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A MONOPOLY UNION MODEL OF THE ITALIAN LABOUR MARKET

by

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ABSTRACT

In this paper we analyze the process of wage formation in two sectors of the Italian economy. We focus on the labour market, viewing firms and unions as its main economic agents.

For this purpose we build a monopoly union model in an open-economy two-sector framework, and derive the theoretical relations for the determination of wages. We then proceed to test empirically the model on quarterly data for the period 1970-1984.

Section 1 contains some introductory remarks. The theoretical model where unions set wages and firms set employment is derived in section 2. In section 3 the econometric versions of the equations and their estimated specifications by means of instrumental variables are reported. Section 4 contains some concluding comments.

1 INTRODUCTION.

The aim of this contribution is to analyze the process of wage formation in two sectors of the Italian economy. We focus on the labour market, viewing firms and unions as its main economic agents.
For this purpose we build a monopoly union model in an open-economy two-sector framework, and derive the theoretical relations for the determination of wages. We then proceed to test empirically the model on quarterly data for the period 1970-1984.
The present state of the theory of the determination of wages is characterized by a competitive and a non-competitive approach to the labour market. Trade union theories stand in the class of non-competitive models and, in particular, the monopoly union model assumes that the agreement is that unions set wages and firms set employment, so that employers are always on their labour demand curve (cfr. McDonald and Solow, 1981). We have chosen to embed the determination of wages in a monopoly union framework mainly for one institutional and one theoretical reason.
The former is that the Italian labour market in the period 1970-1984 is characterized by a mixture of sector-wide and firm-level bargaining. It is in a median position, with France, Great Britain and West Germany, between the highly centralized collective bargaining of the Scandinavian countries and the decentralized bargaining coupled with large non-union sectors of the U.S., Canada and Japan. Moreover, in the period studied and particularly during the '70s, unions have considerably increased their contractual power and deeply affected the performance of the Italian economy [1].

The latter is that the monopoly union model is the only one that explains involuntary unemployment, given that we exclude the "efficiency wage" models (cfr. Yellen 1984) on the ground that the assumption of firm wage-setting does not fit the Italian case in the period studied (see, however, Dell'Aringa and Presutto (1986) on the rising weight of wage drift in the '80s).

2 THE SPECIFICATION OF WAGE FORMATION

We assume that the economy consists of two sectors. We have concentrated on the sector which is exposed to international competition and the sector which is sheltered from it, since they represent the sections of the Italian economy that have undergone a considerable process of structural change in the period considered. Each sector has its own union which has the task to set the level of the real wage. Profit maximizing monopolistic firms set the employment level in such a way that their labour demand is :

$$L^d = L\ (\ cl/p,\ p^m/p,\ K,\ e_{qp}) \qquad (1)$$

where $cl=w(1+t)$ is the cost of labour per employee , w is the nominal wage level, t is the taxation rate on employers, L is the number of workers, p is the product price, p^m is the price of imported raw materials, K is the capital stock, e_{qp} is the price elasticity of demand for output. This last term influences the labour demand because of the assumption that the firm faces a downward sloping demand curve.

The monopolistic role of the union may be interpreted in the Italian institutional framework as follows.

Any worker willing to be employed may choose to register with his local employment agency (a public institution) which puts him in a waiting list for the requested sector of the economy. Every worker registered with the agency will be guaranteed all the advantages (national collective labour contracts, training schemes, etc.) achieved with collective bargaining.

Since in Italy there are no closed shops, we can't use trade union membership to represent the number of workers the union actually cares about [2]. We assume, instead, that the union is concerned with the welfare of the workers registered with the employment agency for that sector, whose number we denote by M, L of which are employed and M-L unemployed.

All workers in each sector are assumed to be identical and to have a concave utility function (u). The argument of the utility function of the worker if he is employed in the sector considered is the difference between the consumption wage and a baseline real wage, $\bar{w}$, which captures the fact that the subsistence real wage has risen steadily over time with the secular increase in productivity. That is:

$$u = u\ (\ w/p_c - \bar{w}\ )$$

where p_c is the consumer price index. In this way, the worker is assumed to base his requests on a relative magnitude, since he is able to observe the secular characteristics of the increase in wages.
Each of the M-L workers who are not employed in this sector may find a job in the other sector or stay unemployed. We denote their fall-back utility, which we are going to explain shortly, by $\bar{u}$.
The union seeks to maximize the welfare of the M workers in its sector in the form of the following expected utility fuction:

$$U = L\, u\, (w/p_c - \bar{w}) + (M - L)\, \bar{u}$$

subject to labour demand (1).
We choose this utility function to skip the problem of considering M as depending either on the union's behaviour or being merely exogenous. Maximizing (3) with respect to w/p_c in fact, does not involve M. It would make no difference to have (3) or an expected utility objective function if we assumed M to be exogenous [3].

2.1 The outside opportunity of the worker.

The $\bar{u}$ term represents the worker's opportunities outside the sector. Intuitively, these will depend on the state of the labour market, whose best indicator is the unemployment rate. In fact, the higher the unemployment rate, the lower the probability of a worker who is not employed in one sector, to find a job in the other one, and, by consequence, the lower the pressure of the union on the real wage of

the sector considered. Moreover, a considerably higher wage in the other sector (the "alternative wage") will exert a positive pressure on the consumption wage.

We rewrite the union's utility function to take into account these facts:

$$U = L\ u(\ w/p_c - \bar{w}\ ) + (M-N)\ [(UR\ v(b) + (1-UR)\ v(w^a)) - \bar{w}\ ]$$

where v is a utility function, UR is the unemployment rate, w^a is the alternative wage, b is the unemployment benefit and:

$$\bar{u} = [(UR\ v(b) + (1-UR)\ v(w^a)) - \bar{w}].$$

The introduction of the w^a term in the union's utility function measures what has been called a "direct jealousy effect" by someone (cfr. Oswald, 1979) or a "solidarity policy" wage effect by some others (Edgren, Faxen and Odhner, 1973) [4]. It measures the interrelation of wages in different unionized sectors due to unions following each other's wage increases.

A formal justification of the introduction of the outside opportunities in the union's utility function can also be found in bargaining theory. We may invoke, in fact, the "outside option principle" which says that the determinants of the outside option available to the partner who decides to quit bargaining influence the bargaining outcome (Sutton, 1985).

In this light we can interpret $\bar{u}$ as the union's threat point and state that its determinants will influence the negotiated real wage. We therefore have a microeconomic justification for the variables which have often been added in the Phillips-type wage models in a rather ad hoc way [5].

Moreover, we may use another property of the "outside option principle" to discard the rational expectations argument of the inexistence of the Phillips curve in a perfectly informed environment. This argument says, as we have already seen, that rational agents will not wait to see the effects on the unemployment rate to renegotiate a contract after a nominal shock, but will recalculate, immediately after the news, the equilibrium values of the nominal variables, in such a way that no trade-off between inflation and unemployment takes place. The property of the outside option principle says that only threats that are credible will have an effect on the bargaining outcome (Sutton, Shaked and Binmore, 1985). What is required, instead, by the rational expectations solution, as Pissarides (1985) puts it:

> ...in the present bargaining environment is that the union should be capable of drawing the firm into negotiations for raising wages because in some future date wages elsewhere would be higher. But since wages elsewhere [and unemployment] are important in the union's threat point, it seems natural for the firm to refuse to engage in such negotiations, until it observes a stronger threat point for the union members. Union's threats can be credible when the alternative opportunities are available , not when they are expected to be available at some future date." (p.388).

2.2 The equation to be estimated.

In order to derive analytically the real wage function, we simplify further the problem and assume that the union maximizes the sum of the surpluses gained from an employment condition of its members, that is:

$$\max_{w/p_c} \; U = L\,(w/p_c - \bar{w}) + (M-L)[(UR\ b + (1-UR)\ w^a) - \bar{w}] \qquad (2)$$

subject to:

$$L^d = L\,(\,w/p_c,\ p^m/p,\ K,\ e_{qp})$$

We want to look for a solution for the product wage cl/p and rewrite (2) as:

$$\max_{cl/p} \; U = L\left(\frac{cl}{p*wedge} - \bar{w}\right) + (M-L)[(UR\ b + (1-UR)\ w^a) - \bar{w}] \qquad (2')$$

subject to labour demand (1). The term wedge= $p_c(1+t)/p$ accounts for: a) the discrepancy between the price p_c used by workers to calculate their consumption wage and the the price p used by firms to derive their product wage; b) the burden of taxes over workers and employers.

