

THE ITALIAN WAGE CURVE. THE EFFECTS OF THE RECENT LABOUR MARKET REFORMS

*di Nadia Netti**

1. Introduction

The reforms taken in the 1990s aimed at increasing flexibility in the Italian labour market to respond to the “inclusion” problem which still characterises the country. New temporary low-skill jobs were created but neither industrial competitiveness nor productivity were enforced.

As far as the Mezzogiorno is concerned, not enough was done to remove the obstacles that induce firms to a downsize. This process is the main source of persistent local unemployment, only “mitigated” by a dramatic increase in the outgoing labour force phenomena (i.e. discouraged workers, migrants towards more developed areas of the country or abroad and occupational deaths).

As documented by the Svimez (2007) the development of the Mezzogiorno is still severely compromised by a hostile territory with social insecurity and a high crime rate (obviously increased by the “inclusion” problem in the labour market); lacking in infrastructure (namely roads, railways lines, airports, ports, ...) and services (schools, hospitals, ...); scarce diffusion of technology and services for firms; credit rationing (reinforced by the local effect of the new Basel Agreements).

If these are the problems, it is difficult to understand how they could be solved, rather than consolidated, by the widespread insecurity produced by the recent reforms. Excessive turnover of workers and firms, reinforced by the recent reforms, is a major obstacle to human capital accumulation.

A hostile territory produces social inequality, poverty, under-consumption and under-investment that severely compromises growth.

* I wish to thank Prof. A. Giannola for his very useful comments. Faculty of Economics, University “Federico II” of Naples (Italy); email: netti@unina.it.

One of the pretexts to implement labour market de-regulation was the non-existence of a wage curve in Italy (section 2). We present a theoretical insight into the wage curve (section 3). The empirical evolution of the subject as far as the Italian labour market is concerned is then presented. One of the questions we seek to ask is whether it is right to talk of a “resurrection” of the wage curve only after the July 1993 Income Policy Agreements (section 4). New results obtained on Capitalia’s database (2001-03) and Bank of Italy’s Survey of Italian Household Budgets (2002-2006) show what has occurred when the de-regulation is near completion (section 5).

For an in-depth understanding of the effects of the reform, the new definitions in collecting labour force statistics and the distribution of unemployment are analysed (section 6). Some severe shortcomings of de-regulation such as the outgoing labour force phenomenon are then considered (par. 7).

The recent Italian reform of business taxation has devoted attention to the fiscal wedge. It is widely claimed that the high fiscal wedge produces downward rigidity of wages and hence unemployment (section 8). On the contrary, the data show a severe downward drift of wages and a slight decrease in the fiscal wedge in Italy (section 9).

In the conclusion (section 10) our point of view is restated: far from solving the problems of a dual economy, de-regulation of Italian labour market has reinforced them and has concurrently eroded civil rights thereby making a departure from standards of health and morality.

2. Keywords, Clichés, Normalization Procedures and Resurrections

As it is very ably described by Contini and Trivellato (2005), during the 1990s, to create the conditions for labour market de-regulation, ad hoc clichés were coined in part of the economic literature. Even econometricians were greatly influenced by such clichés that described, with very few exceptions, the Italian labour market as excessively rigid. With the consent of many (but not all) applied and theoretical economists, flexibility became the keyword of Italian policy, referring to both real wages and normative flexibility.

Much of the effort spent in this ad-hoc direction could have been spent, more fruitfully, in the opposite direction.

What does anybody do as soon as possible if they think they might have cancer? They go to more than one oncologist before any surgical operation.

One of the first steps of the reform could have been to devote attention

and resources to detect the problem correctly. The inputs could have been unbiased data, trained collectors and applied researchers. On the contrary, inadequate databases and the excess proneness to rush decisions without challenging the theoretical mainstream produced the recent labour market de-regulation and its negative effects.

Only recently, thanks to the “resurrection” of some observations that already existed but that were never considered at all, has it become clear that Italian labour market de-regulation has:

- reduced incentives to human capital investment both for firms and workers;
- increased the inclusion problem, the outgoing labour force and migration phenomena, and the connected social problems;
- increased labour market polarization, good versus bad jobs;
- increased insecurity and occupational death phenomena.

One “resurrection” was, for example, that of worker mobility. Contini and Trivellato (2005) asserted that worker mobility was already evident in the 1980’s. This phenomenon has only been recently detected thanks to the Work Histories Italian Panel (WHIP)¹.

