit-sharing is not usually popular with Trades Unions. Recent empirical studies suggest modest but sizeable improvements in enterprise economic performance from co-determination and profit-sharing (Cable and Fitzroy, 1980; Estrin et al., 1984) when and where they occur, though there may have been costs that remained unobserved and the improvements cannot be generalised.

6. Co-determination and employment

Co-determination can be expected to accompany profit-sharing: "As best existing practice shows, companies which share profits also share information and indeed some areas of decision-making" (Financial Times editorial, "Sharing more than profits", 13 May 1986). "Decision-sharing is not an optional extra. The measurement of profits - especially in large groups where the profit-sharing group is likely to be a division - is likely to be contentious unless very full information is available ... Where information is shared, decisions are bound to be discussed" (ibidem). Even without profit-sharing workers are subjected to the consequences of enterprise decisions affecting their risk of unemployment

(a risk which, unlike capitalists, they cannot reduce through diversification) and therefore have a moral/political claim to participation in decision-making; when their income is also directly affected their claim becomes stronger.

While co-determination strengthens the productivity gains deriving from profit-sharing (see previous section) it reduces its employment generation potential because of employment protection policies conceivably encouraged or adopted by those already employed in their exercise of co-determination. This is why the enterprise type which is characterised by 100 per cent profit-sharing and 100 per cent self-management - i.e. the cooperative enterprise - is expected to adopt employment-restrictive policies and respond "perversely" or at any rate inelastically to output price changes or capital charges, and to shy away from self-financed investment, in the pursuit of maximum income per member. Ironically the theory of labour- managed enterprises where profit-sharing is accompanied by employment- restrictive policies has been developed and promoted by the same person who first pointed out the employment-promotion properties of profit-sharing in isolation (Vanek, 1970, who developed the approach initiated by Ward, 1958). In empirical studies of cooperative firms there is no evidence of restrictive employment policies and perverse response, or even under-investment from self-finance (Uvalic, 1986); probably these tendencies are partly offset by other economic (job security, growth-mindedness, etcetera) and non- economic stimuli (Nuti, 1986c, Horvat, 1986). But there must be a presumption that - other things being equal - an employment restriction tendency might be associated with co-determination. We can also presume that workers' eagerness to press and ability to assert demands for co-determination, as in the case of other demands of theirs, increase as unemployment diminishes. Hence the employment-generating benefits of profit-sharing can be at least partly offset by the restrictive employment tendencies possibly associated with co-determination brought about by profit-sharing and by greater proximity to full employment.

7. Non-inflationary over-full employment?

The analysis conducted so far suggests that profit-sharing is a pay formula which, for unchanged productivity and average pay, reduces profit dispersion for firms and raises for workers their chance of continued employment at the expense of higher dispersion of earnings. The trade-off may be attractive to some extent to both parties if workers are sufficiently worried by unemployment and firms by insolvency. The replacement of a fixed market wage with a profit-sharing formula having the same average pay will induce firms to expand employment but if the expansion takes place workers will find that their pay has fallen; thus a higher profit share has to be chosen so as to leave unchanged pay per man after employment expansion. The firm however in the circumstances would reduce its profits as a result of profit-sharing, because the given pay is higher than the marginal product of the additional worker. Thus the firm will grant a profit share in lieu of a wage increase only if existing workers have tenure, or if the profit loss is fully compensated by greater profit stability, or if the profit-sharing formula has a sufficiently lower average value to prevent a profit fall with respect to a fixed wage (which is unlikely) or if labour productivity increases sufficiently as a result of profit-sharing (which is more likely). Labour productivity may be raised in some enterprises by profit-sharing through collective monitoring of efficiency and effort and through the reduction of conflicts. Co-determination is likely to accompany profit-sharing reinforcing its productivity-enhancing effects and weakening its employment-promotion effects. It is for firms and workers to consider the costs and benefits deriving to them from a profit-sharing formula, just as for other parameters of the labour contract (tenure, co-determination, frequency of payment, indexation, etcetera). There is no reason why profit-sharing should be forced upon unwilling workers and firms by well-meaning reformers, beyond the extent they are prepared to consider in their market transactions (See also Jensen and Meckling, 1979; Nuti, 1986b).

This state of the art was challenged and, apparently, thoroughly revolutionised by Martin Weitzman (1983, 1984, 1985a, 1985b, 1986). Weitzman maintained that generalised profit-sharing would guarantee not just a non-inflationary increase in employment but the achievement of full employment, a non-inflationary permanent excess demand for labour and therefore the maintenance of full employment in the face of deflationary shocks; these benefits are not realised automatically only because the pay formula is a public good - hence the necessity of an educational campaign and tax incentives. Weitzman has taken a crusading stance and his enthusiasm has infected others (e.g. Solow, to Meade and to J.E. Roemer, from comments printed on the cover of Weitzman, 1984), received wide press coverage (Financial Times, Time Magazine, Wall Street Journal, New York Times, Economist, etcetera) and attention in political circles (e.g. socialdemocratic in Britain, republican in Italy).