The first order condition is:

$$L\,\frac{1}{wedge} + \left[\frac{cl}{p*wedge} - UR\ b - (1-UR)\ w^a\right]\frac{dL}{d(cl/p)} = 0$$

which rewritten becomes:

$$\frac{cl}{p*wedge} - UR\ b - (1-UR)\ w^a = -\ L\ [\frac{dL}{d(cl/p)}]^{-1}\ \frac{1}{wedge}$$

Dividing both sides by $\frac{cl}{p*wedge}$:

$$1 - \frac{UR\ b + (1-UR)w^a}{cl/p}\ wedge = -\ \frac{1}{e_{Lw}}$$

and

$$UR\ b + (1-UR)\ w^a = (\ \frac{1}{e_{Lw}} + 1)\ \frac{cl}{p*wedge} \qquad (3)$$

where e_{Lw} is the wage elasticity of demand for labour and

$$\frac{cl}{p*wedge} = w/p_c.$$

(3) is the typical equilibrium condition for a monopoly regime. It says that the marginal (utility of) revenue from employment must be equal to the expected (utility from) outside opportunities open to the worker. The absolute value of $1/e_{Lw}$ measures the degree of monopoly power of the union, since the lower the employment response of the firm to a change in wages the higher the union's pressure on wages. Using this simplified solution we can finally write our general function for the cost of labour in the form of:

$$\frac{cl}{p} = g\ (\ \overset{-}{UR},\ \overset{+}{b},\ \overset{+}{wedge},\ \overset{+}{w^a},\ \overset{?}{e_{Lw}}\ ) \qquad (4)$$

As for the effect of e_{Lw} on cl/p, some comments are in order. Making use of the Slutsky equation and decomposing the factor demand components into the output and substitution effects, we can rewrite e_{Lw} as:

$$e_{Lw} = v_L(\ e_{pq} + \sigma_{Lw}) \tag{5}$$

where v_L is the share of labour in the total cost of production and σ_{Lw} is the Allen own elasticity of substitution [6].

σ_{Lw} is defined as:

$$\sigma_{Lw} = e^*_{Lw} \ / \ v_L$$

where e^*_{Lw} is the output constant wage elasticity of demand for labour. Therefore (5) becomes:

$$e_{Lw} = v_L e_{pq} + \ e^*_{Lw}$$

What we want to explore is the effect of aggregate demand changes on the real wage through e_{Lw} . This effect could be introduced in the model by means of the assumption that e_{pq} is a function of the business cycle, which we proxy by:

$$B=B(\ p^F/p, \ REXP \ ).$$

where p^F is the index of prices of imported competing goods and REXP is real final expenditure. Therefore:

$$e_{pq} = e_{pq}(B) = e'_{pq}(\ p^F/p, REXP) \qquad (6)$$

Since we have assumed monopoly pricing, p is a function of the demand for output which depends on the business cycle as well. The product price is therefore endogenous to this analysis and its expression is [7]:

$$p = g(w\ , p^m,\ K\ , e_{pq}\ ,\ p^F, REXP) \qquad (7)$$

Hence, we can rewrite (4) as:

$$\frac{cl}{p} = h\ (\ \overset{-}{UR},\ \overset{+}{b},\ \overset{+}{wedge},\ \overset{+}{w^a},\ \ p^F/p,\ \overset{?}{REXP}) \qquad (8)$$

So the monopoly wage may move either procyclically or countercyclically (if e_{Lw} is variable) thus dampening or magnifying the procyclical fluctuations in employment. If e_{Lw} is constant, instead, we have an explanation of wage rigidity over the business cycle.

3 THE ESTIMATED EQUATIONS OF THE REAL COST OF LABOUR

In this section we set out our empirical version of equation (8) for the two sectors. The estimation is based on quarterly time series for the period 1970-1984. The two sectors are industry in the strict sense, which we call sector 1, and services plus the construction industry, which we call sector 2 [8]. They can also be regarded loosely as the sector which is exposed to and sheltered from international competition respectively [9].

Table 1 lists the symbols used and the descriptive and test statistics reported with each estimated equation. We have started from the following general specification:

$$\ln cl/p_t = f_0 + f_1 \ln cl/p_{t-1} + \sum_{i=o}^{n} f_{2i} \ln wedge_{t-i} + \sum_{i=o}^{n} f_{3i} \ln AW2_{t-i} + \sum_{i=o}^{n} f_{4i} \ln U_{t-i} + \sum_{i=o}^{n} f_{5i} \ln p^F/p_{t-i} + \sum_{i=o}^{n} f_{6i} \ln K_{t-i} \qquad (9)$$

(9) is for sector 1. For sector 2 we adopt the same specification except we do not have competitiveness between the explanatory variables and have AW1 for the alternative wage.

We have then tested down to obtain more parsimonious specifications [10].

3.1 The exposed sector

The real cost of labour was estimated by instrumental variables for the period 1971:1 1984:4. All the variables are in natural logarithms. As can be seen in table 2 all the coefficients are highly significant.

Since no lagged dependent term appears on the left hand side, the coefficients are to be interpreted as long-run elasticities.

The coefficient on $[p_c(1+tl)/p]$ measures the effect on the cost of labour of the discrepancy between the product and the consumption wage. The higher $p_c(1+tl)$ (the lower p) the higher (the lower) the pressure on the real cost of labour. In sector 1, this effect is nearly one, reflecting the high level of wage indexation which has characterized the Italian industry in the period under study.

The high coefficient on the alternative wage (real gross earnings in sector 2) might be interpreted as reflecting a high degree of union strength in sector 1. In other words, an increase of 1% in the real gross earnings of sector 2 is efficaciously used by the union as a threat to induce employers to raise wages in sector 1 by .7%. The coefficient on competitiveness conveys the effect on wages of labour demand shifts due to changes in aggregate demand. This coefficient is quite small, as it is reasonable to expect, since firms do not usually allow short-run demand fluctuations to influence longer term wage agreements.

As far as the unemployment rate is concerned, its level, or the logarithm of it, were found to be insignificant. The change in the unemployment rate, however, is significant at the 95% confidence interval.

TABLE 1 List of symbols, descriptive and test statistics

[The subscript i=1,2 refers to sector 1 (industry in the strict sense) and sector 2 (private services + construction industry).]

L_i: number of employees;
K_i: capital stock;
cl_i: cost of labour per employee (inclusive of employers' contributions, t1);
w_i: gross earnings per employee i.e. cl= w (1+t2);
p_i: value added deflator;

p^m: index of prices of imported raw materials in liras (index in dollars multiplied by the exchange rate liras per dollar);
p^F: index of prices of imported competing goods in liras (index in dollars multiplied by the exchange rate);
ER: domestic exchange rate (liras per dollar);
p_c: households consumption deflator;

tl_i: taxation rate on employers;

$t2_i$: direct taxation rate on labour income;

U : unemployment rate net of workers in the wage supplementation fund (C.I.G.);
AW1,AW2 : alternative wage for sector 2 and sector 1 respectively. Defined as the real gross earnings per employee in sector 1 and 2, that is gross earnings over the consumption deflator;
REXP: real final expenditure.

S.E.R. : standard error of regression;
M.O.D.V.: mean of dependent variable;
$\bar{R}^2$: corrected R^2.
D.W. : Durbin Watson.
N.OBS. : number of observations.
SC(x) : Sargan criterion for independence of errors of instrumental variables in the sample period. The x in parenthesis is the number of instruments minus the number of regressors.
GC(p) : Godfrey criterion for serial correlation. In parenthesis is the order of the correlation.
CC(y) : Chow criterion for predictive failure. In parenthesis is the number of predicted quarters.

The numbers in parenthesis beside the coefficients are t statistics.

TABLE 2 Cost of labour equation, quarterly, 1971(I)-1984(IV)
Sector 1

Independent variables	Dependent variable $\log (cl/p)_t$
constant	.49 (2.2)
$\log [p_c(1+tl)/p]_t$	.86 (6.5)
$\log AW2_{t-1}$	.73 (5.7)
$\log (p^F/p)_{t-1}$	.13 (3.2)
$Dln\ U_t$	-.23 (-1.9)
time	.003 (3.5)
S.E.R.	.021
M.O.D.V.	2.12
$\bar{R}^2$	.98
D.W.	1.73
N.OBS.	56
SC(8)	13
GC(4)	8.13
CC(8)	4.12

Instruments: $\log p_{t-1}$, $\log p_{t-2}$, $\log p_{t-4}$, $\log (cl/p)_{t-1}$, $\log U_{t-1}$, $\log U_{t-2}$, $\log U_{t-3}$, $\log U_{t-4}$, $\log [p_c(1+tl)/p]_{t-1}$, $\log [p_c(1+tl)/p]_{t-2}$.

The coefficient on the change in the unemployment rate is the elasticity of the real cost of labour with respect to (1+ DU); the term Dln U can also be interpreted as the change in the probability of being employed.

We have used a trend to proxy the tendency of the productivity of labour which has determined a steady increase in the baseline level of wages.

3.2 The sheltered sector.

The real cost of labour equation was estimated by instrumental variables for the period 1971:1 1984:4 (see table 3). All the variables are in natural logarithms. Here, as in sector 1, the coefficients are to be interpreted as long-run elasticities.