¹ This note is completely drawn from (Leombruni, 2005) and <http://www.laboratoriorevelli.it/whip>.

The Work Histories Italian Panel is the database of individual labour histories build by the private Centre for Employment Studies in Riccardo Revelli’s laboratory and mainly financed by “Compagnia di San Paolo”. The database was made up on the base of the INPS Archives. The population from which the sample (1:90) is drawn is made of all the people (about 715,000) that have ever worked in Italy for a period of their life. Every kind of working experience is considered and even periods in which one as had unemployment benefits. Working experience such as employment in the public sector, self-employed with an autonomous pension fund, and irregular ones are excluded by WHIP.

WHIP is a Linked-Employer-Employee Database rich in information relative to both firms and employees as data are drawn even from the INPS firm observatory (1987-1998). The period considered is from 1985 to 1999 and 1985-2004 for some variables. WHIP is seen as a black box which is the result of about one hundred programs performed to elaborate the input represented by INPS data not directly useful for the purpose of research. The WHIP file standard is a half version of the full edition sample (1:180) made of anonymous microdata of 370,000 individuals.

Some limits of WHIP: the definition of unemployment as it registers only cases of administrative unemployment as those of people with unemployment benefit. If it is no working experience nor benefits are registered, WHIP does not distinguish among unemployed or people outside the labour force or newly self-employed with an autonomous pension fund or entering the public sector, or entering the agriculture sector. Temporary flows among these four categories are always possible.

1. firms data are available only for a shorter period (1987-1998);
2. level of education is not available;
3. some variables are available at a higher geographical than the provincial level;
4. some variables are available only for classes of firms rather than for single firms.

Leombruni and Quaranta (2005) showed that labour mobility was already high in the early 1980s and it did not increase in the 1990s. Higher levels of mobility were particularly found in the Mezzogiorno, among young people, women, older marginal workers and recently in migrants workers.

Again with the use of WHIP data, Devicienti *et al.* (2006) asserted that the 1993 Income Policy Agreement did succeed in bringing back to life a wage curve in Italy. The Authors considered this a “resurrection” because Lucifora and Origo (1997, 1999) found no wage curve in the period 1980-93, 1990-94, 1990-95 as far as the INPS database is concerned. However, the local unemployment elasticity of wages was negative and significant even in the period 1980-1994 in the case of ISTAT’s regional report (Lucifora and Origo, 1999).

To tell the truth, and to overcome a “publication” bias, from Capitalia’s database², the wage curve emerged in Italian manufacturing since 1989, that is well before the reforms cited, and persisted through the 1990s despite the increasing weight of firms performance in explaining real wages paid (Netti, 1999a,b; 2001; 2006a,b).

As regards the Bank of Italy’s Survey of Italian Household Budgets, the wage curve was absent in the earlier period 1977-91 (Manacorda and Petrongolo, 1999), but “resurrected”, for the whole economy, in the period 1993-2000 (Netti, 2001, 2006a).

Is it possible that such important phenomena were dissimulated with ad hoc data to justify the de-regulation of the labour market?

This is the idea underlying the analysis of Contini and Trivellato (2005) and, earlier, of Ginzburg *et al.* (1998, 1999). The strange thing is that both observations are made about the INPS data.

Another odd thing about the INPS database is the “turnabout” of the hierarchical order of Italian provinces, with respect to wages differentials, that is noted to have happened in 1994 by Ginzburg *et al.* (1998, 1999). According to the same Authors this “turnabout” is not an effect of a structural break in the time series of territorial wages differentials that could be have been attributed to the Italian labour market reforms which occurred in 1993³. This phenomenon is, instead, produced by an intentional normalization of wages performed by the INPS following a precise aim that involved government, firms and the INPS itself.

In the same period, in fact, the ISTAT database went on to describe how large and positive were wage differentials existing between the North and the

² Formerly Mediocredito Centrale’s database.

³ July 1993 Income Policy Agreements.

South of the country in many of the industrial sectors. In the INPS database these differentials disappeared after the normalization performed in 1994.

In particular, ISTAT's regional accounts evidenced a North-South wage differential of about 25% in many sectors. Moreover, according to the Bank of Italy's Survey of Italian Household Budgets, in 1995, manufacturing firms in the North paid about 12% higher wages than firms in the South.

