

\\90\\

**Employee financial participation in
enterprise results in Italy**

di

Mario Biagioli

Novembre 1992

Dipartimento di Economia Politica
Via Giardini 454
41100 Modena (Italia)

Mario Biagioli¹

EMPLOYEE FINANCIAL PARTICIPATION IN ENTERPRISE RESULTS
IN ITALY.²

1. Associate Professor of Political Economy at the
University of Modena.

2. Acknowledgements are due to Rita Ghidoni, Paolo Santi and
Daniel Vaughan-Whitehead for commenting on earlier drafts of
this paper. The usual disclaimer applies.

100: 134, 14

INTRODUCTION AND SUMMARY OF THE PAPER.

In the last 15 years, wage determination processes have changed rapidly in Italy as a consequence of the massive reorganization of production processes and administration techniques implemented by firms in order to face the growing instability of world markets and the increasing need for competitiveness that followed the two oil-shocks in the seventies and the European depression in the first half of the eighties. There has been increasing recognition of the crucial role played by "flexibility" - in terms of both costs and production techniques - in achieving and maintaining competitiveness. This growing awareness has led firms to introduce radical changes in human resources management techniques to reduce the costs of monitoring, supervising and controlling the workforce and to improve the "quality" of the goods produced and the co-ordination of the various phases of the production process. Such changes are aimed at motivating workers not to shirk responsibility and to assume a more co-operative attitude towards technical and organizational innovations.

Two major changes in wage-bargaining structures have been induced by such events: a substantial decentralisation of wage agreements to the company level and the appearance of pay items aimed at worker participation in the economic results of companies through various types of financial schemes.

Contrary to the experiences of other countries, these forms of employee financial participation in company results emerged in Italy without any public or government support. This makes the Italian experience an interesting field of investigation for the conditions that foster the development of such pay schemes.¹ It should therefore be kept in mind

1. It is well-known that the theoretical literature has focused on the possibility that the "free rider" problem (whose first expounder was Samuelson, 1977) could hinder the development of profit-sharing schemes which are socially

that such schemes appeared in a round of plant-level negotiations taking place during a period of strong cyclical expansion of the Italian economy. In the last two years, with the changing economic situation, difficulties have started to arise in the enforcement of some of these plans and conflicts are also developing in the wage-bargaining processes in progress between unions and industrial employer organizations at the national and local levels. It thus seems worthwhile to investigate the causes, the effects and the characteristics of such agreements, searching for the optimal conditions contributing to their effectiveness as a means for improving human resources management techniques and labour productivity.

Recent empirical investigations on financial participation schemes in Italy are reviewed in this paper. A brief summary of the points examined and the tendencies emerging from the existing empirical literature is provided in this introduction to outline the structure of the paper and the results obtained.

The evolution of the Italian wage structure from 1975 to 1988 is examined in the first section. The available data clearly demonstrate a trend towards a decentralisation of wage bargaining to the company level in the second half of the eighties. This process took place through both the expansion of "merit-pay" offered by firms to the highest ranks of non-manual workers and the appearance of forms of flexible remuneration linked to enterprise performance, offered by firms and negotiated by company unions as part of company labour contracts. The latter are customarily settled in most Italian companies every three years.

The review of empirical studies revealed two tendencies. On the one hand, four factors seem to be implicated in the changes occurring in the wage-bargaining processes: the need for a more flexible management of human resources, induced by increasing international competition; the characteristics of the innovations in production, marketing and -----
advantageous. Government support is then suggested to overcome this "market failure" (Weitzman, 1984).

administration processes implemented in the eighties, which require a more co-operative attitude of workers than the traditional, "Ford-type" method of organization; an increasing "ability to pay" on the part of the companies, whose profits grew steadily from 1982 to 1989 as the decreasing degree of wage indexation was making room for the possibility of using wage increases to motivate labour efforts; the shortcomings deriving from the attempts to centralise wage bargaining in Italy in the first half of the decade, which reduced the indexation of wages to inflation levels, but were unable to attain the target of keeping inflation in Italy at the same pace of the other EEC countries. On the other hand, and largely as a consequence of such changes, financial participation schemes represent the principal innovation in wage-bargaining processes in the latest round of plant-level negotiations. The suggestion that the causes behind the decentralisation of wage bargaining and the appearance of employee financial participation schemes are basically the same, is put forward as a conclusion to this section.

The chronology of the appearance of these schemes and the existing estimates of the number of schemes settled and workers involved are examined in section two. A typology of such schemes is also provided. Two tendencies clearly emerge from this brief survey. On the one hand, the prevailing schemes in the Italian experience are of the gain- rather than the profit-sharing type. On the other hand, the often complex formulas used to compute bonuses and premiums clearly reflect in several cases - and, it should be stressed, in most of the "successful ones" - attempts to enhance productivity, eliminate "bottlenecks" in the production process, and create a team spirit among workers. Quantitative estimates of such premiums, as percentages of total pay, and of the "pay flexibility" they provide, are also set forth in this section. While the amounts involved in these pay items are often sizeable, their variability is usually rather limited. These indications strengthen the hypothesis that the main "reason" for their expansion is the link they establish between wages and labour productivity, rather than the flexibility of labour costs they might provide.

In section three the positions of social and political protagonists are briefly examined. It has already been noted that no public measures have been undertaken in Italy to support the use of financial participation schemes. The move towards the financial participation of employees in enterprise results was proposed by managers and met with initial opposition from unions. When plant-level negotiations developed, the opinion of workers and unionists started to change and, at least at the company level, unions participated in the experimentation of the new pay schemes, especially when this meant increasing involvement in discussing and negotiating labour organization, access to information and the right to consultation. At present, achieving increasing codetermination is becoming a primary element of union strategy.

The situation of economic expansion, which had favoured the evolution of financial participation, changed suddenly in 1991, as did the attitude of the main protagonists of the bargaining processes. Confindustria cancelled the indexation mechanism still in operation, and a trilateral discussion began between unions, industrialist confederations and government - with the aim of changing the structure of labour costs, enforcing some form of "income policy" and changing bargaining practices, especially in the public sector. This discussion is on-going. As yet, the Italian government has pursued its traditional attitude of not interfering with collective bargaining, and even more so in the wait-and-see situation in which industrial relations are kept by the ongoing discussion.

In section four some indications concerning the economic and social effects of financial participation in Italy are deduced from the analysis of a few case studies. To my knowledge, no quantitative studies have been undertaken as yet, due to the brief period of time that has elapsed since their appearance. A brief examination of the difficulties that have arisen in the past two years (characterized in Italy by a sharp slowdown in economic growth) for the implementation of such schemes as regards some of the most interesting experiences, and, on the basis of wider

empirical evidence, an attempt to assess whether more co-operative models of industrial relations are emerging from the development of these pay items² are presented as a prima facie reflection on whether their evolution might help to solve some of the problems that are forcing the Italian wage bargaining structure into a cul-de-sac situation.

2. Recent theoretical literature sees a move towards forms of codetermination and more co-operative models of industrial relations as a means to overcome the "free rider" problem, and subsequently as a necessary condition for their success. This point, was forcefully advocated by Nuti (1986a, 1986b and 1987). For a short, but well organized survey of the pros and cons of the issue, see Weitzman and Kruse (1990, pp. 97-105).

1. THE HISTORICAL PROCESS.

1.1 - The Evolution of the Italian Pay Structure during the Eighties.

At the beginning of the eighties, most commentators considered the Italian pay structure too rigid to permit firms to implement human resource management policies capable of favouring the processes of re-organization required to keep pace with international competition in world markets characterised by growing uncertainty and competitive clashes. This inflexibility was due to two developing trends. On the one hand, in the situation of heavy inflation that developed as a consequence of both a long period of depreciation and the effects of the second oil-shock, wages were increasing mainly through the "scala mobile" indexation to the cost-of-living mechanism. As indexation was based on the principle of flat-rate increases, meaning that all wages would increase by the same value, irrespective of their amount, keeping pace with inflation consequently involved a continuous narrowing of all kinds of wage differentials. On the other hand, as the coverage it offered against inflation was rather high, whether negotiated or unilaterally put into action by management, there was little room left for wage policies aimed at combatting the squeeze of pay differentials and stimulating changes in labour organisation, and thereby leading to productivity improvements.³

In the years that followed, a macro-economic policy of keeping the exchange rate fixed with regard to the other EMS countries, coupled with financial support for management programs aimed at increasing the flexibility of the cost of labour, especially regarding the size of the workforce

3. See Marsden-Saunders (1981), especially pp. 190-199.

employed⁴, as well as fiscal incentives for investments and a reasonably tight monetary policy⁵, provided both the micro-economic incentives and the macro-economic framework to induce a fairly successful process of industrial re-organization and economic expansion.

At the plant level, such a process entailed widespread technological and organizational changes involving an overall reduction of the number of employees, as well as large-scale modifications of the composition and the grades of workers, such as a large increase in the proportion of non-manual workers and wide variations in the skills required of manual workers. The focus of industrial relations shifted rapidly from the national level to the plant level.⁶ At the national level, various attempts had been made to move towards some form of an income policy during the second half of the seventies, although with little success. The stickiness of Italian pay structures also came under pressure as a consequence of such changes. As far as the pay structure is concerned, a basic conflict arose between management and shop stewards. Both sides were aware of the need to increase wage differences and to increase the wage share negotiated at the company level. However, the means by which both endeavoured to achieve these goals were just the opposite. Management would have liked to gain flexibility by de-regulating the system of rules previously negotiated and by running individual wage policies through merit-based rewards, bonuses and a greater recourse to overtime practices, while deferring to the future the definition of new systems of skill-grading for workers. Union representatives aimed at conducting all negotiations back to the already existing grade structure, changing it occasionally, if necessary, by establishing new

4. Described in Ministero del Lavoro (1985 and 1989).

5. The set of instruments used and the overall workings of the Italian economy induced by this policy model, are examined in Giavazzi and Spaventa (1989).

6. See Regini (1983 and 1988).

rules to substitute the obsolete ones and to make adjustments for the changes in work organization, but always through collective agreements.

One indication of the difficulties encountered by wage-fixing at the plant level was the sharp reduction in "wage drift"⁷ in the early part of the decade. Data on the pay structure that are sufficiently detailed to permit distinctions among the different sources of wage drift, are only available for one region, Lombardy. However, this region has the largest number of industrial establishments in the country. Moreover, according to the evidence collected by some studies, the general evolution of the wage drift in the rest of the country does not seem to have been qualitatively dissimilar, albeit of different dimensions.⁸ Hence, the examination of these data is a convenient departure point for our analysis.

In Table 1.1 the percentage of annual average earnings gained by workers above the minima which are determined by national collective agreements is recorded for manual and non-manual workers in the four main industrial sectors. The sources of wage drift are specified as derived from collective negotiation at the plant or company level and those derived from unilateral concessions from management. Four dates have been considered; they correspond to the traditional phases of the Italian system of industrial relations and pay fixing: April 1975, October 1979, April 1984 and October 1988.⁹ The first date corresponds to the

7. In this paper we define "wage drift" (following Hicks, 1965, page 318) as all sources of wage increases determined at the company level, through both collective negotiation and unilateral concessions.