The coefficients of the wedge and of the alternative wage (real gross earnings in sector 1) are both lower than the corresponding coefficients of sector 1. This difference might reflect a lower degree of union strength in the sector of services and construction industry. That means, for example, that an increase in the industrial real earnings by 1% induces an increase of .26% only in the real cost of labour of the sheltered sector. A higher wage request of the union would not represent a credible threat of its employed members' quitting the job.

The second difference we note is the fully significative coefficient of the logarithm of the unemployment rate level (-.075) together with its change (- .24).

As far as the productivity trend is concerned, the linear and quadratic time trends were chosen as most satisfactory in terms of goodness of fit and reasonable coefficient estimates.

TABLE 3 Cost of labour equation, quarterly, 1971(I)-1984(IV)
Sector 2

Independent variables	Dependent variable $\log (cl/p)_t$
constant	1.29 (6.8)
$\log [p_c(1+tl)/p]_t$	.53 (7)
$\log AWl_t$	.26 (2.2)
$Dln\ U_t$	-.24 (-3.4)
$\ln U_{t-1}$	-.075 (-3)
time	.012 (5.6)
$time^2$	-.0001 (5.8)
S.E.R.	.0105
M.O.D.V.	2.02
$\bar{R}^2$	.99
D.W.	2.12
N.OBS.	56
SC(5)	7.35
GC(4)	6.6
CC(8)	3.38

Instruments: $\log p_{t-1}$, $\log p_{t-4}$, $\log AWl_{t-1}$, $\log AWl_{t-2}$, $\log AWl_{t-3}$, $\log AWl_{t-4}$, $\log [p_c(1+tl)/p]_{t-1}$, $Dln\ U_{t-1}$.

The demand variable (i.e. real expenditure here) does not enter significatively the wage equation for this sector, even if it appears in the labour demand equation.

4 CONCLUDING COMMENTS

Our results are quite satisfactory and give some insight into the process of wage formation in Italy. The real cost of labour in each sector is significatively affected by the discrepancy between the consumption and the product wage, the alternative wage of the other sector and unemployment.

In the exposed sector we also find a small but significative positive effect of competitiveness on wages. Its coefficient conveys the influence on wages of labour demand shifts due to changes in aggregate demand. Industrial wages, therefore, are influenced by the degree of openness of the economy through two channels: the effect on consumption wage of changes in the price of imported consumption goods and the effect on demand for labour of changes in competitiveness.

In the sheltered sector, instead, we do not observe any demand effect on wages. We are therefore induced to conclude that wage agreements in this sector are not influenced at all by cyclical fluctuations in aggregate demand.

The coefficient on the alternative wage can be interpreted as reflecting the degree of union strength. In other words, it measures the union's reaction in terms of wage pressure to an increase in the wage of the other sector. Our empirical finding indicates a higher degree of union strength in the industrial sector as compared to the sheltered sector. It must be stressed, however, that it is very difficult to say a final word on sectoral differentials in earnings.

It is even more so when we group in the same sector a wide variety of activities, as we do here in particular for sector 2.

Given these unsolvable difficulties due to the aggregation, we may anyway report the observation that in the period 1970-1978 the Italian industrial sector seems to have gained a definite advantage over services, as far as real earnings are concerned. From the '80s onwards, in correspondence with the massive decline in industrial employment, the industrial sector looses this advantage and services recover from this weaker position to regain the lost approximate parity of 1970 with the industrial sector (see Faustini, 1986, p.59).

The unemployment rate is the crucial variable which distinguishes a trade union model from a competitive model of the labour market. In the sheltered sector we have found the coefficients of both the level and the change of the unemployment rate to be negative and significant. In the exposed sector, instead, only the change in the unemployment rate is significant.

Our interpretation of this result is tentative and relies on the distinction of unionized members between insiders (employed union's members) and outsiders (unemployed union's members) (cfr.Lindbeck and Snower 1984, and Blanchard and Summers 1987). Suppose the union is split between insiders who have the power to choose the policy of the union in the form of wage requests, and outsiders. Suppose, moreover, that the insiders have acquired some firm (or industry) specific skills required by the employers and do not regard the outsiders as

potential competitors. In this scenario, the wage requests of the "insiders' " union will not be damped by the number of unemployed workers, that is, by the current state of the labour market. What will worry the union mostly, instead, will be the change in the number of unemployed, which the employed worker will regard as a market indicator of a potential change in his current state.

We think that this could be a reasonable interpretation of what has been happening in the Italian industrial sector, which has been characterized, especially from the late '70s onward, by a massive and rapidly increasing decline in employment.

Applying the same tentative interpretation to the sheltered sector, we may infer that the union in this sector is not only concerned with the increasing rate of unemployment, but also with its level. That is because the insiders regard the unemployed workers as potential competitors to whom the employers might resort if the union's wage requests are excessive. This interpretation might be substantiated by observing two features of the Italian sheltered sector: 1) this sector includes the majority of the activities that do not require specific labour skills; 2) when some skills are required, they are precisely those supplied in excess of actual demand (this type of excess supply is to be found especially among young people with a diploma or a university degree).

Since we have taken the logarithm of the unemployment rate we have implicitly assumed that the pressure on wages increases less than proportionally with the level of unemployment. This assumption is

consistent with the observation that in many European countries as unemployment rises the proportion of short-term unemployed falls and the pressure on wages is reduced. In fact, the Italian unions, like other unions of the Western countries, seem to have neglected the weakest components of the labour force.

Footnotes

1 See e.g. Modigliani and Tarantelli (1977) and Sylos Labini (1977).

2 Note the difference with Anglo-Saxon countries where most of the unions are closed shops.

3 We believe that M does not directly depend on union behaviour. The decision to register at the employment agency is influenced by other, even sociological, factors which we may assume to be exogenous to our analysis. Nonetheless, we prefer the specification where M does not appear for the trivial reason that there are difficulties in finding data for this variable.

4 To be precise, in the E.F.O. Scandinavian two-sector model it is assumed that there is only one union which determines a unique wage level for both sectors. The institutional framework of the Italian labour market is characterized by a lower degree of bargaining centralization than the Scandinavian countries and this allows us to assume the existence of two sectoral wages.

5 Although we are deriving a relation between the level of the real wage and unemployment it is easy to show that this is easily transformable into a relation between money wage changes and the unemployment rate (cfr. Nickell, 1984, p.33).

6 For this derivation see e.g. Layard and Walters (1978) ch.9 appendix 8.

7 Cfr. G. Giannelli (1987) for the derivation of the whole model and its estimation.

8 The public sector and agriculture are exogenous to our analysis. In particular, we have excluded the agricultural market from the exposed sector, given that its performance is strongly influenced by E.E.C. regulations.

9 Each productive sector of the economy has been attributed either to tradables or non-tradables according to the imports and exports shares over its GDP. For this classification we have referred to the work by Caramelli, Rossi, Siesto (1978) which is based on input-output tables of the Italian economy. See the Statistical Appendix for the time series used.

10 As far as the specification tests are concerned, we have followed the approach developed by Desai and Weber (1986) and Sargan and Weber (1986).

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APPENDIX

DATA AND STATISTICAL SOURCES

SECTOR 1 : ENERGY + MANUFACTURING INDUSTRY
SECTOR 2 : MARKET SERVICES + BUILDING INDUSTRY

ALL SERIES ARE DESEASONALIZED

PRAW: INDEX OF PRICE IN DOLLARS OF IMPORTED RAW MATERIALS 70=100
SOURCE: PROMETEIA
PMF : INDEX OF PRICE IN DOLLARS OF IMPORTED MANUFACTURED COMPETING GOODS 1970=100
SOURCE: PROMETEIA
ER : INDEX OF THE LIRA/US$ EXCHANGE RATE 1970=100
SOURCE: BANK OF ITALY
P1 : VALUE ADDED DEFLATOR OF SECTOR 1 70=100
SOURCE: OUR ELABORATION ON ISTAT DATA
P2 : VALUE ADDED DEFLATOR OF SECTOR 2 70=100
SOURCE: OUR ELABORATION ON ISTAT DATA