In 1994, Mediocredito Centrale's database showed that small northern firms in manufacturing (less than 20 employees) paid about 30% higher wages than southern ones (Ginzburg *et al.*, 1998, pp. 378, 382; Giannola, 1998, p. 33, tab. 9). In 1995-97 the same database evidenced that wages paid by southern firms were about 20% lower than those paid by northern firms (Netti, 2001)⁴.

Below (tab. 1) we present the area wages differentials obtained with Capitalia's database used for this paper. Deflated per-employee labour cost in manufacturing firms of the Mezzogiorno is still lower than that of the Centre-North with the exception of firms with 51-500 employees. Small northern firms in manufacturing (less than 20 employees) paid about 15% higher wages than southern firms. Northern firms with more than 500 employees paid about 30% higher wages than their southern counterparts.

After their description of the kind of normalization characterising INPS data, Ginzburg *et al.* (1998, 1999), concluded that it was impossible to use normalised wages to perform whatever unbiased economic analysis⁵. The

⁴ Manufacturing firms per-capita labour cost-Mezzogiorno as a percentage of Centre-North

<i>Firm size (no. employees)</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>
11-20	74.1	79.8	78.7
21-50	81.3	81.1	81.1
51-100	80.7	77.1	78.5
101-250	78.0	79.5	80.6
251-500	81.6	82.4	85.7
Oltre 500	76.5	78.4	80.5
Totale	78.8	79.7	79.9

Netti (2001) on Mediocredito Centrale's database.

⁵ This note is completely drawn from Ginzburg *et al.* (1998).

Before 1994 the INPS collected unit pay as a ratio between total wages paid by a firm and annual mean value of its employees during the year. Firms correctly indicated in DM/10 model the gross effective monthly pay but this procedure was considered wrong for it produces too low mean wages in presence of part-time workers, turnover and a number of days worked in a month lower than the standard. Those who had worked 22 days and 15 days a

“26 factor” (see footnote 6 for details) bias, produced by the normalization formula, was even worsened by the kind of national insurance contributions

month were both considered work units. This induced the normalization procedure started in 1994. Since 1994 in the INPS archive total normalized wages paid by a firm in a month have been calculated as follows:

$$Ntmw_i = Numw_i * e_i = [(Tw_i / D_i) * 26] * e_i$$

where: i = current month; e_i = number of employees; 26 = maximum number of days payable in each month; $Ntmw_i$ = Normalized total *monthly* wages; $Numw_i$ = Normalized *unit monthly* pay = $[(Tw_i / D_i) * 26]$; Tw_i = total *monthly* wages declared in DM/10; D_i = number of working days declared in DM/10.

D_i is obtained conventionally dividing by 6.66 hours (which is an average working day) the total hours of work monthly declared by firms in the DM/10 model with the number of temporary workers and their hours of work. Annual normalized pay is then calculated dividing the annual sum of normalized total monthly wages paid by the average annual number of employees (blue and white-collars).

Effective wages paid would be equal to normalized ones only if there were always 26 days paid in a month (i. e. the maximum available); but if this happened there would be no reason to normalize pays.

Law 389/89 makes it mandatory for firms to declare (in DM/10 *monthly* models) a *daily* pay not lower than minimal *daily* wages decided by law and collective bargaining (i.e. $Cnldw_i$ = *daily* wages consistent with collective national labour contract).

The *monthly* pay declared is then submitted to the mandatory contribution that firms have to pay to the INPS for their full-time employees. As there are monetary sanctions for firms declaring less than those *daily* minima while no check is performed on declared working days (D_i), it is easy to understand why firms declare a number of working days lower than the effective ones. Firms prefer to leave effective *monthly* wages (Tw_i) unchanged even if lower than *monthly* minima while they under-declare the number of working days (D_i). The result will be the consistency between declared *daily* wages (Tw_i / D_i) and minimum current *daily* wages ($Cnldw_i$).

Where the evasion phenomenon is mainly widespread, as in the Mezzogiorno, the pay resulting from the INPS database is artificially over-estimated. We look below at what happens in the event of this kind of evasion: as the number of days declared is far lower than 26 ($D_i < \text{effective monthly working days} \leq 26$) (if not justified for example by redundancy payment periods, i.e. CIG), the Normalized *unit monthly* pay, $Numw_i = [(Tw_i/D_i) * 26]$, is over-estimated with respect to the declared one $[Tw_i]$.