8. Similar observations regarding the general evolution of the wage drift are made in two studies carried out in Emilia-Romagna and Piedmont by Ires CGIL Emilia-Romagna (1984) and Valvo (1986).

9. The choice of months was limited by the availability of data. In fact, data collection was carried out twice a year, in the months of April and October.

enactment of the flat rate indexation mechanism ("scala mobile"). The second date corresponds to the enforcement of national agreements in the main industrial sectors, which were reached during a period of cyclical recovery but at the very beginning of the phase of industrial re-organisation that led to a massive reduction of employment, as well as to sweeping changes in work organization. The third date marks the end of the most severe phase of production stagnation and employment reduction and the beginning of an expansion phase for Italian industry during which both production and profits increased substantially. The fourth date corresponds to the period in which there was a rise in local agreements. During this period there was a strong recovery after four years characterized by extremely high rates of productivity growth: on the average, 5% per year for Italian industry overall. The trend in the amount of wages and salaries bargained for at the company level is evident. In 1975, a large amount of the pay (on the average, about 30% of annual earnings) was fixed through decentralised agreements in the metal and chemical industries. Most of it was due to collective bargaining at the company level, while unilateral concessions for manual workers were of a much smaller scope and, even for non-manual workers, unilateral concessions proved to be less decisive than local bargaining. The wage drift decreased substantially from 1975 to 1979, with some exceptions in the textile industry, where the wage drift in 1975 had been smaller than elsewhere. From 1979 to 1984, the percentage of pay negotiated at the company level continued to decrease and even more sharply than in the previous period. Therefore, this decrease almost exclusively affected the weight of local negotiations, whereas unilateral concessions took the lead in determining wage drift. There is a clear indication of a general recovery of the importance of local negotiations in pay determination from 1984 onwards. In three out of the four sectors, wage drift exceeded the levels recorded in 1979.¹⁰ Substantial differences from the previous situation as to the composition of wage drift also requires further comment.

10. Once again, the textile industry was the exception, due to the depressed situation this industry faced throughout the eighties.

First of all, among non-manual workers, the percentage of locally-determined pay items returned to levels near or even higher than the 1975 levels, whereas the earnings of manual workers continued to be determined more by national agreements than in the seventies. Secondly, the increase for non-manual workers mainly consisted of unilateral concessions from firm management. On the contrary, the percentage of the pay items granted by firm management to manual workers without collective negotiations continued to decrease.¹¹

The increasing importance of company and plant levels of wage determination is demonstrated by the calculation of the sources of wage increases in the four periods indicated above. The results for metal and mechanical workers are recorded in Table 1.2.¹² The changes in wage composition

11. Furthermore, most empirical surveys stress that some relevant changes in the pay strategies of the firms started to occur in the first half of the eighties. On the one hand, the decreasing importance of piece-work: Bianchi and Martinelli (1980) found that rather high percentages of workers in Italian industry in the second half of the seventies were still being paid partly on a piece-work basis, although mostly based on group rather than individual performance. A few years later, FLM Lombardia (1982) and Osservatorio Cesos (1985) found much lower percentages of firms resorting to this pay system and of workers paid according to it. Micheli(1985), Cella (1989) and Della Rocca (1991) have examined the reasons for the loss of importance of piece-work in Italy. On the other hand, the same surveys indicate that the number of firms offering attendance premiums increased (although the values of such premiums usually remained low), as did the number of firms and workers involved in local bargaining for wage allowances aimed at rewarding unsatisfactory time-schedules (night work, holiday work, and so on), at levels well above those already established by national collective agreements. (See FLM Milano(1981) and the 107th monographic issue of the review "Quaderni di Rassegna Sindacale" (March-April 1984) on "Il salario nella contrattazione").

12. As the above-mentioned lack of detailed data relative to the other industries for 1984, excludes the possibility

and the sources of such changes - national agreements, the indexation mechanism, unilateral concessions made by firms, collective bargaining at the company and plant levels - are highlighted by this analysis. For instance, it indicates that more than 40% of the overall increases in wages and salaries obtained by workers from April 1984 to October 1988 was determined at the company level. For non-manual workers, wage drift was responsible for over 50% of the wage and salary increases. Unilateral concessions and individual bargaining were more important for this category of workers than local union negotiation, although not as overwhelmingly as in the previous period. Among manual workers, wage drift was still relevant, but entirely due to collective negotiations at the company level. This estimation thus indicates that not only had the company level of wage determination become increasingly important during the eighties, but also that local negotiation had recovered in the second half of the decade from the loss of importance suffered in the first half.¹³

of carrying out separate calculations relative to the two periods 1979-1984 and 1984-1988. The estimation has only been calculated for the metal and mechanical industries.

13. Other studies indicate that unilateral concessions made by firms in the eighties concerned only the higher grades of non-manual workers and did not spread significantly to other categories of workers. Therefore, it should be noted that a further source of wage drift, namely the practice of upgrading workers to grant them wage increases, was very important throughout the period under examination. Biagioli(1985 and 1989) provides more detailed analyses and estimations of the weight and the size of the various sources of wage drift. See also Biagioli (1990) for a more thorough examination of the evolution of the Italian wage structure during the eighties.

1.2 - The Appearance of Employee Participation Schemes in Enterprise Results.

The most significant change that occurred in the 1988-1989 round of local pay settlements was the appearance of pay items linked either to the production levels or the financial results obtained by firms.¹⁴ In evaluating their impact on pay determination processes, some observations should be made to understand the role of this innovation in wage determination in the evolution of local negotiation. The importance of these premiums is mainly due to their qualitative aspects, namely the links between the new wage determination systems and the organization of labour, as well as the evolution of industrial relations at the company level. These links were sometimes provided for in the settlements, but more often they were only anticipated, as their definition was postponed by the agreement to a future date following a period of experimentation with the new pay item. However, the amount of pay obtainable by workers through these premiums was, in several cases, rather low and in others, highly uncertain, as we shall see later.

Premiums linking wages to some indicators of firm performance are not entirely new to the Italian experience, at least as far as production bonuses are concerned. In the sixties, such bonuses were indeed much more widespread, and

14. Other plans had been developed for worker participation in enterprise results around the mid-eighties. On the one hand, merit-pay linked to the results of the firms was introduced for managers and the high ranks of staff members (See Hay, 1991). On the other hand, shares at favourable terms were offered by several enterprises to their employees in 1986 and 1987, two years during which the Italian stock exchange experienced a sudden upward swing. Thirty Italian enterprises quoted on the stock exchange made such offers between 1981 and 1987, raising about 6.9% of the total capital collected through public offers. (See Cesarini, 1987, and Uvalic, 1990).

their percentage of the total pay was greater. During the seventies, they were less capable of motivating workers to increase production, as the amount was no longer related to production results on an individual or group basis. They had become a fixed pay item equal for all plant workers, with occasional differences allowed for grade, but not for the results achieved. During the first half of the eighties, these bonuses decreased sharply, both in real terms and as a percentage of total pay. The attempt to devise, albeit informally, new procedures and organisms aimed at discussing, and possibly solving, problems that could occasionally prevent the productivity performances of the firm from improving represents a novelty in recent negotiations at the firm level. In this sense these schemes are a completely new experience in Italy.

In the introduction we mentioned the roles played by technological and organizational innovations and the influence of the uncertainty arising from increasing international competition in inducing firms to propose changes in wage determination processes. However, the "permissive" role played by an increasing "ability to pay" on the part of Italian companies¹⁵ and the decreasing coverage of the indexation mechanism - both starting in 1983 and developing in subsequent years - should also be given emphasis. The net profits of large Italian private companies (whose budgets are examined annually by Mediobanca) suddenly grew from a situation of overall loss in 1982 to a low positive level of 582.8 billion lire (equal to 0.38% of total sales), 2440.7 billion (1.41% of total sales) in 1984 and 4170.5 (2.15%) in 1985. They continued to increase in subsequent years, both as total values and in proportion to total sales, reaching 9237.6 billion (3.75% of total sales) in 1989. (Mediobanca, 1991, pp. 32-34).

15. Costa (1991, Chapter 12) maintains that this was the main "cause" of the development of such schemes. Danieli and Ghidoni (1991) show that even in co-operatives such schemes developed after profits started to increase, a few years later than in private companies.

The private companies in which schemes providing for financial participation of workers in enterprise results were implemented towards the end of the eighties show some common characteristics that might be used to portray a prima facie picture of them: (1) greater-than-average activity in international markets;¹⁶ (2) larger than average size, whatever measure of size is used; (3) some of the smallest among them had passed through a crisis phase and overcame it by developing more co-operative attitudes in local bargaining;¹⁷ (4) more quality-oriented competitive strategies than their domestic competitors (Cossentino and Prosperetti, 1991, p. 37); (5) finally, before implementing the scheme, they had often introduced more widespread use of local bargaining practices¹⁸ than was common at the time.

One characteristic of the recent Italian experience with financial participation that is worthwhile to stress is that, unlike the experiences of other countries, in Italy such plans developed during a phase of strong cyclical expansion of the economy. This suggests that among the reasons for their expansion, the possible reduction of marginal wages, on which the theoretical literature insists so much, had little, if any importance. The wage flexibility provided for by these schemes was probably sought by firms

16. We are not referring here to the expansion of such schemes in the trade and catering sector, which occurred in the first half of the decade, and was due to a different set of causes.

17. This was the case for several small textile firms that were very much dependent on exports. A prime example of this kind of experience is Eurojersey. (See Fasoli, 1989). Danieli and Ghidoni (1991, p. 52) remark that in 20 out of the 27 cases of co-operative firms experimenting schemes of financial participation of employees in enterprise results (many of which were of a small or medium size), such plans were adopted during a period of decreasing capability to compete.

18. This is also true for state-owned companies that have enacted similar wage-fixing schemes.

as a safeguard against a possible turn for the worse in the economy. Therefore, it is likely that the main determinant of the expansion of such schemes in Italy was the attempt to improve productivity by enhancing more cooperative strategies of human resources management, based on the concession of individual bonuses by firms to workers, through collective negotiation¹⁹ at the firm level.

Two further considerations suggest that the widespread adoption of these agreements were motivated more by the desire of firms to improve productivity than to their willingness to increase wage flexibility. On the one hand, these agreements were settled after a boom in investments²⁰, which makes it more likely that firms were trying to encourage more cooperative attitudes in workers in order to fully exploit the gains in productivity made possible by technological advances incorporated in new equipment through adequate human resources management policies. On the other hand, contrary to what has occurred in other countries, no public support of any sort has been provided by Italian policy-makers for the firms entering into these agreements, in view of their supposed macro-economic effects on unemployment. Hence, they should have been profitable for both contracting parties, which usually does not occur in the case of profit-sharing plans aimed only at providing wage flexibility.²¹

19. This conclusion is reached by several studies: Della Rocca and Ponzellini (1987), Danieli and Ghidoni (1990), Cossentino and Prosperetti (1991) and Biagioli and Cardinaleschi (1991b), Costa (1991) and Uvalic (1990), among others.