	PRAW	PMF	ER	P1	P2
1970:1	99.38599	98.74300	100.32999	93.50978	95.61113
1970:2	100.37999	101.56000	100.29997	98.54605	98.81898
1970:3	100.53999	101.56999	100.00998	102.52844	100.96803
1970:4	99.69299	98.12700	99.33298	105.50465	104.41776
1971:1	102.14999	98.75999	99.35298	102.34473	103.61955
1971:2	102.31999	99.52499	99.37198	102.75230	105.89645
1971:3	101.56000	102.17999	98.62099	112.23987	108.11879
1971:4	101.62000	101.89000	97.08698	108.85457	110.12376
1972:1	107.56999	109.01999	93.55899	108.54440	109.12715
1972:2	108.20000	109.81000	92.83699	110.92168	112.89107
1972:3	110.84000	111.45999	92.68098	115.46172	114.80888
1972:4	114.70000	112.48000	93.05698	111.03481	119.05669
1973:1	136.88998	119.64999	92.20999	116.77708	120.60527
1973:2	149.42999	130.47998	94.34099	116.95862	123.64799
1973:3	169.98999	143.42999	91.32399	128.03973	127.08800
1973:4	181.00000	146.12997	93.79398	130.85480	129.65253
1974:1	198.03000	149.51999	102.93999	136.65833	137.43692
1974:2	217.21997	166.62997	101.80997	140.21100	143.96881
1974:3	222.03000	176.62997	104.19998	154.75583	152.19952
1974:4	224.87000	180.25998	105.85999	162.72928	162.16504
1975:1	223.53000	189.64999	101.68997	170.58203	170.94049
1975:2	213.37000	187.69998	100.23999	173.54575	176.09613
1975:3	202.53998	179.88998	105.97998	191.32214	181.24512
1975:4	200.28998	177.16998	108.43999	182.41452	186.21024
1976:1	189.72998	164.12000	121.74998	209.31027	200.23727
1976:2	206.82999	182.56000	137.41998	205.98401	206.65341
1976:3	213.44998	185.18997	133.87997	215.32999	210.36594
1976:4	223.34000	190.75998	137.56998	205.92499	217.05408
1977:1	226.87000	189.93997	140.74997	237.95047	228.70081
1977:2	230.59000	195.59000	141.31998	246.34677	239.21017
1977:3	228.84000	198.07999	140.74997	247.54715	251.03836
1977:4	222.16998	199.28000	140.01999	255.64087	260.46649
1978:1	237.84998	211.56000	137.42996	266.33478	263.22815
1978:2	234.07999	217.32999	137.51996	273.54468	271.50317
1978:3	236.81000	222.45999	133.62000	275.37708	285.08105
1978:4	249.73999	228.48999	132.73999	300.70258	291.93127
1979:1	277.83997	246.81998	133.80997	296.55017	304.22443
1979:2	296.57996	253.95999	135.06998	315.89624	316.81207
1979:3	315.35999	266.19995	130.22998	316.49744	329.64032
1979:4	321.33997	276.12994	130.86997	347.62677	344.03900
1980:1	340.79895	292.83899	131.64999	361.79675	374.38184
1980:2	335.46295	288.27399	135.26999	381.09875	388.13391
1980:3	344.91699	303.32300	134.53998	378.11768	406.68207
1980:4	338.25696	297.49298	144.16998	394.73663	421.66400
1981:1	322.36597	296.31696	159.77997	403.02893	452.67438
1981:2	321.68896	279.46198	180.85999	424.48352	461.16150
1981:3	318.85797	287.34796	193.79999	435.90448	476.07922
1981:4	319.30396	282.58295	191.09998	454.41266	495.20294
1982:1	310.32697	277.79596	201.21997	485.76385	520.30396
1982:2	274.14398	270.16998	210.54996	502.11938	537.84790
1982:3	267.45398	277.39294	222.22995	507.77924	558.92310
1982:4	263.60297	259.78894	228.77997	530.96155	591.09766
1983:1	267.95996	280.40594	223.15997	567.68872	616.85925
1983:2	264.04797	243.13599	235.64996	583.34033	629.89575
1983:3	260.19299	252.04099	251.04999	581.16272	647.43542
1983:4	256.39496	236.09698	259.12994	611.41968	672.83154
1984:1	256.75397	243.37299	265.10992	629.20593	692.26123
1984:2	254.40997	244.28098	267.17993	652.77942	713.17505
1984:3	251.79700	234.74298	287.03998	629.57715	715.15735
1984:4	248.92200	220.36798	301.48993	670.30322	739.82764

RPRAW1 : (PRAW*ER)/P1

RPRAW2 : (PRAW*ER)/P2

COMP : (PMF*ER) /P1

PCD : DEFLATOR OF HOUSEHOLDS' CONSUMPTION '70=100
SOURCE: ISTAT

PI : DEFLATOR OF FIXED GROSS INVESTMENT IN MACHINERY '70=100
SOURCE: ISTAT

	RPRAW1	RPRAW2	COMP	PCD	PI
1970:1	106.63478	104.29115	105.94489	97.74149	99.75819
1970:2	102.16655	101.88437	103.36755	99.20761	99.44987
1970:3	98.07037	99.58600	99.07507	100.63054	97.86874
1970:4	93.86128	94.83930	92.38689	102.35432	102.94093
1971:1	99.16394	97.94394	95.87305	103.51512	106.41801
1971:2	98.95390	96.01587	96.25084	104.65854	109.57335
1971:3	89.23698	92.63837	89.78175	106.11725	112.15746
1971:4	90.63449	89.58992	90.87531	107.61760	113.44102
1972:1	92.71910	92.22397	93.96892	109.07161	113.03606
1972:2	90.55905	88.97900	91.90656	110.58878	114.31401
1972:3	88.97113	89.47705	89.46881	113.05214	116.18529
1972:4	96.12874	89.65170	94.26817	116.13039	118.32379
1973:1	108.09161	104.66063	94.47850	119.78549	124.73550
1973:2	120.53300	114.01215	105.24756	124.30553	132.55246
1973:3	121.24489	122.15288	102.30106	128.34708	138.04184
1973:4	129.73700	130.94006	104.74290	131.91534	141.15652
1974:1	149.16913	148.32407	112.62822	139.70761	157.86676
1974:2	157.72769	153.61075	120.99332	147.16376	165.08936
1974:3	149.49692	152.00784	118.92824	156.71127	176.98007
1974:4	146.28427	146.79324	117.26421	166.60785	191.71567
1975:1	133.25412	132.97470	113.05707	172.51529	194.11758
1975:2	123.24246	121.45755	108.41547	176.76352	198.64429
1975:3	112.19394	118.43179	99.64731	181.49106	203.17117
1975:4	119.06641	116.63936	105.32227	186.63013	207.92090
1976:1	110.36067	115.36125	95.46405	194.56268	214.83478
1976:2	137.98434	137.53738	121.79291	207.23309	230.48398
1976:3	132.71109	135.84271	115.14064	215.58038	240.22406
1976:4	149.20422	141.55405	127.43887	229.50522	249.76501
1977:1	134.19577	139.62323	112.35130	236.83716	258.21753
1977:2	132.28988	136.22736	112.20271	246.42813	272.87085
1977:3	130.11346	128.30399	112.62401	255.31866	274.16315
1977:4	121.68726	119.43279	109.14992	262.35760	285.97845
1978:1	122.73167	124.18016	109.16592	269.47113	287.13611
1978:2	117.67976	118.56462	109.25899	278.21350	288.97205
1978:3	114.90627	110.99492	107.94327	287.60156	297.31219
1978:4	110.24342	113.55579	100.86298	294.55737	308.61902
1979:1	125.36752	122.20503	111.37062	305.08698	317.06946
1979:2	126.81078	126.44420	108.58746	316.54388	323.67151
1979:3	129.76196	124.58830	109.53395	330.30872	337.14728
1979:4	120.97386	122.23543	103.953'8	346.96393	352.89551
1980:1	124.00934	119.84068	106.55775	365.69067	374.62341
1980:2	119.07169	116.91344	102.32208	381.02039	384.19202
1980:3	122.72667	114.10664	107.92690	398.76770	398.74127
1980:4	123.54187	115.65251	108.65361	417.49170	401.06189
1981:1	127.80130	113.78516	117.47423	436.76550	432.85956
1981:2	137.06223	126.16115	119.07056	456.86218	449.32666
1981:3	141.76193	129.79913	127.75282	474.75238	462.20966
1981:4	134.28098	123.22014	118.83823	495.09235	476.41248
1982:1	128.54800	120.01443	115.07257	513.09424	484.32532
1982:2	114.95474	107.31845	113.28836	531.56189	510.03760
1982:3	117.05142	106.34071	121.40121	557.41284	508.90283
1982:4	113.58087	102.02557	111.93750	579.82617	528.69763
1983:1	105.33578	96.93935	110.22833	600.66443	526.63672
1983:2	106.66653	98.78284	98.21880	619.53491	548.03784
1983:3	112.39786	100.89261	108.87636	637.18762	550.89600
1983:4	108.66449	98.74628	100.06187	656.23486	560.59704
1984:1	108.18085	98.32709	102.54289	674.01392	579.50439
1984:2	104.12897	95.31075	99.98320	693.48926	614.66882
1984:3	114.80055	101.06281	107.02519	706.09814	608.18127
1984:4	111.96049	101.43915	99.11743	718.00403	612.33948

EM1 : NO. OF EMPLOYEES IN SECTOR 1 (THOUSAND)
SOURCE: BANK OF ITALY; THE SERIES IS NET OF WORKERS IN C.I.G.
OCD2 : NO. OF EMPLOYEES IN SECTOR 2 (THOUSAND)
SOURCE: ISTAT
CL1 : COST OF LABOUR PER EMPLOYEE SECTOR 1:
TOTAL LABOUR COST / EM1
MILLION LIRAS
SOURCE: ISTAT
CL2 : COST OF LABOUR PER EMPLOYEE SECTOR 2:
TOTAL LABOUR COST / OCD2
MILLION LIRAS
SOURCE: ISTAT
RCL1 : REAL COST OF LABOUR PER EMPLOYEE SECTOR 1
CL1/P1 ; MILLION LIRAS
RCL2 : REAL COST OF LABOUR PER EMPLOYEE SECTOR 2
CL2/P2 ; MILLION LIRAS