To tell the truth, both $Ntmw_i$ and $Numw_i$ would be higher than their effective counterparts even if declared and effective monthly working days, equal to each other, were both lower than 26 ($D_i = \text{effective monthly working days} < 26$). The “factor 26” is a figure really higher than that characterising the effective working days in many sectors; it only serves to facilitate INPS administrative checks of the *monthly* mandatory contribution that employers have to pay for their full time workers which is calculated with respect to minimum *daily* wages and has nothing to do with respect for whatever reasonable estimate of pay.

Moreover, total Normalized wages paid in a month ($Ntmw_i$) are only potentially paid to workers that is: (1) if they worked for 26 days; (2) at the firms’ declared pay (Tw_i); (3) consistent with minimum *daily* wages of 1.389/89. These three conditions are generally unfulfilled in under-developed situations.

evasion performed by firms. This evasion was achieved through an under-declaration of working days performed by firms in order to obtain a *daily* pay consistent with the minimum *daily* wages, decided by law and collective bargaining (as mandatory according to Law 389/89), even in the presence of a declared (and effective) *monthly* pay lower than monthly minima. This under-declaration produced an artificial over-estimation of normalised wages resulting from the INPS database; given the monthly wage declared the lower the number of declared working days, the higher is the normalised unit monthly wage resulting in the INPS archive. In this way there arises an evident conflict between employer and employee as a lower amount of contribution is paid than what would be required by Law, given the effective working days.

Tab. 1 – Manufacturing firms per-employee labour cost (Centre-North = 100)

<i>Firm size (no. employees)</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>
11-20	85.4	85.1	86.6
21-50	88.6	91.2	92.6
51-250	98.6	107.0	112.1
251-500	105.0	106.5	110.3
Over 500	69.0	72.8	79.9
Totale	89.3	92.5	96.3

In the Mezzogiorno the high level of normalized unit wages resulting in the INPS archive is both the effect of firms being far from their full capacity (downsizing) and of the kind of national insurance contributions evasion described: both phenomena keep effective monthly working days a long way from 26. The evasion phenomenon, however, also occur in the North-Eastern provinces of Italy, albeit to a lesser extent⁶.

The difference between effective and normalized wages would be negligible only if the number of monthly working days “declared” by firms were equal to “effective” ones and, however, both no lower than 26. Had normalization been performed considering “factor 22” (i.e. Saturday and Sunday excluded) there would have been a lower distortion.

As far as area wage differentials are concerned the bias would be negligible only if the differences were uniformly distributed all over the country.

⁶ From the common benchmark of 26, the distance between monthly working days declared in the southern provinces is farther than that in the northern ones (see Ginzburg at al., 1998, for detailed provincial figures).

As this is almost impossible, the normalization gives rise to purely virtual area differentials⁷.

In the light of above the INPS Archive can be considered, as Ginzburg *et al.* (1998, 1999) sustain, mainly one of virtual rather than effective wages. This is true even for the INPS on-line Archive called Aquarius which re-calculated the 1990-1993 data using the normalization procedure started in 1994. It is worth recalling, at this point, that Lucifora and Origo (1997, 1999) failed to find the wage curve either in the 1990-94 INPS Aquarius or in 1990-95 INPS companies archive.

Effective area wage differentials rather than the virtual (ad hoc) wage differentials measured by INPS must be in the analyses and on the policy agenda. Unfortunately, virtually absent area wages differentials underlay the re-proposed “wage cages” (“gabbie salariali”) seen as a remedy for solving persistently high unemployment in the south of Italy (Faini, 1995). In 1992 the automatic cost of living allowances, the wage indexation mechanism called the “scala mobile” had already been abolished. Under the Protocol of July 1993, signed by the Italian government and social parties, decentralised bargaining and a short-term wage freeze were instituted in the spirit of social cooperation and to avoid wage-price spirals⁸.

As the specific incentive and profit sharing schemes were left to each firm, this reform introduced efficiency wages considerations in the whole economy⁹ and, potentially, pro-cyclical real wages.