Weitzman has the great merit of stressing the high private and social cost of unemployment, which others belittle as the result of investment in search activities or wage reservation if not a fashion for leisure; and of drawing attention to an important area of research which had been almost totally submerged by the overgrown literature on cooperatives with which it partly overlaps. Unfortunately, his miracle cure for stagflation cannot possibly work.

Let us consider one by one the changes introduced by Weitzman in the assumptions made and the arguments developed in the previous sections. Namely, these are: i) imperfect competition; ii) marginal revenue product at full employment being both positive and higher than the minimum fixed element of pay acceptable to workers; iii) persistence of profit-sharing at full employment even in long-term equilibrium; iv) perception by firms of the fixed element of pay as the marginal cost of labour in spite of excess demand at the going average rate of pay; v) no workers' involvement whatever in enterprise decisions affecting employment.

i) Imperfect competition is a welcome extension of Vanek's original framework: it implies that firms equalise the marginal cost of labour not to the physical marginal product of labour valued at current prices but to the marginal revenue product of labour. It follows that the replacement of a fixed wage with an equivalent formula containing an element of profit-sharing will reduce both pay (because of dilution after employment expansion) and profits (because of new workers adding to profit less than their profit share) in money terms, but not or not as much in real terms if the profit-sharing arrangement is introduced on an economy-wide scale and all firms lower their price to sell the additional output. Hence an element of externality and public good appears in the pay formula. However, under the same assumptions, exactly the same argument could be applied in the short run to a generalised money wage reduction, matched by a profit tax used to finance tax relief on workers' incomes, while in the long run a wage reduction would achieve full employment on the same conditions and for the same real level of earnings as a profit-sharing formula. Thus a low wage is as much of an externality or a public good as a profit-sharing formula from this point of view.

ii) Unlike Vanek, who expected higher employment from profit-sharing but did not mention full employment, Weitzman is certain that the introduction of profit-sharing can achieve full employment. This requires not only that the physical marginal product of labour should be positive at full employment (which is implicit in Vanek's diagrams though not in his argument, and which might not be the case after a protracted worldwide recession such as that recently experienced) but also that a positive physical marginal product of labour should be associated with a positive marginal revenue. This condition, made more difficult by imperfect competition, is satisfied in Weitzman 1985b by assuming isoelastic demand functions of elasticity greater than unity, i.e. very different from the conventional imperfect competition demand functions of Chamberlin or Robinson, or by other ad hoc assumptions such as sale of the physical marginal product of labour in an international market at a positive f.o.b. price (as Weitzman stipulated at a Conference

at Cornell University, April 1986). Moreover, for this positive marginal revenue product of labour to ensure full employment, it has to be lower than the minimum fixed pay acceptable to workers. Nowhere does Weitzman justify his confidence that the necessary conditions might be satisfied; without these conditions this is the end of the story and Weitzman's results are no different from Vanek's: no miracle cure for stagflation is available.

iii) If full employment is reached the long-term equilibrium of a profit-sharing economy should be, coeteris paribus, identical to that of a wage economy, i.e. the same real average pay accrues to workers in either case, equal to the marginal physical product of labour. Weitzman takes for granted that a sharing formula can persist in long-run full employment equilibrium and infers, from the presence of a sharing element, that the marginal cost of labour (= the fixed component of pay) is lower than the marginal product of labour (= the fixed plus the sharing components of pay), i.e. there is a permanent state of excess demand for labour at full employment, which is not inflationary because firms cannot raise average pay above the marginal product of labour. Nuti (1985, 1986a) points out that this inequality should induce firms to experiment with alternative pay formulas amounting to the same total pay, especially if they can gain from workers' risk-aversion, and not to rest until they have equalised their marginal cost and marginal value of labour, i.e. until the workers' share of net profits is zero and profit-sharing comes to an end.

iv) In any case firms should be well aware - especially at full employment - that whatever their pay formula they can only attract workers by offering the going rate for labour total pay and should regard this, and not the fixed element of pay, as marginal cost of labour. If firms behave as they should, excess demand for labour disappears and with it the claimed resilience of full employment with respect to deflationary shocks.

v) The lack of workers' participation in decision-making in any area affecting employment (therefore in all areas of any importance) is a specific precondition of Weitzman's claims. We know that it is possible to exclude workers from co-determination in the presence of persistent unemployment; such exclusion might be difficult at full employment, and it would certainly be very difficult with excess demand for labour; but the persistent excess demand for labour postulated by Weitzman should make the exclusion of co-determination impossible without an authoritarian or military regime. This is not a moral, or legal, or legalistic proposition; it is a question of practical politics. Once workers have a say on output, employment and pricing and related questions (investment, innovation, etcetera) they will try and resist the very possibility of dilution of their own shares just as shareholders usually resist the dilution of share capital; for better or worse they are likely to adopt, or be tempted to adopt, other things being equal, restrictive employment policies in the possibly misguided and self-defeating purpose of raising or maintaining individual earnings. This is not a case against profit-sharing, but an argument for not expecting that full employment - let alone over-full employment - is achievable and maintainable (see Nuti, 1986c).