20. This testifies to the fact that possible discouraging effects of such schemes on investments, are more limited than those postulated in the theoretical literature.

21. According to the view expressed by Weitzman (1984). For a review of this point, see Estrin-Wadhawani (1989).

In a wider framework that includes sociological as well as economic considerations, Santi (1989) maintains that the main reason for the growth of the Italian experience with non-traditional reward systems was the crisis of the system of industrial relations organized at the national level in the first half of the eighties. In this perspective, non-traditional reward systems should be regarded as the main institutional feature through which local bargaining is gaining ground under conditions of greater instability with regard to market competition and to the technological and organizational changes required of firms to keep pace with foreign competition. It is likely that they will become more and more important as human resources management policies become a decisive element for the improvement of the competitive positions of firms.

2. EXTENT AND TYPES OF SCHEMES.

2.1 - Extent.

As for the number of company-union agreements containing schemes for the financial participation of employees in enterprise results, no collection or estimate of these data have been made by official statistical institutes in Italy. Two teams of researchers have tried to fill this gap. The first (Del Boca and Prosperetti and Cossentino, 1989; Cossentino and Prosperetti, 1991) examines gain- and profit-sharing schemes, after having collected information from financial newspapers on the employee financial participation plans settled. Their studies also present a survey of those firms, conducted by questionnaire to investigate the schemes adopted. The second research team (Biagioli, 1990; Biagioli and Cardinaleschi, 1991) is primarily focused on the examination of "non-traditional" pay schemes in company agreements. Their studies were carried out by requesting the texts of the agreements from local unions, examining their characteristics and, when necessary, interviewing firm and union representatives.

The number of employees involved in financial participation schemes from 1984 to 1989 (shown in Figure 1) was determined by the first team of researchers. Prior to 1988, only 28 gain-sharing agreements had been settled, involving no more than 150,000 workers. Furthermore, more than one third of these agreements had been signed in state-controlled firms and there was an almost similar percentage of such agreements in the marketable services sector. In 1988, several agreements were settled through local bargaining and included some of the most important private firms in Italy. According to the same authors, the number of plans had risen to 128 by the end of 1989 and the estimated number of workers involved had reached 680,179.²²

22. It has been estimated (Cossentino and Prosperetti, 1991, p. 51) that at present 30% of the workers employed in large and medium-sized Italian companies are involved in financial

A breakdown by sector and industry is shown in Table 2.1. It should be noted that in 1989, state-owned company employees still made up more than half (53.5%) of the employees covered by financial participation plans (Cossentino and Prosperetti, 1991, pp. 28-31). Using a wider definition of the phenomenon than the one adopted in the previous study, Biagioli and Cardinaleschi (1991a) found that as of April 1989, 264 local agreements included some kind of financial participation of employees in enterprise results. In 98 of the latter agreements, budget indicators were adopted, either alone or in combination with other indicators, to compute the premium; surely these are also profit-sharing plans.²³ In 48 cases, the agreements provided for the distribution of lump-sum bonuses and assigned the task of defining and experimenting a gain- or profit-sharing plan to newly constituted commissions composed of firm and union representatives (sometimes with the participation of external experts). The remaining 118 agreements defined variable pay-items linked to indicators of the quantity and/or the quality of the products manufactured. For the time being, they may be regarded as a cross between traditional production bonuses and gain-sharing plans. The next round of local wage bargaining will tell us whether they will tend towards the former or the latter type.²⁴ The collection of plans in both studies may be incomplete, in which case the real extent of the phenomenon may have been underestimated. However, given the great deal of interest the subject has aroused, one may be fairly confident that the possible underestimation is of a limited amount.

participation in enterprise results schemes.

23. When the indicator "total sales" is used, they might as well be considered gain-sharing plans.

24. A more thorough analysis of this point may be found in Biagioli and Cardinaleschi (1991a, Chapter 4).

2.2 - Types of Schemes.

The main distinctive feature of the Italian experience of financial participation pay schemes is the wide variety of formulas adopted for determining the variable component of pay. There are two explanations for this. On the one hand, these plans developed as changes in bargaining practices required by changes in production and labour organization. Hence, the formulas used usually reflect the experience of the individual enterprise. Often, the indicators adopted aim at solving specific bottlenecks that had appeared in the process of production re-organization. In such cases, indicators such as quality control results, the amount of products rejected, or part of them, the amount of input saved, attendance records, and so on, are taken into consideration in the determination of the bonus. On the other hand, the appearance of such schemes is very recent. Their application is still experimental, as stressed in section four in the discussion of negotiation practices and implementation.

In a situation such as this, a sharp distinction between traditional and non-traditional aspects cannot be made as both sum up to establish an experimental pay item, the specific features of which are to be defined at a later date (probably during a subsequent round of local negotiations). The same is true of the common distinction between gain-sharing plans (based on indicators of technological productivity) and profit-sharing plans (based on indicators of profitability). Several studies²⁵ conclude that the trend is towards the enforcement of "mixed" plans based on formulas containing both types of indicators. The plans are often "personalized" by the inclusion of the number of days worked by individuals, and sometimes they include additional indicators aimed at improving aspects of production quality such as the ones referred to above. All these authors

25. Among others, Della Rocca and Ponzellini (1987), Biagioli and Cardinaleschi (1991a), Cossentino and Prosperetti (1991), Costa (1991), Uvalic (1990) and Danieli and Ghidoni (1991).

consider such plans to be more efficient in that they are capable of adding the effect of enhancing the clan spirit among workers to the stimulating effect of fixing production targets. Thus they facilitate the ongoing changes in labour organization and encourage the solution of the specific bottlenecks existing in a firm (too high a number of pieces rejected, too much input used, absenteeism, and so on).

The typology of the financial participation schemes is shown in Table 2.2. The agreements, which were reached through local negotiation, were collected and studied by Biagioli and Cardinaleschi (1991a). Nine types of plans were distinguished and recorded according to the year of settlement. The nine types have been broken down on the basis of the indicators used to compute the variable pay item. The indicators are the following: (1) production bonuses, based on indicators of the increase in the quantity produced and/or in the level of productivity; (2) profit-sharing plans, providing for bonuses linked to indicators of the financial and budgetary performance of the firm; (3) incentives aimed at reducing the time required to produce the final product (hereafter called "time incentives"); (4) lump sum payment bonuses; (5) schemes to be defined - both (4) and (5) defer the definition of specific features of the gain- or profit-sharing system, which are only foreseen in the agreement, to future negotiations; (6) piece-work systems, considered here only when "non-traditional" aspects are present, which greatly reduces the number of such systems examined in this study. (The same holds true for production bonuses); (7) bonuses whose payment is based on product or product-part indicators for individual workers or small groups of workers; (8) attendance premiums; (9) mixed systems, in which different types of indicators are considered jointly.

Two indications clearly emerge from the evidence recorded. On the one hand, very few financial participation plans were enacted before 1988²⁶. After this date they

26. Moreover, among the few financial participation schemes settled in this period, we find some profit-sharing schemes agreed upon in the "retail trade" and "restoration" sectors, providing for bonuses computed on the basis of either

increased suddenly. On the other hand, some of the pay items contained in the agreements collected are still very similar to "traditional" pay items. This is true for production bonuses, piece-work systems and attendance premiums, although they contain some "non-traditional" elements, such as the ones listed previously and the provision for pay bonuses to reward various forms of flexibility in work schedules²⁷. According to Biagioli and Cardinaleschi (1991b), in 118 out of the 264 plans they examined, the weight of traditional elements still prevailed over that of the new elements. Only 98 local agreements contained genuinely "non-traditional" reward systems, most of which provided for pay items based on budgetary indicators (55 gain- and profit-sharing schemes plus 24 "mixed cases", in which both budgetary and quantitative indicators were considered jointly). The remaining 18 agreements postponed the precise definition of a reward scheme to future negotiations. These latter agreements left the scheme outlined roughly, and on occasion, reduced it to a lump sum pay bonus. They usually provided for the establishment of joint commissions made up of both firm and union representatives to examine the effects of technological and organizational changes on productivity and work organization, and to indicate future goals.²⁸

overall sales or gains. Therefore, in these sectors, sales and gains are more an indicator of the services produced than an indicator of profits. Hence, these bonuses are to be considered mainly as attempts to introduce the logic of traditional incentive schemes into these sectors than as radical changes from past experience.

27. This is common practice especially in the textile industry.

28. Other studies have found similar results using different typologies.

The one carried out by Cossentino and Prosperetti (1991, pp. 30-33) reports that among the 128 gain- or profit-sharing schemes they examined, 37 were based only on technological productivity indicators, 29 on productivity and "quality" indicators, 10 included lump-sum bonuses and provided for the postponement of the precise definition of

The same typology has been broken down in Table 2.3 by economic activity and in Table 2.4 the frequencies of the specific indicators are recorded in a more detailed manner, that is, the budgetary indicators have been specified with consideration of all the indicators present in the agreements. As most of the plans provide more than one indicator, the sum of the number of indicators is higher than the number of plans examined. More specifically, the table also reports the frequencies of the plans in which only one indicator is used to compute the variable pay item and of the plans in which more indicators are used. The latter plans largely prevail: 70.8% of the schemes employed more than one indicator. It should also be noted that only 216 of the 264 agreements examined here are based on one or more specific indicators. The remaining 48 postpone to a future date the precise indication of the mechanism intended to make wages dependent upon the firms economic results. After eliminating the latter plans, the number of indicators contained in the remaining plans were also recorded: on the average plans with more than one indicator contain more than three indicators.

the pay item to the future, and 52 agreements contained budgetary indicators, 21 of which added to "quantity" and "quality" indicators.

Danieli and Ghidoni (1991, p. 30) found that in the sample of co-operatives they studied, 12 out of 27 schemes were based on budgetary indicators, whereas only 5 were based on quantity indicators and 10 combined indicators of the quantity produced and of the profitability achieved.

2.3 - Amounts and Pay Flexibility.

The amount resulting from variable pay items and the wage flexibility they offer were estimated in two ways: through ex ante estimations of the minimum and maximum values provided by the financial participation schemes and through empirical surveys of the amounts actually distributed.

Using the first method, estimations of the incidence of these bonuses on the "base pay" established by the national agreements for each economic sector (including "scala mobile" indexation) were calculated. They are reported in Table 2.5 as averages by industry for the grades most commonly referred to in the agreements. Both the minimum and the maximum amounts provided for by the agreements have been included. These estimates should be considered with much caution. First of all, one should keep in mind the lack of homogeneity of the initial data on which the averages are based. As for the minimum values, sometimes they are granted in any case, but sometimes payment is dependent upon the achievement of some threshold of the indicator and the threshold may be very easy or very difficult to reach. However, the averages of the minimum values are sufficiently significant. Moving on to the maximum values, the dishomogeneity increases, as does the uncertainty of calculating their averages. These values often refer to the last year of the agreement's validity (in which case, dividing them by the present value of the "national minimum wage" would lead to an overestimation of their incidence); however, this is not always the case. In several cases, the maximum values indicated in the agreement are purely theoretical, as the target required to obtain them is so high that payment becomes very unlikely, or virtually impossible. Although they are subject to all the provisos mentioned previously, these values can provide a prima facie estimation of the weight of these pay items. The averages of the maximum values ranged between percentages of 4.5% (for the food industry) and 8.3% (for chemical firms) of the national base pay, whereas minimum values ranged from 2.8% to 5.1% (same industries) - percentages which are far from being insignificant.