	EM1	OCD2	CL1	CL2	RCL1	RCL2
1970:1	4774.91016	4708.42969	0.58972	0.53191	0.63065	0.55633
1970:2	4792.28516	4716.51953	0.59240	0.55138	0.60114	0.55796
1970:3	4824.66211	4705.65918	0.61711	0.58189	0.60189	0.57631
1970:4	4852.24316	4685.37988	0.63865	0.60352	0.60533	0.57799
1971:1	4865.12695	4654.88867	0.65810	0.62448	0.64302	0.60267
1971:2	4833.23633	4676.65918	0.67154	0.63811	0.65355	0.60258
1971:3	4812.31934	4638.74902	0.69098	0.65605	0.61563	0.60679
1971:4	4793.39746	4633.68945	0.71364	0.66942	0.65559	0.60788
1972:1	4798.25000	4682.06934	0.74244	0.68654	0.68400	0.62912
1972:2	4813.43652	4649.78906	0.74569	0.70183	0.67226	0.62169
1972:3	4815.44434	4637.03906	0.75056	0.72481	0.65005	0.63132
1972:4	4817.50781	4655.09961	0.78912	0.75168	0.71069	0.63136
1973:1	4834.29492	4618.11914	0.79947	0.80764	0.68461	0.66966
1973:2	4892.67578	4663.37891	0.90303	0.84449	0.77209	0.68298
1973:3	4964.49316	4711.04980	0.97175	0.89498	0.75894	0.70422
1973:4	5005.83105	4743.44922	0.99984	0.93695	0.76408	0.72266
1974:1	5050.51367	4738.60937	1.04212	0.99092	0.76257	0.72100
1974:2	5035.69824	4732.80957	1.12819	1.03912	0.80464	0.72176
1974:3	4997.73145	4775.40918	1.15327	1.10974	0.74522	0.72914
1974:4	4996.71875	4829.17969	1.21277	1.17685	0.74527	0.72571
1975:1	4926.82227	4804.46875	1.33553	1.25459	0.78293	0.73393
1975:2	4884.76172	4787.01953	1.38126	1.32017	0.79590	0.74969
1975:3	4880.34766	4817.16895	1.45823	1.36325	0.76219	0.75216
1975:4	4873.31641	4807.33984	1.50398	1.41457	0.82449	0.75967
1976:1	4874.35352	4827.74902	1.52550	1.46213	0.72882	0.73020
1976:2	4955.01758	4870.82910	1.67303	1.55445	0.81221	0.75220
1976:3	5036.72363	4839.79883	1.80146	1.64060	0.83661	0.77988
1976:4	5053.64062	4841.61914	1.90694	1.72420	0.92604	0.79436
1977:1	5040.41992	4889.34961	1.91617	1.79846	0.80528	0.78638
1977:2	5018.55957	4917.63965	2.06964	1.90756	0.84013	0.79744
1977:3	4950.25000	4898.99902	2.12561	1.98503	0.85867	0.79073
1977:4	4900.23730	4914.00977	2.18585	2.05503	0.85505	0.78898
1978:1	4914.03613	4948.08984	2.29835	2.11469	0.86296	0.80337
1978:2	4896.15234	4990.38867	2.33301	2.18445	0.85288	0.80458
1978:3	4896.75293	5009.01953	2.41329	2.28154	0.87636	0.80031
1978:4	4894.41699	5052.49902	2.50181	2.36386	0.83199	0.80973
1979:1	4885.21973	5117.06934	2.61221	2.42664	0.88086	0.79765
1979:2	4940.16113	5142.29980	2.63977	2.53523	0.83565	0.80023
1979:3	4958.39453	5178.82910	2.83209	2.68363	0.89482	0.81411
1979:4	5006.22461	5189.78906	2.98560	2.81559	0.85885	0.81839
1980:1	4986.51660	5175.98926	3.11787	2.99200	0.86177	0.79918
1980:2	4988.47266	5237.03906	3.24925	3.15538	0.85260	0.81296
1980:3	4934.88281	5290.56934	3.36897	3.31093	0.89099	0.81413
1980:4	4853.36133	5328.40918	3.50666	3.46839	0.88835	0.82255
1981:1	4784.81152	5334.82910	3.71147	3.58442	0.92089	0.79183
1981:2	4716.39453	5357.36914	4.03999	3.75972	0.95174	0.81527
1981:3	4664.14355	5420.12891	4.23437	3.90515	0.97140	0.82027
1981:4	4621.57617	5411.66895	4.46837	4.09822	0.98333	0.82758
1982:1	4642.17090	5452.32910	4.57004	4.25047	0.94079	0.81692
1982:2	4585.41406	5457.97949	4.75994	4.40215	0.94797	0.81847
1982:3	4509.80762	5459.68945	5.01538	4.56865	0.98771	0.81740
1982:4	4448.28906	5502.00977	5.24480	4.77689	0.98779	0.80814
1983:1	4398.70215	5503.37988	5.35440	5.00284	0.94319	0.81102
1983:2	4323.71191	5495.80957	5.63243	5.16966	0.96555	0.82072
1983:3	4317.92773	5494.09863	5.92821	5.35748	1.02006	0.82749
1983:4	4264.05664	5539.71973	6.09293	5.49576	0.99652	0.81681
1984:1	4196.77539	5573.74902	6.36379	5.64288	1.01140	0.81514
1984:2	4139.69238	5610.33887	6.42545	5.75719	0.98432	0.80726
1984:3	4060.10645	5647.65918	6.57042	5.90432	1.04362	0.82560
1984:4	4058.72021	5680.23926	6.79377	6.04338	1.01354	0.81686