If full employment and, a fortiori, over-full employment could be guaranteed, profit-sharing would be like a public good to be provided by central government through tax incentives and propaganda. Sadly, neither full employment nor its stability can be guaranteed by profit-sharing. The claims put forward by Weitzman in the long run can only damage - through skepticism and disillusionment - the chances of reaping from profit-sharing the modest but non-negligible gains which appear to be available.

REFERENCES

AOKI M. (1984), The Co-operative Game Theory of the Firm, OUP, Oxford.

CABLE J.R. (1984), "Employee participation and firm performance: a prisoners' dilemma framework", E.U.I. Working Paper, n. 84/126, Florence.

CABLE J.R. (1985), "Constructing indexes of employee participation", (mimeo).

CABLE J.R. and FITZROY F.R. (1980), "Productive efficiency, incentives and employee participation: some preliminary results for West Germany" Kyklos, vol. 33, n. 2, pp. 100-121.

ESTRIN S., JONES D.C. and SVEJNAR J. (1984), "The varying nature, importance and productivity effects of worker participation: evidence for contemporary producer cooperatives in industrialised Western societies", CIRIEC Working Paper, n. 84/04, University of Liège.

FITZROY F.R. and KRAFT K. (1985), "Profitability and profit-sharing, Discussion Papers of the International Institute of Management, WZB, Berlin, IIM/IP 85-41, December.

FITZROY F.R. and MUELLER D.C. (1984), "Cooperation and conflict in contractual organisations", Quarterly Review of Economics and Business, vol. 24, n. 4, winter.

FUROBOTN E.G. (1985), "Codetermination, productivity gains, and the economics of the firm", Oxford Economic Papers, vol. 37, pp. 22-39.

HORVAT B. (1986), "The theory of the worker-managed firm revisited", Journal of Comparative Economics, Vol. 10, pp. 9-25.

JENSEN M.C. and MECKLING W.H. (1979), "Rights and production functions: an application to labor-managed firms and codetermination", Journal of Business, vol. 52, October, pp. 469-506.

MALINVAUD E. (1986), "The legacy of European stagflation", Document de travail n. 8607, INSEA, Paris.

MITCHELL D.J.B. (1985), "Wage flexibility in the United States: lessons from the past", American Economic Review, Papers and Proceedings, LXXV, n. 2, May, pp. 36-40.

NUTI D.M. (1985), "The share economy: plausibility and viability of Weitzman's model", E.U.I. Working Paper, n. 85/194, Florence; Italian translation in Politica ed Economia, n. 1, January 1986.

NUTI D.M. (1986a), "A rejoinder to Weitzman" (in Italian), Politica ed Economia, n. 4, April.

NUTI D.M. (1986b), "Codetermination, profit-sharing and full employment", paper presented at the Conference on "Economics of profit-sharing, participation and workers' ownership" held by the Program on participation and labor-managed system, University of Cornell, N.Y., 25-27 April 1986; forthcoming in D. Jones - J. Svejnar (Eds.), Advances in the Economic Analysis of Participatory and Labor-Managed Firms, Vol. 3.

NUTI D.M. (1986c), "Merger conditions and the measurement of disequilibrium in labour-managed economies", Annals of Public and Co-operative Economy, n. 1, March, pp. 47-53.

NUTZINGER H.G. (1983), "Empirical research into German codetermination: problems and perspectives", Economic Analysis and Workers' Management, vol. XVII, n. 4, pp. 361-382.

REICH M. and DEVINE J. (1981), "The microeconomics of conflict and hierarchy in capitalist production", The Review of Radical Political Economics, vol.12, n. 4, winter, pp. 27-45.

SAMUELSON P.A. (1977), "Thoughts on profit-sharing" Zeitschrift für die Gesamte Staatswissenschaft (special issue on profit-sharing).

UVALIC M. (1986), "The investment behaviour of a labour-managed firm", Annals of Public and Comparative Economy, n. 1, March.

VANEK Jaroslav (1965), "Workers' profit participation, unemployment and the keynesian equilibrium", Weltwirtschaftliches Archiv, vol. 94, n. 2, pp. 206-214.

VANEK Jaroslav (1970), The General Theory of Labor-Managed Market Economies, Cornell University Press, Ithaca, N.Y.

WARD B.M. (1958), "The firm in Illyria: market syndicalism", American Economic Review, vol. 48, n. 4, pp. 566-589.

WEITZMAN M.L. (1983), "Some macroeconomic implications of alternative compensation systems", Economic Journal, vol. XCIII, n. 4, pp. 763-783.

WEITZMAN M.L. (1984), The Share Economy, Harvard University Press, Cambridge.

WEITZMAN M.L. (1985a), "Profit sharing as macroeconomic policy", American Economic Review, Papers and Proceedings, vol. 75, n. 2, May, pp. 41-45.

WEITZMAN M.L. (1985b), "The simple macroeconomics of profit sharing", American Economic Review, vol. 75, n. 5, December, pp. 937-953.

WEITZMAN M.L. (1986), "Reply to Nuti" (in Italian) Politica ed Economia, n. 4, April.