Therefore, substantial differences exist among firms, which decreases the significance of the averages. A more useful indicator of the importance of non-traditional reward systems may thus consist in the number of agreements in which the bonuses are rather high. The number of agreements in which the minimum and maximum total values exceed one and two million lire per year respectively, are thus reported in Table 2.5.²⁹ Although the number of agreements providing for bonuses of more than one million lire was rather high - 43 when minima were considered, 96 when maxima were examined - and in several cases, very high amounts (in a few cases, even much more than 2 million)³⁰ may be reached, it is not easy to answer the major question usually raised with reference to this subject: how much wage flexibility do they provide for? The situations we have examined are far from being homogeneous in this respect. In some cases, the minima are granted whatever economic results are achieved by the firm. In other cases, even the minima are subject to the attainment of targets, some of which are difficult to reach. The improbability that most maxima could be actually reached has already been outlined. Hence, both the minimum amount and the probable fluctuations of the premiums cannot be assessed in a general way. However, in the majority of cases the minimum values are granted and the difference between maxima and minima could be regarded as a prima facie estimation of the possible range of fluctuation of the

29. As the minima in the national agreements for the grades referred to in local settlements, range between 16 and 17.5 million lire per year, a premium of one million per year increases pay by about 6%, a rather substantial percentage for a new pay item obtained through local bargaining.

30. It is somewhat surprising that several agreements with premiums of more than two million lire per year have been settled in service firms, a sector usually characterized by comparatively low wages. Therefore, a closer examination of such agreements suggests that the conditions for the maximum levels established are very rigid and unlikely to occur.

bonuses. This suggests that the actually variable part of the pay provided for by these agreements, ranges from 2 to 3% of total pay.³¹

As to the amounts actually distributed, a recent survey carried out by the Hay Group (1992)³² found the variable part of the salaries obtained by non-manual workers in a group of large firms to have increased throughout the eighties. In 1991, it amounted to 4% of total pay for medium-level non-manual workers (it was 3.2% in 1988), 5.2% for high-level non-manual workers (4.3% in 1988), 5.2% for staff members (9.4% in 1988) and 12% for managers (12.7% in 1988). A comparison with data collected in other European countries showed that these shares are similar to those obtained by similar workers in France and Spain, higher than in Belgium, the United Kingdom and Netherlands, and lower than the amounts obtained by German workers. The survey included both financial participation schemes, provided for by local collective agreements, and merit pay schemes offered by firms outside collective bargaining. Hence, the Hay Group data are not comparable with the theoretical estimates reported above.

31. Cossentino and Prosperetti (1991, p. 34) estimate the "actually variable" share of pay in their sample to be 2.88%.

32. The data quoted are from page 56. See also the comment by F. Rossi.

3. THE POSITIONS OF SOCIAL AND POLITICAL PROTAGONISTS.

Financial participation schemes were proposed by employers as an answer to trade unions requests for higher fixed wages. At first, trade unions opposed the proposals for variable pay items, in some cases fiercely, as was the case for Fiat, the largest private company in Italy. In Fiat plants Fiom-Cgil, the main union, refused for months to sign an agreement that had already been accepted by other trade unions. In most firms union opposition took the form of bargaining over a large part of the premium to be considered as fixed, though (as already noted in section 2.3) wage flexibility was accepted. The result of this opposition was that the real wage flexibility provided for by the schemes was rather low.

Subsequently, the views of social protagonists changed, albeit slowly and not uniformly.

In Italy, collective negotiation at the company level is rather widespread, and most schemes offered trade unions occasions for obtaining further information on company programs. There was then more room for plant-level negotiations and union involvement in the implementation of the schemes. Evidence was also emerging to show that in many cases financial participation schemes had expanded from experiences of local bargaining concerning how to cope with the effects of the previous recession, through a combination of measures aimed at increasing both the flexibility and productivity which the particular financial participation scheme adopted was in a sense the result of.³³ Moreover, the most controversial case of financial participation, at Fiat, was being developed from an initial offer of a lump sum bonus into a more participatory scheme³⁴ while, since the end of 1990, other fields for local bargaining were opening

33. We shall refer to some of these cases in section 4.2.

34. Also examined in section 4.2.

up, that is training programs and technological innovations.

The changes in the attitudes of plant-level trade unions were followed by the insertion of an article in the national contract for bank workers providing for the establishment of a bonus based on the increase of company productivity (see Di Mauro, 1991). Finally, the program prepared at the 12th Congress of the C.G.I.L. indicated in the expansion of "forms of codetermination" one of the main instruments to achieve the "primary political target of bringing out and humanizing work conditions". (CGIL, 1991, chapter 4, page 12). The other two major trade unions, CISL and UIL, had never opposed financial participation, and have not changed their attitudes.

A survey carried out by Cossentino and Prosperetti (1990), found that a large majority of the employers of firms in which financial participation schemes had been implemented gave a positive evaluation of the results obtained through their implementation.³⁵ On the contrary, the official opinion of entrepreneurs' associations on financial participation has started to cool down as the economic situation of the Italian economy started to deteriorate in the second half of 1990. However, this change of opinion is probably a reflection which mirrors the request of reducing the levels of wage negotiation Confindustria is making at the trilateral discussion we already mentioned in the introduction.

35. See section 4.2.

4. SOCIAL AND ECONOMIC EFFECTS.

Throughout this paper we have discussed several reasons why the Italian experience with variable pay items, involving the financial participation of employees in enterprise results, developed as a part of the change in bargaining practices (characterized by the increasing decentralization of wage determination processes). The Italian experience took place as a consequence of the need for labour re-organization induced by the development of re-organization processes based on the application of micro-electronics to production, administration and organization activities of enterprises. During the eighties, most of the industries involved in these pay schemes faced conditions of strong international competition and were moving towards total-quality strategies, requiring increasing degrees of integration among the various sectors of an enterprise's activity. In these situations, a primary goal of human resources management strategies is to induce workers to take on more participatory and co-operative attitudes. Financial participation may help to achieve this target. The types of plans more apt to do this seem to be those of a "mixed type", based on formulas combining indicators that take into account improvements in productivity and the quality of the product, as well as enterprise profitability.³⁶ The picture emerging from this outline of the Italian experience with its typical financial participation schemes only vaguely sketched explains how such schemes could have emerged within the private sector of the economy without resorting to any government funding. Hence, a two-way link between financial participation and productivity should be assessed, whereas the search for wage flexibility, at least as an attempt to decrease marginal labour costs, does not seem to have been important.³⁷ In

36. This conclusion is outlined by both Biagioli and Cardinaleschi (1991b) and Cossentino and Prosperetti (1990).

37. It might well be that firms consider the wage flexibility provided for by these schemes as a remedy, in case the economic situation worsens in the future, but this would

fact, Cossentino and Prosperetti (1990) found that almost 90% of the employers they interviewed thought that the implementation of financial participation schemes had led to increased productivity (page 43), while only slightly more than 40% of them concluded that financial participation had increased wage flexibility. Moreover, more than 60% of the same employers thought that the schemes had led to positive effects on the quality of the goods produced and a nearly equal percentage thought that financial participation had been a useful device for incentivating workers and reducing conflicts.

As yet, there is no quantitative evidence available on the economic effects of financial participation. However, studies on the changes in negotiation methods and the likely effects of these schemes on industrial relations are being conducted, based on the analysis of the specific agreements. We shall thus start our investigation of the effects of financial participation with a short review of the aspects related to industrial relations (section 4.1), followed by a brief account on how these schemes have functioned in a few cases, with the aim of suggesting some hypotheses for future investigation (section 4.2).

4.1 - Negotiation Methods and Effects on Industrial Relations.

We have already mentioned that in Italy financial participation schemes emerged as a part of the decentralization of bargaining negotiations at the company level and that in most cases, their implementation was regarded as experimental by both firms and unions. The methods of computing, distributing and negotiating them are indicative of the differences between the new pay schemes and both the traditional pay items aimed at boosting work

represent a different kind of wage flexibility than the one advocated by Weitzman (1984).

efforts at the local level (piece-work systems) and the fixed "production bonuses" that were negotiated at the company level in the seventies and early eighties.

As for the methods used to distribute these premia (Table 4.1), the most common distribution is linked to target achievement (35.7%). On the contrary, payment on an individual basis is foreseen in only 17.5% of the agreements, and includes reference to attendance (especially in the food industry). Lump-sum payments (19.7%) and distribution according to the professional grade of employees (15.6%) are less frequent.

Most schemes (55.1% of those examined by Biagioli and Cardinaleschi, 1991a) are computed on overall results of the enterprise (Table 4.2). Very few are based only on individual performances (13.5%, usually linked to attendance), or on performances relative to departments (18.5%). The remaining 12.9% are differentiated according to establishments. Calculation and payment of the premia usually take place annually (in 65.3% of the agreements containing this specification) and, less frequently on a monthly basis (18.8%). Monthly payment is particularly frequent among chemical firms. In several textile firms (25% of the total), semi-annual payments have been adopted. (See Biagioli and Cardinaleschi, 1991a, Table 5.5, page 85).

Therefore, in about 40% of the agreements, no terms are provided for a bonus calculation and payment schedule. Although most of these agreements are also the ones that postpone the precise definition of the features of the new pay item to the future, such a high percentage of unspecified terms should not be underestimated, nor should one overlook the fact that in a nearly equal percentage of agreements no procedure is outlined for the joint evaluation of the functioning of the new incentive scheme. These factors and the many others mentioned previously concerning the vagueness of these bonuses, suggest that most of these agreements should be considered as indications (or perhaps, declarations of intent) that both management and unions want to move towards more co-operative systems of industrial relations than the ones implemented in recent years.

However, at the same time, both parties are being very careful not to bind themselves to rules that are too stringent, preferring to experiment with new pay items³⁸ without precisely indicating the new order of rules that future bargaining should settle. The risk of such pragmatic local bargaining is that, as soon as Italian economic expansion reverses, conflict will again prevail over co-operation.