GWE1 : GROSS WAGES PER EMPLOYEE SECTOR 1
TOTAL GROSS WAGES / EM1
MILLION LIRAS
SOURCE : ISTAT

GWE2 : GROSS WAGES PER EMPLOYEE SECTOR 2
TOTAL GROSS WAGES / OCD2
MILLION LIRAS
SOURCE : ISTAT

RGW1 : REAL GROSS WAGES PER EMPLOYEE SECTOR 1
GWE1 / PCD

RGW2 : REAL GROSS WAGES PER EMPLOYEE SECTOR 2
GWE2 / PCD

T11 : TAX RATE ON LABOUR COSTS BORNE BY FIRMS
IN SECTOR 1: % ON GWE1

T12 : TAX RATE ON LABOUR COSTS BORNE BY FIRMS
IN SECTOR 2: % ON GWE2

	GWE1	GWE2	RGW1	RGW2	T11	T12
1970: 1	0. 39823	0. 37210	0. 40744	0. 38070	48. 08401	42. 94613
1970: 2	0. 40056	0. 38547	0. 40376	0. 38855	47. 89201	43. 03888
1970: 3	0. 41727	0. 40659	0. 41466	0. 40404	47. 89201	43. 11327
1970: 4	0. 43239	0. 42198	0. 42245	0. 41228	47. 70001	43. 02023
1971: 1	0. 44771	0. 43332	0. 43251	0. 41860	46. 99203	44. 11756
1971: 2	0. 45806	0. 44193	0. 43767	0. 42226	46. 60402	44. 39056
1971: 3	0. 47194	0. 45333	0. 44474	0. 42720	46. 41202	44. 71828
1971: 4	0. 48742	0. 46233	0. 45292	0. 42960	46. 41202	44. 79256
1972: 1	0. 50346	0. 47425	0. 46158	0. 43481	47. 46801	44. 76353
1972: 2	0. 50566	0. 48491	0. 45724	0. 43848	47. 46802	44. 73349
1972: 3	0. 50897	0. 50084	0. 45020	0. 44301	47. 46800	44. 72076
1972: 4	0. 53511	0. 51944	0. 46078	0. 44729	47. 46799	44. 70904
1973: 1	0. 55124	0. 56192	0. 46019	0. 46910	45. 03201	43. 72921
1973: 2	0. 62345	0. 58778	0. 50155	0. 47285	44. 84400	43. 67452
1973: 3	0. 67089	0. 62294	0. 52272	0. 48536	44. 84399	43. 67000
1973: 4	0. 68939	0. 65198	0. 52260	0. 49424	45. 03201	43. 70870
1974: 1	0. 71858	0. 67662	0. 51435	0. 48431	45. 02400	46. 45017
1974: 2	0. 77592	0. 70596	0. 52723	0. 47971	45. 39999	47. 19252
1974: 3	0. 78608	0. 75155	0. 50161	0. 47958	46. 71201	47. 66065
1974: 4	0. 82692	0. 79617	0. 49633	0. 47787	46. 66201	47. 81477
1975: 1	0. 90332	0. 84915	0. 52361	0. 49222	47. 84800	47. 74704
1975: 2	0. 93424	0. 89305	0. 52853	0. 50522	47. 84801	47. 82653
1975: 3	0. 98695	0. 92129	0. 54380	0. 50762	47. 75201	47. 97099
1975: 4	1. 01857	0. 95522	0. 54577	0. 51182	47. 65600	48. 08943
1976: 1	1. 02927	0. 98737	0. 52902	0. 50748	48. 21200	48. 08355
1976: 2	1. 12881	1. 04684	0. 54471	0. 50515	48. 21201	48. 48896
1976: 3	1. 21625	1. 10199	0. 56418	0. 51117	48. 11601	48. 87566
1976: 4	1. 28810	1. 15938	0. 56125	0. 50517	48. 04301	48. 71722
1977: 1	1. 34667	1. 25199	0. 56860	0. 52863	42. 28999	43. 64837
1977: 2	1. 48202	1. 33386	0. 60140	0. 54128	39. 64999	43. 01044
1977: 3	1. 53120	1. 38989	0. 59972	0. 54437	38. 82000	42. 81898
1977: 4	1. 57210	1. 43833	0. 59922	0. 54623	39. 04000	42. 87592
1978: 1	1. 65029	1. 47846	0. 61242	0. 54865	39. 27000	43. 03275
1978: 2	1. 67313	1. 52681	0. 60108	0. 54879	39. 44000	43. 07342
1978: 3	1. 74320	1. 60251	0. 60612	0. 55720	38. 44001	42. 37283
1978: 4	1. 80806	1. 66216	0. 61382	0. 56429	38. 37002	42. 21642
1979: 1	1. 88621	1. 71581	0. 61825	0. 56240	38. 49000	41. 42808
1979: 2	1. 90240	1. 79159	0. 60039	0. 56599	38. 76000	41. 50684
1979: 3	2. 03997	1. 89650	0. 61759	0. 57416	38. 83002	41. 50416
1979: 4	2. 14114	1. 98744	0. 61711	0. 57281	39. 44001	41. 66897
1980: 1	2. 25410	2. 10998	0. 61639	0. 57698	38. 32001	41. 80211
1980: 2	2. 34315	2. 22370	0. 61497	0. 58352	38. 67001	41. 89773
1980: 3	2. 53497	2. 35504	0. 63570	0. 59058	32. 89999	40. 58898
1980: 4	2. 64714	2. 46931	0. 63406	0. 59146	32. 47001	40. 46026
1981: 1	2. 78221	2. 55369	0. 63700	0. 58514	33. 40001	40. 25249
1981: 2	3. 02848	2. 68021	0. 66289	0. 58666	33. 39999	40. 27686
1981: 3	3. 17419	2. 78371	0. 66860	0. 58635	33. 40000	40. 28602
1981: 4	3. 34960	2. 92160	0. 67656	0. 59011	33. 39999	40. 27334
1982: 1	3. 33093	3. 02389	0. 64919	0. 58934	37. 20000	40. 56294
1982: 2	3. 46934	3. 13137	0. 65267	0. 58909	37. 20000	40. 58224
1982: 3	3. 59990	3. 18758	0. 64582	0. 57185	39. 32000	43. 32650
1982: 4	3. 76457	3. 33256	0. 64926	0. 57475	39. 32001	43. 34006
1983: 1	3. 79556	3. 46738	0. 63189	0. 57726	41. 07001	44. 28324
1983: 2	3. 99265	3. 58288	0. 64446	0. 57832	41. 07001	44. 28791
1983: 3	4. 20232	3. 71396	0. 65951	0. 58287	41. 07002	44. 25246
1983: 4	4. 31786	3. 80898	0. 65797	0. 58043	41. 11002	44. 28448
1984: 1	4. 44641	3. 89269	0. 65969	0. 57754	43. 12199	44. 96107
1984: 2	4. 48949	3. 97140	0. 64738	0. 57267	43. 12200	44. 96631
1984: 3	4. 59078	4. 07252	0. 65016	0. 57676	43. 12202	44. 97953
1984: 4	4. 74684	4. 16826	0. 66112	0. 58053	43. 12202	44. 98591

WED1 : TAX WEDGE IN SECTOR 1
(PCD*(1+T11)/P1
WED2 : TAX WEDGE IN SECTOR 2
(PCD*(1+T12)/P2
RBC : NOMINAL RATE OF INTEREST ON BANK LOANS
%
SOURCE : PROMETEIA
RRBC1 : EXPECTED REAL INTEREST RATE IN SECTOR 1
RBC - ((P1(1)-P1(-3))-1)*100
%
RRBC2 : EXPECTED REAL INTEREST RATE IN SECTOR 2
RBC - ((P2(1)-P2(-3))-1)*100
%

	WED1	WE02	RBC	RRBC1	RRBC2
1970:1	1.54785	1.46131	8.22000	MISSING VALU	MISSING VALU
1970:2	1.48885	1.43601	9.15000	MISSING VALU	MISSING VALU
1970:3	1.45154	1.42635	9.58000	MISSING VALU	MISSING VALU
1970:4	1.43290	1.40194	9.66000	0.21185	1.28396
1971:1	1.48673	1.43972	9.53000	5.26169	2.36795
1971:2	1.49324	1.42703	9.14000	-0.33193	2.05780
1971:3	1.38425	1.42039	8.86000	5.68486	3.39540
1971:4	1.44748	1.41497	8.60000	2.54236	3.28479
1972:1	1.48184	1.44690	8.32000	0.36945	1.71457
1972:2	1.47025	1.41781	7.91000	5.03950	1.72227
1972:3	1.44390	1.42506	7.74000	5.73711	-0.37171
1972:4	1.54236	1.41152	7.56000	-0.02462	-2.95811
1973:1	1.48768	1.42752	7.61000	2.16747	-1.91829
1973:2	1.53943	1.44439	7.56000	-3.33367	-3.13526
1973:3	1.45192	1.45093	8.57000	-9.28025	-0.32983
1973:4	1.46207	1.46217	9.51000	-7.51495	-4.44598
1974:1	1.48260	1.48870	10.09000	-9.79086	-6.34441
1974:2	1.52610	1.50459	13.02000	-7.84547	-6.73916
1974:3	1.48566	1.52038	16.38000	-7.97866	-8.69665
1974:4	1.50158	1.51864	17.37000	-7.45374	-7.00742
1975:1	1.49524	1.49108	17.90000	-5.87470	-4.41547
1975:2	1.50589	1.48387	15.92000	-7.70839	-3.16389
1975:3	1.40160	1.48172	14.26000	2.16307	-0.56761
1975:4	1.51068	1.48423	12.25000	-10.45359	-4.88859
1976:1	1.37769	1.43887	12.81000	-5.88148	-4.54261
1976:2	1.49111	1.48905	17.63000	5.08161	1.56291
1976:3	1.48288	1.52566	19.27000	6.38151	2.70601
1976:4	1.64995	1.57248	19.60000	5.91687	5.38510
1977:1	1.41624	1.48759	19.71000	0.11491	3.95572
1977:2	1.39696	1.47326	19.32000	4.35824	-0.01413
1977:3	1.43178	1.45254	18.27000	-5.87271	-1.73074
1977:4	1.42693	1.43913	17.02000	5.09134	1.92283
1978:1	1.40910	1.46425	16.50000	5.45950	3.00015
1978:2	1.41820	1.46610	16.19000	4.94773	2.62925
1978:3	1.44586	1.43632	16.06000	-1.56696	3.97983
1978:4	1.35542	1.43496	15.26000	3.91511	-0.31443
1979:1	1.42477	1.41829	15.30000	-0.18250	-1.38816
1979:2	1.39044	1.41387	15.03000	0.09762	-0.60039
1979:3	1.44888	1.41791	15.01000	-0.59485	-2.83931
1979:4	1.39174	1.42873	16.36000	-5.64187	-6.70107
1980:1	1.39809	1.38510	18.73000	-1.91048	-3.78235
1980:2	1.38641	1.39297	19.15000	-0.31943	-4.22146
1980:3	1.40158	1.37853	19.51000	5.95815	-3.05285
1980:4	1.40106	1.39070	20.25000	8.85349	-0.66249
1981:1	1.44567	1.35323	20.63000	9.24587	1.81495
1981:2	1.43575	1.38969	21.86000	6.57724	4.79577
1981:3	1.45289	1.39895	22.54000	7.42206	5.09982
1981:4	1.45342	1.40242	22.29000	1.76171	7.34999
1982:1	1.44919	1.38615	22.11000	3.82051	5.48103
1982:2	1.45245	1.38939	21.83000	5.34135	4.42872
1982:3	1.52938	1.42939	21.65000	4.80432	2.28527
1982:4	1.52142	1.40607	20.99000	4.12484	2.43252
1983:1	1.49264	1.40495	20.67000	4.49438	3.55590
1983:2	1.49823	1.41915	19.60000	5.14815	3.76377
1983:3	1.54669	1.41969	19.08000	3.92671	5.25252
1983:4	1.51453	1.40725	19.00000	8.16357	6.77647
1984:1	1.53314	1.41140	18.38000	6.47630	5.15887
1984:2	1.52048	1.40965	17.61000	9.27938	7.14997
1984:3	1.60518	1.43143	17.43000	7.79937	7.47266
1984:4	1.53307	1.40709	17.49000	MISSING VALU	MISSING VALU