Although the new order of rules for more co-operative industrial relations is only implicit, if not lacking, many of the agreements provide procedures for the constitution and functioning of the joint commissions of firm and union representatives (37.9% of the agreements) and in several cases, outside experts are included (Table 4.3). The purpose of the commissions is to define and calculate the bonus, and in several cases, to evaluate the factors hindering target achievement and ways to eliminate them. In the Italian experience, starting from the second half of the seventies, there have been widespread attempts by the unions to obtain the right to be informed at the establishment level of the results achieved by the firm and the strategies implemented by management. Although this development has been hampered by the deterioration of the economic situation and of industrial relations which occurred in the first half of the eighties, the national agreements in various industrial sectors contain norms for the provision of several types of information from management to shop-stewards, and local agreements have often extended the range of this "right to information" and provided procedures for the periodic discussion of such information. For example, in almost all the firms examined by Biagioli and Cardinaleschi (1991a), information on work organization is foreseen and in more than one third of them, information is usually provided on the investment programs of the enterprise and their expected effects on employment, workers' skills and grades. The constitution of such commissions is a further step towards

38. See Regalia (1989), for an examination of other aspects of recent local bargaining, the conclusions of which are similar to the ones stressed here.

the development of forms of codetermination and co-operative practices aimed at improving labour productivity. Financial participation schemes may help to strengthen this trend.³⁹

4.2 - Economic effects and raison d'être of financial participation in some individual cases.

We hope the cases reported in this paragraph provide an idea of the mixture of flexibility and reorganisation programs leading to increased productivity, and improved industrial relations, through collective bargaining, in the companies that have implemented financial participation schemes. These cases are also demonstrative of some of the micro-economic effects of financial participation schemes and indicative of the difficulties such plans are presently encountering due to the slump in the Italian economy. Table 4.4 outlines the most relevant characteristics and effects of the seven cases.

a) Olivetti: A profit-sharing experience.

The agreement settled between Olivetti and local trade unions on the 20th of November 1988 was a typical profit-sharing scheme. The "competition premium" (this is the name of the bonus) was based on the formula:

$$\text{Premium} = (I_c - 6) \cdot 0.25 \cdot \text{MP}$$

$$\text{with } I_c = (S/Rnc) \cdot 100$$

39. Both Danieli and Ghidoni (1990) and Biagioli and Cardinaleschi (1991b) single out several factors suggesting that a "virtuous circuit" connecting financial participation and productivity, comes into operation in the most successful experiences.

where I_c is the competition premium, S the gross operating surplus, consolidated for the whole group;⁴⁰ Rnc consolidated total sales, MP the maximum amount of the premium (obtained for a S/Rnc ratio of 10%).

The premium was due to be distributed to all workers according to their grades⁴¹ and started at a S/Rnc ratio of 6%. A fixed part was indicated and the variable premium was complemented by the increase of the traditional, fixed production bonus.

Olivetti has traditionally had a highly coparticipated system of industrial relations at the company level: consultation and sharing information with trade unions were customary procedures at the company. Nevertheless, profitability suddenly decreased: gross operating surplus - which had reached levels of 12 and 10% of total sales in 1984 and 1985 - decreased to 4.6% in 1987 and 4.8% in 1988. In 1989, an average premium of 1.25 million lire per worker was distributed, but in the same year gross operating surplus decreased from 406 to 382.4 billion lire (i.e., from 4.8 to 4.2 per cent of total sales) and the average premium was reduced in 1990, to 0.8 million. In 1990, the economic situation of Olivetti worsened: gross operating surplus fell to 271.7 billion lire (2.9% of total sales). The company cut the average premium to 0.442 million⁴² and trade unions cancelled their acceptance of the scheme.

40. Olivetti is one of the largest European groups producing hardware and software, with total sales amounting to over 9000 billion lire.

41. The scale of differentiation was the same as that in the national contract for metal and mechanical workers.

42. It must be kept in mind that had the gross operating surplus to total sales ratio reached 10%, the expected maximum would have been around 3 million lire per worker. Hence, the cut was considered to be tremendously drastic by workers.

However, this story did not produce a break in industrial relations at Olivetti. At the beginning of 1992, when the company announced a substantial excess of workers with respect to production requirements, an agreement was reached by company management and trade unions to deal with the situation without dismissing them. However, Olivetti obtained a substantial financial support from the state and some workers were transferred to the public sector and other stabilizers were used.⁴³ It seems then that some effects on reducing unemployment have been provided by this experience. However, it is uncertain whether this is a result of the wage flexibility provided for by the scheme or simply a consequence of the financial support offered by the state and of Olivetti's pre-existing style in the management of industrial relations and human resources.

b) Fiat: a case of "total-quality" human resources management.

To some extent, Fiat's experience⁴⁴ has been the opposite of Olivetti's. Fiat has always been regarded by trade unions as one of their toughest opponents. Nevertheless, the implementation of "total-quality" systems of production organization - aimed at reducing the costs of monitoring workers through the reduction of hierarchical grades⁴⁵ - has pushed management to stabilize the "variable"

43. Especially the possibility for workers to retire before the age established by law without losing the right to the full amount of the pension, as if they had worked until retirement age.

44. It is well-known that Fiat is Italy's largest private company. The Fiat conglomerate includes companies operating in several sectors. The core of Fiat's business is the production of automobiles.

45. Described in Cerruti-Rieser (1991) and Rieser (1991).

premium, when facing a substantial decrease of profits.

A variable pay item was first included in an agreement settled on July 18th 1988 by Fiat and two of the three trade unions: Fim and Uilm. Fiom, the most representative union, did not accept a premium consisting in a lump-sum for the first year⁴⁶ or the establishment of a commission to study the implementation of a variable pay item. Nevertheless, Fiom participated in the commission and one year later, signed an agreement that established a "premium for group performances" computed through the following formula:

$$P = 0.5 \frac{(S/N)_{n-1}}{(S/N)_{n-2}} + 0.2 \frac{(S/C)_{n-1}}{(S/C)_{n-2}} + 0.2 \frac{(A/C)_{n-1}}{(A/C)_{n-2}} + 0.1 \frac{(O/S)_{n-2}}{(O/S)_{n-1}}$$

where P is the premium, S total sales, N the number of workers, A net total assets, C invested capital and O outlays for repairs and replacements.

The premium was partly fixed (around two thirds of the total) and partly variable. Its maximum amount was 1.560 million lire for the majority of workers (excluding the highest grades).

The average amount distributed in 1989 was 1.3 million lire. Despite a substantial drop in profits in the next two years⁴⁷ and a level of total sales growing by only 2% in 1990 and which remained almost unchanged in 1991, the premium was maintained at amounts of 1.3 and 1.283 million lire to avoid conflicts. In the meantime industrial relations improved substantially, as local trade unions were involved in the implementation of a massive training

46. Amounting to one million lire per person for the vast majority of workers; 1.15 and 1.3 million per person for the two highest grades of non-manual workers.

47. Net profits decreased from 4670 billion lire in 1989 to 1613 in 1990 and to 1100 million in 1991.

program, in which almost all workers participated. The local unions were also consulted on several substantial changes in labour conditions, induced by technological innovations.

Fiat thus represents a case in which wage flexibility was sacrificed by company management to gain workers' acceptance of technological innovations and productivity requirements.

c) Ratti: a premium on quality and targets.

Ratti is a medium size company (about 1100 employees) in which silk products are manufactured. In the mid-eighties, production organization was rather out-dated and the wage structure was characterized by lower wages lower than in other similar companies nearby. This situation was determining a high turnover rate. The company also based wages on attendance premia.

An investment program was enacted around the mid-eighties and a commission - made up of union officers, company representatives and outside experts - was established to manage human resources in the transition from the old to the new organization of production and labour.

The commission suggested the establishment of a premium, that was agreed upon in 1988. The formula was:

$$P = T \cdot Q^2$$

where P is the premium, T the ratio of theoretical to actual production time (established by the commission for every department) and Q an indicator of quality (in most departments, it was fixed according to the percentage of rejections).

The scheme was then based upon the fixing of the time required to complete each phase of production. It worked fairly well for improving productivity, profitability and

wages. A major result obtained by the company in this period was a substantial increase in exports. Net profits grew from 13040 (1987) to 25753 million lire (1989) and their ratio to total sales increased from an already high 9.7% (1987) to 10.5% in 1989. The premium reached an average amount of 2.64 million lire per worker in 1990, and the turnover started to decrease.

Starting from 1990 exports stopped growing and company strategy changed once again. Investments were aimed at improving distribution abroad and at acquiring foreign companies. The commission was abolished; employment increased, but hiring tended to favour young non-skilled workers, and consequently rejections increased again. Net profits remained high in 1990 (23114 million lire, 8.3% of total sales) but decreased to about 15000 in 1991 (only 5.5% of total sales). The premium remained more or less unchanged in the first half of 1991 and started to decrease in the second half of the year.

In this case, the favourable effects on productivity, employment, profits and wages brought about by the interaction of innovation, production changes and new human resources management policies in the second half of the eighties, risk sudden reversal by the change in company strategy.

**d) Other cases of premia based on targets and quality:
Italtel, Barilla and Parmalat.**

Some other interesting examples of premiums based on the achievement of targets and on quality improvement are the premiums established at Italtel,⁴⁸ Barilla⁴⁹ and

48. The premium is calculated on the basis of an average value, consisting of an indicator of target achievement, fixed for groups of workers and an indicator of gross profits (the increase in the ratio between the value added and labour costs) computed at the company level.

Parmalat.⁵⁰

More information on the three cases is provided in Table 4.4. The features of these cases are similar to those in the case examined previously. On the one hand, the premiums originate from attempts to connect human resources management with production strategies. On the other hand, they were settled in companies that had policies of industrial relations based on worker participation and they induced further forms of consultation and information between management and trade unions.⁵¹ Moreover, targets were fixed at achievable levels and variable wages increased along with productivity. In the case of Barilla, employment levels also increased.

Our findings in these cases are similar to those found for the first phase of the experience at Ratti. The attempt to link together production and human resources management by establishing financial participation schemes aimed at motivating labour direct efforts to solving production and/or organization problems, improves company performance.

49. The premium is computed according to a formula based on three elements: a productivity indicator (either the change of the number of products per hour or the number of pieces rejected, according to departments), an indicator of quality (also calculated separately in each department) and the change of net operating surplus.

50. The premium is based upon the achievement of production targets and on the percentage of pieces rejected, both differentiated by department).

51. Moreover, a program aimed at eliminating discrimination against women was also implemented at Italtel, and it involved worker representatives in its enforcement.

e) Eurojersey: a case of labour flexibility.

Eurojersey is a small textile industry, employing about 280 workers. In the early eighties, the company was undergoing a period of serious crisis and was about to go into bankruptcy: total sales had decreased from 23.7 billion lire in 1982 to 15 billion in 1984. Extensive labour flexibility (overtime in periods of high demand, compensated by subsequent reductions in work hours, job-sharing, night shifts) increased capital utilization and doubled physical productivity (number of looms attended by one worker) in three years. In the meantime, wage flexibility (the amount of wages fixed at the company level decreased by around 10%) relieved profitability. All these forms of flexibility were negotiated with the trade unions. In the meantime training programs were implemented along with investment plans. There was an impasse in the production situation, due to the high level of rejections and returns. An agreement settled in 1988 thus established a "quality premium", about half of which was fixed and the remaining variable was linked to the target of reducing rejections and returns.