RIFLI : REAL INVESTMENT OF SECTOR 1 PRICES OF 1970
BILLION LIRAS
OUR ELABORATION ON ISTAT SERIES

RI2 : REAL INVESTMENT OF SECTOR 2 PRICES OF 1970
BILLION LIRAS
OUR ELABORATION ON ISTAT SERIES

K1 : CAPITAL STOCK OF SECTOR 1 PRICES OF 1970
BILLION LIRAS
OUR ELABORATION ON ISTAT SERIES

K2 : CAPITAL STOCK OF SECTOR 2 PRICES OF 1970
BILLION LIRAS
OUR ELABORATION ON ISTAT SERIES

REXP : REAL EXPENDITURE PRICES OF 1970
INVESTMENT+CONSUMPTION+TRADE BALANCE
SOURCE : ISTAT

UC : UNEMPLOYMENT RATE NET OF WORKERS IN C. I. G.
SOURCE : BANK OF ITALY

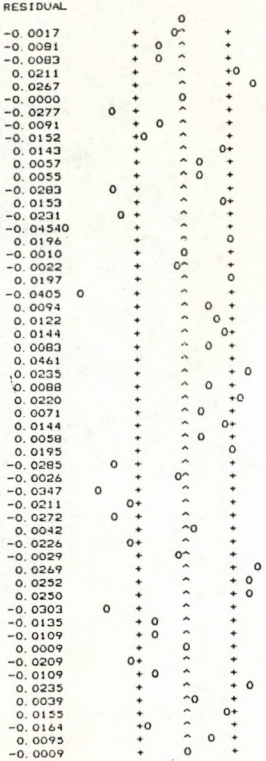
	RIFLI	RI2	K1	K2	REXP	UC
1970:1	935.18994	830.45996	27421.79687	25622.00000	15356.68750	5.45000
1970:2	964.92993	858.55994	27836.00000	26119.00000	15387.29883	5.55000
1970:3	938.02991	833.96997	28272.00000	26638.00000	15533.75781	5.60000
1970:4	933.62988	831.26990	28672.89844	27126.00000	15527.87891	5.50000
1971:1	948.37988	877.43994	29061.74609	27604.00000	15598.01953	5.60000
1971:2	944.16992	873.69995	29457.95703	28123.00000	15853.14844	5.70000
1971:3	924.13989	855.38989	29842.39844	28631.00000	15972.56836	5.90000
1971:4	938.14990	868.48999	30199.55859	29114.00000	16093.84766	6.30000
1972:1	923.62988	925.79993	30563.89844	29604.00000	16410.63672	6.50000
1972:2	887.70996	888.55994	30906.79687	30145.00000	16391.65625	6.70000
1972:3	918.05994	919.67993	31207.29687	30642.00000	16335.41797	6.80000
1972:4	910.67993	911.62988	31532.39844	31163.00000	16412.89844	6.70000
1973:1	954.51990	936.37988	31844.00000	31670.00000	16513.68750	7.10000
1973:2	1003.00000	986.92993	32193.49609	32194.00000	16911.86719	6.80000
1973:3	1066.79980	1053.19995	32584.79687	32763.00000	17304.95703	6.00000
1973:4	1088.69995	1075.29980	33032.49219	33390.00000	17701.92578	5.70000
1974:1	1119.09985	1080.25977	33493.59375	34031.00000	17644.87891	5.40000
1974:2	1113.49976	1075.38989	33976.29687	34669.00000	17913.37500	5.40000
1974:3	1101.89990	1063.19995	34444.19531	35294.00000	17937.93750	5.90000
1974:4	1030.49976	992.23999	34891.69531	35898.00000	17843.02734	6.10000
1975:1	873.81995	940.09998	35259.29687	36424.00000	17787.17578	6.60000
1975:2	860.73999	926.03992	35463.19531	36891.00000	17652.21484	6.80000
1975:3	831.48999	892.96997	35650.09375	37337.00000	17672.28906	6.90000
1975:4	852.71997	918.02991	35804.19531	37745.00000	17881.51562	7.10000
1976:1	830.00000	992.43994	35976.69531	38172.00000	18026.87891	7.30000
1976:2	829.38989	991.60999	36123.09375	38668.00000	17946.27734	7.30000
1976:3	849.94995	1017.44995	36266.19531	39157.00000	18667.34766	7.30000
1976:4	868.56995	1041.55981	36427.09375	39665.00000	18505.26562	7.20000
1977:1	863.73999	1065.33984	36603.49219	40191.00000	18637.44922	7.40000
1977:2	848.98999	1046.62988	36771.79687	40734.00000	18887.40625	7.70000
1977:3	822.30994	1012.34998	36922.09375	41251.00000	18944.47656	7.90000
1977:4	812.95996	998.87000	37042.89844	41727.00000	19062.75781	7.90000
1978:1	782.94995	1012.90991	37152.00000	42576.00000	19150.03516	7.80000
1978:2	800.09998	1037.69995	37229.09375	43040.00000	19401.80859	7.90000
1978:3	807.54993	1046.95996	37321.89844	43522.00000	19417.23437	8.00000
1978:4	815.24988	1057.59985	37420.29687	44008.00000	19831.50781	8.10000
1979:1	859.83997	1043.48999	37758.39844	44498.00000	19766.71875	8.30000
1979:2	873.25989	1062.46997	37862.00000	44967.00000	20274.15625	8.40000
1979:3	898.37988	1094.29980	37978.00000	45450.00000	20473.53516	8.40000
1979:4	951.67993	1162.95996	38116.89844	45958.00000	20474.92969	8.00000
1980:1	1004.79993	1189.27979	38306.19531	46528.00000	20690.64453	7.90000
1980:2	1013.79993	1202.54980	38544.89844	47117.00000	20787.26172	8.10000
1980:3	1032.39990	1227.75977	38787.79687	47712.00000	20185.33594	8.40000
1980:4	1065.89990	1273.28979	39044.39844	48324.00000	20789.54687	8.50000
1981:1	1031.00000	1338.07983	39329.49219	48974.00000	20931.98828	9.20000
1981:2	1010.00000	1304.86987	39573.89844	49680.00000	21194.79297	9.80000
1981:3	966.12000	1236.87988	39792.39844	50344.00000	21516.06641	10.20000
1981:4	957.81995	1225.56982	39962.69531	50932.00000	21589.85547	10.60000
1982:1	902.33997	1278.17993	40121.19531	51812.00000	21207.49609	10.30000
1982:2	886.28992	1254.01978	40221.09375	52426.00000	21301.12500	10.40000
1982:3	859.43994	1212.64990	40303.00000	53009.00000	21058.60937	10.80000
1982:4	861.89990	1217.38989	40355.39844	53543.00000	21262.67578	11.10000
1983:1	803.81995	1219.04980	40410.19531	54075.00000	21044.97656	11.60000
1983:2	814.31995	1238.24976	40405.79687	54602.00000	21233.74609	11.80000
1983:3	810.62000	1231.10986	40412.00000	55141.00000	21089.57422	11.80000
1983:4	828.10999	1265.59985	40414.39844	55667.00000	21716.24609	12.20000
1984:1	843.45996	1248.79980	40434.19531	56220.00000	21546.73437	12.40000
1984:2	862.90991	1290.96997	40469.00000	56749.00000	21483.91406	12.10000
1984:3	885.31995	1331.69995	40522.49219	57314.00000	21875.71484	12.20000
1984:4	917.27991	1399.76978	40598.39844	57912.00000	21868.56641	12.10000