The target was partially achieved: rejections and returns decreased, although the decrease was not sufficient for workers to obtain the maximum amount of the premium. Wages rose to higher levels than those obtainable in nearby companies for comparable labour activities.

REFERENCES

- Asap (issues from 1986 to 1989), **Rapporto sui salari** (Franco Angeli, Milano).
- Assolombarda (issues from 1976 to 1989), **Retribuzioni e costo del lavoro dell'industria manifatturiera nella provincia di Milano** (Milano).
- Biagioli, M. (1989), " I differenziali retributivi interprofessionali e intercategoriale", **Il sistema retributivo verso gli anni '90** (Jovene editore, Napoli); pp. 177-189.
- Biagioli, M. (1985), "Contrattazione aziendale e differenziali retributivi interaziendali", **Economia e Lavoro**, vol. XIX, n. 3; pp. 75-110.
- Biagioli, M. (1990), "The Evolution of the Italian Pay Structure at the Firm Level from 1975 to 1988", in Ministère du Travail, de l'Emploi et de la Formation Professionnelle and C.E.R.C. (editors): **Rencontre européenne sur les salaires: Actes du colloque** (Paris); pp. 77-96.
- Biagioli, M. and Cardinaleschi, S. (1991a), **La diffusione di voci retributive legate ai risultati di azienda e di altre voci incentivanti "non tradizionali" nella recente contrattazione aziendale** (Ediesse, Roma).
- Biagioli, M. and Cardinaleschi, S. (1991b), "La diffusione di voci retributive legate ai risultati di azienda: una ricerca empirica sulla recente esperienza italiana", **Politiche del Lavoro**, n. 14; pp. 53-103.
- Cella, G.P. (ed) (1989), **Il ritorno degli incentivi**, (Franco Angeli, Milano).
- Cerruti, G. and Rieser, V. (1991): **Fiat: qualità totale e fabbrica integrata** (Ediesse, Roma).

- Cesarini, F. (1987), "Le offerte di azioni ai dipendenti: aspetti economici e tecnici nella recente esperienza delle società quotate italiane", *Politiche del lavoro*, n.6; pp. 72-78.
- C.G.I.L. (1991), *Strategia dei diritti etica della solidarietà: programma per il 12 congresso* (Ediesse, Roma).
- Cossentino, F. and Prosperetti, L. (1990), "Gli accordi di gainsharing in Italia: diffusione, motivazioni e valutazioni aziendali", *Produttività e Competitività*, n. 3-4; pp. 27-53.
- Costa, G. (1989), "Le risorse umane nella sfida degli anni novanta", *L'Impresa*, n. 3; pp. 13-23.
- Costa, G. (1991), *Economia e direzione delle risorse umane*, (Utet, Torino).
- Danieli, E. and Ghidoni, R. (1990), "La partecipazione economica nelle imprese cooperative", *Sviluppo e Organizzazione*, n. 120; pp. 77-85.
- Danieli, E. and Ghidoni, R. (1991), *La partecipazione economica nelle imprese cooperative: i piani di remunerazione variabile e le forme di incentivazione salariale* (Lega delle cooperative, Bologna).
- Del Boca, A., Prosperetti, L. and Cossentino, G. (1991), "Le relazioni di lavoro tra partecipazione e conflitto", in Ministero del Lavoro e della Previdenza Sociale (editor): *Rapporto '89. Lavoro e politiche dell'occupazione in Italia* (Istituto Poligrafico dello Stato, Roma).
- Della Rocca, G. (1991), "Produttività e salari nelle relazioni industriali: L'esperienza italiana", in Della Rocca, G. and Prosperetti, L. (editors): *Salari e produttività: Esperienze internazionali e italiane* (Franco Angeli, Milano).
- Della Rocca, G. and Ponzellini, A. (1987), "Salari e produttività in Italia. Alcune considerazioni", *Prospettiva sindacale*, July-December; pp. 29-46.
- Di Monaco, R. (1991), *Produttività e retribuzioni variabili nelle aziende di credito* (Ediesse, Roma).

- Dina, A. (1991), "Qualità totale e organizzazione del lavoro, *Prisma*, n. 24, December; pp. 19-26.
- Estrin, S. and Wadhvani, S (1989), "Profit-Sharing", in Sapford, D. and Tsannatos, Z. (editors): *Current Issues in Labour Economics* (Mac Millan, London).
- Fasolo, F. (1989), "Analisi di un caso: Eurojersey", in Filtea CGIL Lombardia (editor): *Produttività, qualità e salario variabile* (Milano); pp. 52-54.
- FLM Lombardia (1984), *Indagine sulla struttura delle retribuzioni di fatto nell'industria metalmeccanica della Lombardia* (Milano).
- FLM Milano (1981), "La contrattazione: analisi dei dati nell'industria metalmeccanica a Milano dal luglio 1979 al dicembre 1980", *Quaderni di Dibattito Sindacale*, n. 5-6.
- Giavazzi, F. and Spaventa, L. (1989), "The Real Effects of Inflation and Disinflation", *European Economic Review*, n. 8; pp. 135-171
- Hay Group (1992): *Risultati e tendenze dell'indagine retributiva Hay: dirigenti e quadri 1991* (Milano).
- Hicks, J. R. (1966), *The Theory of Wages* (2nd edition. Mc Millan, New York).
- Ires CGIL Emilia-Romagna (1984), *Contrattazione aziendale e retribuzioni: un'indagine empirica sull'esperienza dell'Emilia-Romagna* (Franco Angeli, Milano).
- Marsden, D. and Saunders, C. (1981), *Pay Inequalities in the European Community* (Butterworths, London).
- Mediobanca (1991), *Dati cumulativi di 1743 società italiane* (Milano).
- Micheli, S. (1985), "L'esperienza della siderurgia", *Il Progetto*, n. 27; pp. 43-49.

- Ministero del Lavoro e della Previdenza sociale, (1985), **La politica occupazionale per il prossimo decennio** (Istituto poligrafico dello stato, Roma).
- Ministero del Lavoro e della Previdenza sociale, (1989), **Report '88: Labour and Employment Policies in Italy** (Istituto Poligrafico dello Stato, Roma).
- Osservatorio Cesos (1985), "La contrattazione aziendale nel 1983-84", **Contrattazione**, Vol. XII, n. 6.
- Nuti, D. M. (1986a), "Codetermination and Profit-Sharing", in **The New Palgrave. A Dictionary of Economics**, (The Mac Millan Press, London), Vol. I; pp. 465-469.
- Nuti, D. M. (1986b), **Codetermination, Profit-Sharing and Full Employment**, (European University Institute, Florence).
- Nuti, D. M. (1987), "Profit-Sharing and Employment: Claims and Overclaims", **Industrial Relations**; pp. 13-29.
- Regalia, I. (1989), **Informalità e regole. Verso giochi di cooperazione?** (Ires Lombardia, Milano).
- Regini, M. (1983), "Le condizioni per lo scambio politico. Nascita e declino della concertazione in Italia e Gran Bretagna", **Stato e Mercato**, n. 9; pp. 353-384.
- Regini, M. (1988), "Le relazioni industriali tornano in azienda: perchè e con quali prospettive?", **Giornale di diritto del lavoro e delle Relazioni industriali**; pp. 61-84.
- Rieser, V. (1991), "Con Weber e con Simon alla ricerca della nuova Fiat", **Politica ed Economia**, May; pp. 56-59.
- Rossi, F. (1992), "Evidenze e trend dalle indagini retributive Hay 1991 (mimeo. Paper given at the conference on "La produttività delle risorse umane", held in Milano by Assolombarda and Hay Group on the 8th April 1992).

- Samuelson, P. A. (1977), "Thoughts on Profit Sharing", *Zeitschrift fur die Gesamte Stuartswissenschaft*.
- Santi, P. (1989), "Economia della partecipazione e relazioni industriali", *Giornale di Diritto del Lavoro e delle Relazioni Industriali*; pp. 423-447.
- Uvalic, M. (1991), *The Pepper Report: Promotion of Employee Participation in Profits and Enterprise Results in the Member States of the European Community* (Commission of the European Communities and European University Institute, Brussels and Florence).
- Valvo, T. (1986), *Retribuzioni a confronto: Indagine empirica sulle strutture e sui differenziali retributivi nell'area torinese* (Franco Angeli, Milano).
- Weitzman, M. L. (1984), *The Share Economy: Conquering Inflation* (Harvard University Press, Cambridge-Massachusetts).
- Weitzman, M. L. and Kruse, D. L. (1991), "Profit Sharing and Productivity", in Blinder, A. S. (editor): *Paying for Productivity* (Brookings Institution, Washington); pp. 95-140.

Table 1.1 - WAGE DRIFT, BONUSES AND PAY ITEMS NEGOTIATED BY UNIONS AT THE COMPANY LEVEL: 1975-1988.

Industries and Grades of Workers	APRIL 1975			OCTOBER 1979		APRIL 1984	OCTOBER 1988		
	Unilateral Concessions and Individual Bargaining	Pay Items Negotiated at the Company Level	Locally Determined Share of Pay	Locally Deter- mined Share of Pay (excluding seniority)	(including seniority)	Locally Determined Share of Pay*	Unilateral Concessions and Individual Bargaining	Pay Items Negotiated at the Company Level	Locally Determined Level of Pay
Metal and Mechanical Industry:									
Non-manual	16.9	17.4	34.3	26.7	—	23.4	18.8	13.4	32.2
Manual	4.2	22.2	26.4	18.6	—	12.8	2.6	15.0	17.6
All Workers	10.0	20.0	30.0	21.9	—	17.9	11.4	14.1	25.5
Chemical Industry:									
Non-manual	11.7	19.2	30.9	21.3	34.2*	28.7*	13.3	21.0	34.3
Manual	4.6	27.8	32.4	19.2	28.4*	20.6*	1.6	21.9	23.5
All Workers	7.7	24.0	31.7	20.2	31.2*	25.3*	9.5	21.3	30.8
Food Industry:									
Non-manual	n.a.	n.a.	n.a.	23.7	32.7*	22.0*	9.9	19.0	23.9
Manual	n.a.	n.a.	n.a.	21.1	24.5*	12.5*	1.6	21.3	22.9
All Workers	7.2	13.5	20.7	22.5	28.1*	16.5*	5.9	20.1	26.0
Textile Industry:									
Non-Manual	9.3	10.4	19.7	24.0	29.0*	25.5*	18.8	6.8	25.6
Manual	2.9	11.6	14.5	20.2	22.7*	16.0*	1.0	7.8	8.3
All Workers	3.9	11.4	15.3	21.3	24.5*	18.9*	6.4	7.5	13.9

Source of the data from which calculations have been made: Assolombarda, Retribuzioni e costo del lavoro dell'industria manifatturiera nella provincia di Milano (Issues from 1976 on).

n.a. = not available.

* - In 1984, the share of pay determined at the company and plant levels of the chemical, textile and food industries also included seniority premiums. For the sake of comparison, both aggregates have been recorded for 1979, the one including seniority premiums (comparable with 1984) and the one excluding seniority premiums (comparable with 1975 and 1988).

Table 1.2 - ESTIMATION OF THE SOURCES OF WAGE AND SALARY INCREASES: METAL AND MECHANICAL INDUSTRIES, 1975 TO 1988.

Categories of Workers and Time Periods	National-Level Negotiation of Contract	Scala Mobile Indexation	Seniority Premiums	Unilateral Concessions and Individual Bargaining	Union, Company and Plant Negotiations	Total Variation of Pay
Non-manual Workers:						
Apr. 1975-Oct. 1979	14.0	58.5	8.9	9.0	9.7	100
Oct. 1979-Apr. 1984	37.1	38.3	4.1	15.5	5.0	100
Apr. 1984-Oct. 1988	20.7	29.1	-0.7	28.8	22.1	100
Manual Workers:						
Apr. 1975-Oct. 1979	16.5	70.8	1.0	2.4	9.3	100
Oct. 1979-Apr. 1984	35.0	51.1	6.3	4.6	3.0	100
Apr. 1984-Oct. 1988	22.7	40.5	7.6	-0.5	29.7	100
All Workers:						
Apr. 1975-Oct. 1979	15.1	65.2	5.4	5.1	9.2	100
Oct. 1979-Apr. 1984	35.4	44.5	6.0	10.1	4.0	100
Apr. 1984-Oct. 1988	22.0	33.0	3.4	16.9	24.7	100

Source of the data from which the calculations have been performed: Assolombarda, Retribuzioni e costo del lavoro dell'industria manifatturiera nella provincia di Milano (Issues from 1976 on).

Table 2.1 - NUMBER OF EMPLOYEES INVOLVED IN FINANCIAL PARTICIPATION SCHEMES, BY SECTOR (1989)

Sector	Number of Workers	Percentage
INDUSTRY	447,919	65.9
Iron and Steel Products	64,296	9.5
Non-Metallic Minerals	5,337	0.8
Metal Products	314,979	46.3
Chemical Products	32,934	4.8
Printing Products	4,503	0.7
Food Products	10,257	1.5
Textiles	11,619	1.7
Other Manufactured Products	802	0.1
Building	3,192	0.5
SERVICES	232,260	34.1
Trade	32,048	4.7
Public Marketable Services	200,212	29.4
TOTAL	680,179	100.0

From: Nomisma, in "La Repubblica" 26 July, 1991, "Affari e Finanza" supplement, page 8.

Table 2.2 - FINANCIAL PARTICIPATION SCHEMES, BY TYPE AND YEAR OF SETTLEMENT

Types of Financial Participation Schemes	1981-84	1985	1986	1987	1988	1989*	Total	Per Cent Distribution
Production Bonuses**	-	4	2	4	38	15	63	23.9
Piece-work Systems	-	-	-	1	8	2	11	4.2
Attendance Bonuses	1	-	-	4	12	4	21	8.0
Quality Bonuses	-	1	-	-	13	8	22	8.3
Time-incentive Bonuses	1	1	1	-	-	-	3	1.1
Lump-Sum Bonuses***	1	-	-	-	15	2	18	6.8
Schemes to be defined***	1	-	1	-	26	2	30	11.4
Profit-Sharing Plans****	2	3	2	2	40	15	64	24.2
Mixed Schemes*****	1	3	1	3	12	12	32	12.1
Total	7	12	7	14	164	60	264	100.0

* - January to April.

** - Production bonuses also include "quality" bonuses (based on the number of pieces rejected, savings on input factors, and so on) and/or attendance premiums.

*** - In both cases, the definition of the new system was postponed to the future. Often gain- or profit-sharing schemes are indicated for future implementation.

**** - Only budgetary indicators.

***** - Including both budgetary and production indicators.

From: Biagioli and Cardinaleschi (1991a), page 25.

Table 2.3 - FINANCIAL PARTICIPATION SCHEMES, BY TYPE AND ECONOMIC SECTOR.

Types of Financial Participation Schemes	Chemical Industry	Metal and Mech. Industry	Textile Industry	Food Industry	Services	Total
Production Bonuses	14	24	12	12	1	63
Piece-work Systems	3	6	1	1	--	11
Attendance Bonuses	7	8	2	4	1	22
Quality Bonuses	5	5	12	--	--	22
Time-incentive Bonuses	--	3	--	--	--	3
Lump-Sum Bonuses	6	4	3	4	1	18
Schemes To Be Defined	6	18	1	5	--	30
Budgetary Indicators	15	16	6	3	23	63
Mixed Schemes	8	9	5	5	5	32
TOTAL	64	93	42	34	31	264

From: Biagioli and Cardinaleschi (1991a), page 24.

Table 2.4 - INDICATORS USED IN FINANCIAL PARTICIPATION SCHEMES, BY TYPE OF SCHEME.

Indicators	Number of Local Contracts Including the Indicator	Frequencies of Contracts in which It Appears	
		Alone	With Other Indicators
BUDGETARY INDICATORS:			
Total Sales	60	21.7	78.3
Value Added	8	—	100.0
Gross Operating Surplus	7	42.9	57.1
Net Profit	13	23.1	76.9
Others	39	7.7	92.3
Quantity Produced	95	10.5	89.5
Quality Indicators	66	15.2	84.8
STABILIZERS:			
Labour Costs	12	—	100.0
Number of Workers	26	3.8	96.2
Level of Capacity Utilization	27	25.9	74.1
Hours Worked	113	22.1	77.9
Days Worked	14	—	100.0
OTHER INDICATORS	30	6.7	93.3
TOTAL	510	29.2	70.8
Average Number of Indicators per Agreement	1.93	1.00	2.32

From: Biagioli and Cardinaleschi (1991a), page 59.

Table 2.5 - PERCENTAGE OF THE AMOUNTS OBTAINED THROUGH FINANCIAL PARTICIPATION SCHEMES OVER NATIONAL PAY*, BY SECTOR.

Sector	Total Bonuses over		Number of Agreements whose Minima		Number of Agreements whose Maxima		Number of Agreements
	Exceed Minimum Level	Exceed Maximum Level	Exceed 1 million per year	Exceed 2 million per year	Examined 1 million per year	2 million per year	
Metal and Mech. Ind.	3.4	6.1	2	34	7	77	
Chemical Industry	5.1	8.3	20	3	28	15	51
Textile Industry	3.5	5.6	3	1	13	1	28
Food Industry	2.8	4.5	4	1	10	2	35
Services	3.9	6.0	3	1	11	2	28

* - "National Pay" is the wage determined by the national collective agreement specific to the industry considered plus indexation ("scala mobile").

From: Biagioli and Cardinaleschi (1991a), page 33.

Table 4.1 - DISTRIBUTION OF THE FINANCIAL PARTICIPATION BONUSES, BY SECTOR. (Per Cent Distribution).

	Metal and Mech. Industry	Chemical Industry	Textile Industry	Food Industry	Services	Total
Target Achievement	35.1	34.2	39.2	35.5	36.0	35.7
Professional Grade	32.7	30.7	24.3	12.9	22.0	27.1
Lump Sum	19.3	19.8	20.3	21.0	24.0	19.7
plus Attendance Bonus	12.9	15.3	16.2	30.6	18.0	17.5
TOTAL	100	100	100	100	100	100

From: Biagioli and Cardinaleschi (1991a), pages 79-83.

Table 4.2 - LEVELS OF PAYMENT ESTABLISHED IN FINANCIAL PARTICIPATION SCHEMES, BY ECONOMIC SECTOR (In Percentages).

Level of Payment	Metal and Mech. Industry	Chemical Industry	Textile Industry	Food Industry	Services	Total
Individual	13.6	15.4	10.9	20.0	5.4	13.5
Department	18.2	13.8	19.6	20.0	24.3	18.5
Establishment	10.9	12.3	10.9	8.9	27.1	12.9
Enterprise	67.3	58.5	58.6	51.1	43.2	55.1
TOTAL	100	100	100	100	100	100

From: Biagioli and Cardinaleschi (1991a), pages 67-72.

Table 4.3 - PROCEDURES FORESEEN TO ASSESS THE AMOUNT OF THE VARIABLE PAY ITEMS BY SECTOR (Distribution in Percentages).

	Metal and Mech. Industry	Chemical Industry	Textile Industry	Food Industry	Services	Total
Commission for Joint Examination	32.3	39.1	50.0	38.2	35.5	37.9
Discussion of Problems	14.0	6.3	16.7	11.8	9.7	11.7
Information	18.3	6.3	23.8	8.8	12.9	14.4
Not Specified (but Referred to)	35.4	26.6	9.5	26.5	29.0	27.3
Not Foreseen at all	—	21.7	—	14.7	12.9	8.7
TOTALS	100	100	100	100	100	100

Source: Biagioli and Cardinaleschi (1991a), page 98.

Table 4.4 - TYPES, FEATURES AND AMOUNTS OF SOME FINANCIAL PARTICIPATION SCHEMES.

Companies (Main Activity)	Type of Scheme	Target of the Scheme	Size (Number of Employees in 1990)	An Evaluation of the State of Industrial Relations		Amounts distributed (in millions of lire per person)		
				Before the Agreement	After the Agreement	1989	1990	1991
FIAT (automobiles)	Total Sales Bonus	"Total Quality Strategy"	303,238	Though	Improved	1.300	1.300	1.283
OLIVETTI (Electronics)	Profit- Sharing	Wage Flexibility	53,679	Participative	Worse	1.250	0.800	0.442
ITALTEL (Telecommunications)	Target Achievement	Quantity and Quality	16,642	Fair	Same	0.650	1.700	1.230
RATTI (Silk)	Quality	Productivity Improvement	1,110	Out-dated	Improved	2.160	2.640	2.640
PARMALAT (Food)	Target Achievement	Productivity Improvement	1,316	Fair	Same	1.380	n.a.	1.540
BARILLA (Food)	Reduction of Rejections	Quality Improvement	5,326	Fair	Improved	—	—	—
EUROJERSEY (Textiles)	Reduction of Rejections	Labour Flexibility	280	Cooperative	Same	—	—	—

n.a. = not available.