REAL COST OF LABOUR : SECTOR 1

ID	ACTUAL	FITTED	RESIDUAL
1971: 1	1.8610	1.8627	-0.0017
1971: 2	1.8772	1.8854	-0.0081
1971: 3	1.8175	1.8258	-0.0083
1971: 4	1.8804	1.8593	0.0211
1972: 1	1.9228	1.8960	0.0267
1972: 2	1.9055	1.9055	-0.0000
1972: 3	1.8719	1.8996	-0.0277
1972: 4	1.9611	1.9702	-0.0091
1973: 1	1.9237	1.9389	-0.0152
1973: 2	2.0439	2.0296	0.0143
1973: 3	2.0268	2.0211	0.0057
1973: 4	2.0335	2.0280	0.0055
1974: 1	2.0315	2.0599	-0.0283
1974: 2	2.0852	2.0699	0.0153
1974: 3	2.0085	2.0316	-0.0231
1974: 4	2.0086	2.0540	-0.04540
1975: 1	2.0579	2.0382	0.0196
1975: 2	2.0743	2.0753	-0.0010
1975: 3	2.0310	2.0332	-0.0022
1975: 4	2.1096	2.0899	0.0197
1976: 1	1.9863	2.0267	-0.0405
1976: 2	2.0946	2.0852	0.0094
1976: 3	2.1242	2.1120	0.0122
1976: 4	2.2257	2.2114	0.0144
1977: 1	2.0860	2.0777	0.0083
1977: 2	2.1284	2.0823	0.0461
1977: 3	2.1502	2.1267	0.0235
1977: 4	2.1460	2.1372	0.0088
1978: 1	2.1352	2.1332	0.0220
1978: 2	2.1435	2.1363	0.0071
1978: 3	2.1706	2.1562	0.0144
1978: 4	2.1186	2.1129	0.0058
1979: 1	2.1757	2.1562	0.0195
1979: 2	2.1230	2.1516	-0.0285
1979: 3	2.1915	2.1940	-0.0026
1979: 4	2.1504	2.1851	-0.0347
1980: 1	2.1538	2.1749	-0.0211
1980: 2	2.1431	2.1704	-0.0272
1980: 3	2.1872	2.1830	0.0042
1980: 4	2.1842	2.2068	-0.0226
1981: 1	2.2202	2.2231	-0.0029
1981: 2	2.2531	2.2262	0.0269
1981: 3	2.2736	2.2484	0.0252
1981: 4	2.2858	2.2608	0.0250
1982: 1	2.2416	2.2719	-0.0303
1982: 2	2.2492	2.2626	-0.0135
1982: 3	2.2902	2.3011	-0.0109
1982: 4	2.2903	2.2894	0.0009
1983: 1	2.2441	2.2650	-0.0209
1983: 2	2.2675	2.2785	-0.0109
1983: 3	2.3224	2.2989	0.0235
1983: 4	2.2991	2.2952	0.0039
1984: 1	2.3139	2.2984	0.0155
1984: 2	2.2868	2.3032	-0.0164
1984: 3	2.3453	2.3358	0.0095
1984: 4	2.3160	2.3169	-0.0009

PLOT OF ACTUAL(*) AND FITTED(+) VALUES

PLOT OF RESIDUALS(O)

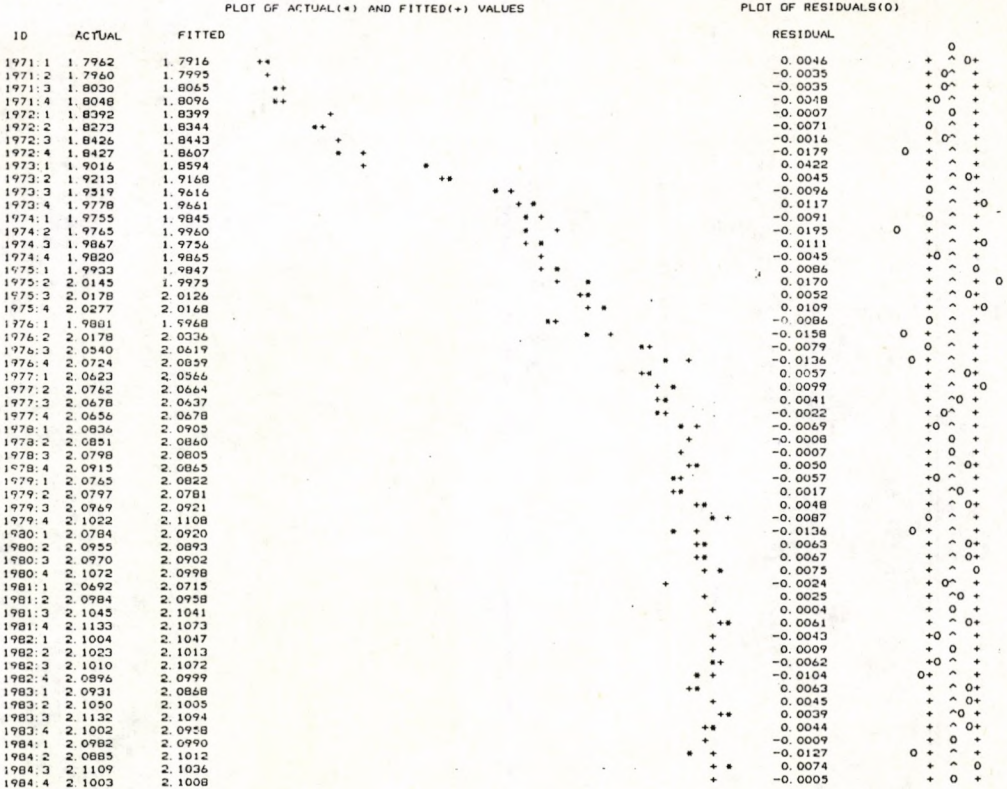


REAL COST OF LABOUR : SECTOR 2

PLOT OF ACTUAL(*) AND FITTED(+) VALUES

PLOT OF RESIDUALS(O)

ID	ACTUAL	FITTED	RESIDUAL
1971:1	1.7962	1.7916	0.0046
1971:2	1.7960	1.7995	-0.0035
1971:3	1.8030	1.8065	-0.0035
1971:4	1.8048	1.8096	-0.0048
1972:1	1.8392	1.8399	-0.0007
1972:2	1.8273	1.8344	-0.0071
1972:3	1.8426	1.8443	-0.0016
1972:4	1.8427	1.8607	-0.0179
1973:1	1.9016	1.8594	0.0422
1973:2	1.9213	1.9168	0.0045
1973:3	1.9519	1.9616	-0.0096
1973:4	1.9778	1.9661	0.0117
1974:1	1.9755	1.9845	-0.0091
1974:2	1.9765	1.9960	-0.0195
1974:3	1.9867	1.9756	0.0111
1974:4	1.9820	1.9865	-0.0045
1975:1	1.9933	1.9847	0.0086
1975:2	2.0145	1.9975	0.0170
1975:3	2.0178	2.0126	0.0052
1975:4	2.0277	2.0168	0.0109
1976:1	1.9881	1.9968	-0.0086
1976:2	2.0178	2.0336	-0.0158
1976:3	2.0540	2.0619	-0.0079
1976:4	2.0724	2.0859	-0.0136
1977:1	2.0623	2.0566	0.0057
1977:2	2.0762	2.0664	0.0099
1977:3	2.0678	2.0637	0.0041
1977:4	2.0656	2.0678	-0.0022
1978:1	2.0836	2.0905	-0.0069
1978:2	2.0851	2.0860	-0.0008
1978:3	2.0798	2.0805	-0.0007
1978:4	2.0915	2.0865	0.0050
1979:1	2.0765	2.0822	-0.0057
1979:2	2.0797	2.0781	0.0017
1979:3	2.0969	2.0921	0.0048
1979:4	2.1022	2.1108	-0.0087
1980:1	2.0784	2.0920	-0.0136
1980:2	2.0955	2.0893	0.0063
1980:3	2.0970	2.0902	0.0067
1980:4	2.1072	2.0998	0.0075
1981:1	2.0692	2.0715	-0.0024
1981:2	2.0984	2.0958	0.0025
1981:3	2.1045	2.1041	0.0004
1981:4	2.1133	2.1073	0.0061
1982:1	2.1004	2.1047	-0.0043
1982:2	2.1023	2.1013	0.0009
1982:3	2.1010	2.1072	-0.0062
1982:4	2.0896	2.0999	-0.0104
1983:1	2.0931	2.0868	0.0063
1983:2	2.1050	2.1005	0.0045
1983:3	2.1132	2.1094	0.0039
1983:4	2.1002	2.0958	0.0044
1984:1	2.0982	2.0990	-0.0009
1984:2	2.0885	2.1012	-0.0127
1984:3	2.1109	2.1036	0.0074
1984:4	2.1003	2.1008	-0.0005



VIII

WORKING PAPERS ECONOMICS DEPARTMENT

85/155:	François DUCHENE	Beyond the First C.A.P.
85/156:	Domenico Mario NUTI	Political and Economic Fluctuations in the Socialist System
85/157:	Christophe DEISSENBERG	On the Determination of Macroeconomic Policies with Robust Outcome
85/161:	Domenico Mario NUTI	A Critique of Orwell's Oligarchic Collectivism as an Economic System
85/162:	Will BARTLETT	Optimal Employment and Investment Policies in Self-Financed Producer Cooperatives
85/169:	Jean JASKOLD GABSZEWICZ Paolo GARELLA	Asymmetric International Trade
85/170:	Jean JASKOLD GABSZEWICZ Paolo GARELLA	Subjective Price Search and Price Competition
85/173:	Berc RUSTEM Kumaraswamy VELUPILLAI	On Rationalizing Expectations
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