Materiali di discussione

1. Maria Cristina Marcuzzo [1985] "Joan Violet Robinson (1903-1983)", pp.134.
2. Sergio Lugaresi [1986] "Le imposte nelle teorie del sovrappiù", pp.26.
3. Massimo D'Angelillo e Leonardo Paggi [1986] "PCI e socialdemocrazie europee. Quale riformismo?", pp.158.
4. Gian Paolo Caselli e Gabriele Pastrello [1986] "Un suggerimento hobsoniano su terziario e occupazione: il caso degli Stati Uniti 1960/1983", pp.52.
5. Paolo Bosi e Paolo Silvestri [1986] "La distribuzione per aree disciplinari dei fondi destinati ai Dipartimenti, Istituti e Centri dell'Università di Modena: una proposta di riforma", pp.25.
6. Marco Lippi [1986] "Aggregation and Dynamics in One-Equation Econometric Models", pp.64.
7. Paolo Silvestri [1986] "Le tasse scolastiche e universitarie nella Legge Finanziaria 1986", pp.41.
8. Mario Forni [1986] "Storie familiari e storie di proprietà. Itinerari sociali nell'agricoltura italiana del dopoguerra", pp.165.
9. Sergio Paba [1986] "Gruppi strategici e concentrazione nell'industria europea degli elettrodomestici bianchi", pp.56.
10. Nerio Naldi [1986] "L'efficienza marginale del capitale nel breve periodo", pp.54.
11. Fernando Vianello [1986] "Labour Theory of Value", pp.31.
12. Piero Ganugi [1986] "Risparmio forzato e politica monetaria negli economisti italiani tra le due guerre", pp.40.
13. Maria Cristina Marcuzzo e Annalisa Rosselli [1986] "The Theory of the Gold Standard and Ricardo's Standard Commodity", pp.30.
14. Giovanni Solinas [1986] "Mercati del lavoro locali e carriere di lavoro giovanili", pp.66.
15. Giovanni Bonifati [1986] "Saggio dell'interesse e domanda effettiva. Osservazioni sul capitolo 17 della General Theory", pp.42.
16. Marina Murat [1986] "Between old and new classical macroeconomics: notes on Leijonhufvud's notion of full information equilibrium", pp.20.
17. Sebastiano Brusco e Giovanni Solinas [1986] "Mobilità occupazionale e disoccupazione in Emilia Romagna", pp.48.
18. Mario Forni [1986] "Aggregazione ed esogeneità", pp.13.
19. Sergio Lugaresi [1987] "Redistribuzione del reddito, consumi e occupazione", pp. 17.
20. Fiorenzo Sperotto [1987] "L'immagine neopopulista di *mercato debole* nel primo dibattito sovietico sulla pianificazione", pp. 34.
21. M. Cecilia Guerra [1987] "Benefici tributari del regime misto per i dividendi proposto dalla Commissione Sarcinelli: una nota critica", pp. 9.
22. Leonardo Paggi [1987] "Contemporary Europe and Modern America: Theories of Modernity in Comparative Perspective", pp. 38.
23. Fernando Vianello [1987] "A Critique of Professor Goodwin's 'Critique of Sraffa' ", pp. 12.
24. Fernando Vianello [1987] "Effective Demand and the Rate of Profits: Some Thoughts on Marx,

- Kalecki and Sraffa", pp. 41.
25. Anna Maria Sala [1987] "Banche e territorio. Approccio ad un tema geografico-economico", pp. 40.
 26. Enzo Mingione e Giovanni Mottura [1987] "Fattori di trasformazione e nuovi profili sociali nell'agricoltura italiana: qualche elemento di discussione", pp. 36.
 27. Giovanna Procacci [1988] "The State and Social Control in Italy During the First World War", pp. 18.
 28. Massimo Matteuzzi e Annamaria Simonazzi [1988] "Il debito pubblico", pp. 62.
 29. Maria Cristina Marcuzzo (a cura di) [1988] "Richard F. Kahn. A disciple of Keynes", pp. 118.
 30. Paolo Bosi [1988] "MICROMOD. Un modello dell'economia italiana per la didattica della politica fiscale", pp. 34.
 31. Paolo Bosi [1988] "Indicatori della politica fiscale. Una rassegna e un confronto con l'aiuto di MICROMOD", pp. 25.
 32. Giovanna Procacci [1988] "Protesta popolare e agitazioni operaie in Italia 1915-1918", pp. 45.
 33. Margherita Russo [1988] "Distretto industriale e servizi. Uno studio dei trasporti nella produzione e nella vendita delle piastrelle", pp. 157.
 34. Margherita Russo [1988] "The effects of technical change on skill requirements: an empirical analysis", pp. 28.
 35. Carlo Grillenzoni [1988] "Identification, estimation of multivariate transfer functions", pp. 33.
 36. Nerio Naldi [1988] "Keynes' concept of capital" pp. 40.
 37. Andrea Ginzburg [1988] "Locomotiva Italia?" pp. 30.
 38. Giovanni Mottura [1988] "La 'persistenza' secolare. Appunti su agricoltura contadina ed agricoltura familiare nelle società industriali" pp. 40.
 39. Giovanni Mottura [1988] "L'anticamera dell'esodo. I contadini italiani dalla 'restaurazione contrattuale' fascista alla riforma fondiaria" pp. 40.
 40. Leonardo Paggi [1988] "Americanismo e riformismo. La socialdemocrazia europea nell'economia mondiale aperta" pp. 120.
 41. Annamaria Simonazzi [1988] "Fenomeni di isteresi nella spiegazione degli alti tassi di interesse reale" pp. 44.
 42. Antonietta Bassetti [1989] "Analisi dell'andamento e della casualità della borsa valori" pp. 12.
 43. Giovanna Procacci [1989] "State coercion and worker solidarity in Italy (1915-1818): the moral and political content of social unrest" pp. 41.
 44. Carlo Alberto Magni [1989] "Reputazione e credibilità di una minaccia in un gioco bargaining" pp. 56.
 45. Giovanni Mottura [1989] "Agricoltura familiare e sistema agroalimentare in Italia" pp. 84.
 46. Mario Forni [1989] "Trend, Cycle and 'Fortuitous Cancellations': a Note on a Paper by Nelson and Plosser" pp. 4.
 47. Paolo Bosi, Roberto Golinelli, Anna Stagni [1989] "Le origini del debito pubblico e il costo della stabilizzazione" pp. 26.
 48. Roberto Golinelli [1989] "Note sulla struttura e sull'impiego dei modelli macroeconomici"

pp. 21.

49. Marco Lippi [1989] "A Short Note on Cointegration and Aggregation" pp. 11.
50. Gian Paolo Caselli and Gabriele Pastrello [1989] "The Linkage between Tertiary and Industrial Sector in the Italian Economy: 1951-1988. From an External Dependence to an Internal One" pp. 40
51. Gabriele Pastrello [1989] "François Quesnay: dal Tableau Zig-Zag al Tableau formule: una ricostruzione" pp. 48
52. Paolo Silvestri [1989] "Il bilancio dello stato" pp. 34
53. Tim Mason [1990] "Tre seminari di Storia Sociale Contemporanea" pp. 26
54. Michele Lalla [1990] "The Aggregate Escape Rate Analysed through the Queueing Model" pp. 23
55. Paolo Silvestri [1990] "Sull'autonomia finanziaria delle Università" pp. 11
56. Paola Bertolini, Enrico Giovannetti [1990] "Uno studio di 'filiera' nell'agroindustria. Il caso del Parmigiano Reggiano" pp. 164
57. Paolo Bosi, Roberto Golinelli, Anna Stagni [1990] "Effetti macroeconomici, settoriali e distributivi dell'armonizzazione dell'IVA" pp. 24
58. Michele Lalla [1990] "Modelling Employment Spells from Emilian Labour Force Data" pp. 18
59. Andrea Ginzburg [1990] "Politica nazionale e commercio internazionale" pp. 22
60. Andrea Giommi [1990] "La probabilità individuale di risposta nel trattamento dei dati mancanti" pp. 13
61. Gian Paolo Caselli e Gabriele Pastrello [1990] "The service sector in planned economies. Past experiences and future perspectives" pp. 32
62. Giovanni Solinas [1990] "Competenze, grandi industrie e distretti industriali. Il caso della Magneti Marelli" pp. 23
63. Andrea Ginzburg [1990] "Debito pubblico, teorie monetarie e tradizione civica nell'Inghilterra del Settecento" pp. 30
64. Mario Forni [1990] "Incertezza, informazione e mercati assicurativi: una rassegna" pp. 37
65. Mario Forni [1990] "Misspecification in Dynamic Models" pp. 19
66. Gian Paolo Caselli e Gabriele Pastrello [1990] "Service Sector Growth in CPE's: An Unsolved Dilemma" pp. 28
67. Paola Bertolini [1990] "La situazione agro-alimentare nei paesi ad economia avanzata" pp. 20
68. Paola Bertolini [1990] "Sistema agro-alimentare in Emilia Romagna ed occupazione" pp. 65
69. Enrico Giovannetti [1990] "Efficienza ed innovazione: il modello "Fondi e Flussi" applicato ad una filiera agro-industriale" pp. 38
70. Margherita Russo [1990] "Cambiamento tecnico e distretto industriale: una verifica empirica" pp. 115
71. Margherita Russo [1990] "Distretti industriali in teoria e in pratica: una raccolta di saggi" pp. 119
72. Paolo Silvestri [1990] "Legge Finanziaria. Voce dell'Enciclopedia Europea Garzanti" pp. 8
73. Rita Paltrinieri [1990] "La popolazione italiana: problemi di oggi e di domani" pp. 57
74. Enrico Giovannetti [1990] "Illusioni ottiche negli andamenti delle grandezze distributive: la scala

mobile e l'“appiattimento” delle retribuzioni in una ricerca” pp. 120

75. Enrico Giovannetti [1990] “Crisi e mercato del lavoro in un distretto industriale: il bacino delle ceramiche. Sez. I” pp. 150
76. Enrico Giovannetti [1990] “Crisi e mercato del lavoro in un distretto industriale: il bacino delle ceramiche. Sez. II” pp. 145
77. Antonietta Bassetti e Costanza Torricelli [1990] “Il portafoglio ottimo come soluzione di un gioco bargaining” pp. 15
78. Antonietta Bassetti e Costanza Torricelli [1990] “Una riqualificazione dell’approccio bargaining alla selezioni di portafoglio” pp. 4
79. Mario Forni [1990] “Una nota sull’errore di aggregazione” pp. 6
80. Francesca Bergamini [1991] “Alcune considerazioni sulle soluzioni di un gioco bargaining” pp. 21
81. Michele Grillo e Michele Polo [1991] “Political exchange and the allocation of surplus: a model of two-party competition” pp. 34
82. Gian Paolo Caselli e Gabriele Pastrello [1991] “The 1990 Polish Recession: a Case of Truncated Multiplier Process” pp. 26
83. Gian Paolo Caselli e Gabriele Pastrello [1991] “Polish firms: Pricate Vices Public Virtues” pp. 20
84. Sebastiano Brusco e Sergio Paba [1991] “Connessioni, competenze e capacità concorrenziale nell’industria della Sardegna” pp. 25
85. Claudio Girmaldi, Rony Hamaui, Nicola Rossi [1991] “Non marketable assets and households’ portfolio choices: a case study of Italy” pp. 38
86. Giulio Righi, Massimo Baldini, Alessandra Brambilla [1991] “Le misure degli effetti redistributivi delle imposte indirette: confronto tra modelli alternativi” pp. 47
87. Roberto Fanfani, Luca Lanini [1991] “Innovazione e servizi nello sviluppo della meccanizzazione agricola in Italia” pp. 35
88. Antonella Caiumi e Roberto Golinelli [1992] “Stima e applicazioni di un sistema di domanda Almost Ideal per l’economia italiana” pp. 34
89. Maria Cristina Marcuzzo [1992] “La relazione salari-occupazione tra rigidità reali e rigidità nominali” pp. 30