Obviously the amount of rent to be shared depends on the economic performance of firms on the other inputs and output markets and on the fiscal

⁷ The distortions produced by the normalization procedure are not only of territorial kind. As far as temporary work is concerned further distortion is drawn from the multiplication of daily pay for the maximum number of hours relative to full-time workers (i.e. 26). In sectors, like fashion, where seasonal change matters, artificially high wages will appear. This is, for example, the case of craft activities that can interrupt production and suspend workers for a number of days that are not paid at all but may appear as fully paid. This does not happen in industrial firms as they solve the seasonal factor with overtime.

⁸ Under the Protocol of July 1993 a two-step hierarchical procedure was established by which wages were first collectively negotiated by each sector union at the national level; then, an agreement at firm level determined a wage premium linked to firm profits to introduce rent-sharing. The national collective agreement can be renegotiated every two years with the aim of keeping wage purchasing power according to a programmed inflation rate. Second level bargaining can be renegotiated every four years with the aim of rent sharing between employers and employees. The aim of the Protocol was to favour efficiency and to introduce important changes in wage determination and in industrial relations without compromising wage purchasing power and, so, effective domestic aggregate demand.

⁹ The existence of “inside” factors as regressors in the wage curve in Italian manufacturing of 1989-1991, 1992-1994 demonstrates that efficiency wage considerations at firm level were operating (above the minimum collective wages) even before 1993.

wedge. Thus the “battle of mark-ups” (Layard, Nickell, 1991) between employers and employees (unions) fixed the shares at firm level. Wage moderation in the 1990s consisted in a considerable fall in labour’s income share. From 1993 to 2001 the wage labour share, already declining since the previous decade, stayed on a downward trend while the opposite occurred for the gross profit share in net product. The purchasing power of wages was reduced by inflation even for full-time employees. According to OECD estimates, between 1996 and 2002 Italy had the worst real wage performance in the EU.

At the same time, the distance between labour productivity and labour costs was growing. This was essentially due to a number of legislative measures to narrow the tax wedge on wages such as the replacement, in 1998, of the mandatory contribution to the National Health Service with the IRAP, a regional tax on value added for production activities. This transformed a social contribution into a reduction in tax burden on business (section 7).

The Budget for 2001 introduced a monthly, per worker, tax credit for firms hiring workers with permanent contracts which lasted from the moment of hiring to the end of December 2003 (Cipollone, Guelfi, 2003, 2006). This tax credit was differentiated with respect to the geographical area (it was higher in the South) and business sector. Cipollone *et al.* (2004) calculated that the introduction of the tax credit may have raised labour force participation by 1-2% in 2001 and 2002, mainly among males aged 35-54 with a low schooling level who probably left the underground economy.

Even if, from 1993 to 2001, the wedge between output prices and unit labour costs was constantly increasing, firms did not seek to win international competition by developing of new products and quality. The effect of the unequal distribution of income reduced consumption and investment and hence effective aggregate demand.

Another aspect of the labour market reform was the de-regulation of dismissals. In 1991, Law 223 introduced a procedure for collective dismissals in firms with more than 15 employees that reduced firing costs for larger firms (Bertola, Ichino, 1995, pp. 387-8). The job losses, due to dismissals and early retirements, from 1991 to 1995 were so high as to register the most severe recession since the Second World War (Brandolini *et al.*, 2007). This phenomenon caused changes in the composition of the labour force with the complicity of Law 196 of 1997 and of Law 30/2003. The so-called Treu Package (Pacchetto Treu) established by Law 196/1997 extended work experience, part-time and temporary work, employment schemes, increased age limits of “apprentices”, and introduced “rental work” (“lavoro interinale”).

Under Law 30/2003 de-regulation of the labour market was almost completed except for the improvement of the welfare system that could have added security (of income, of life-training,...) to flexibility as the new *ad hoc* coined clichés – “flexicurity” – suggested¹⁰.

¹⁰ At <http://eurofound.europa.eu> we can read: The European Commission in its Employment in Europe 2006 report describes flexicurity as an optimal balance between labour market flexibility and security for employees against labour market risks. The Commission’s interpretation of flexicurity involves replacing the notion of job security, a principle that dominated employment relations until recently, with that of “protection of people”. The flexicurity model, first implemented in Denmark by the social democratic Prime Minister Poul Nyrup Rasmussen in the 1990s, is a combination of easy hiring and firing (flexibility for employers) and high benefits for the unemployed (security for the employees). Perceived as a new way of viewing flexibility, flexicurity represents a means whereby employees and companies can better adapt to insecurities associated with global markets. The Commission’s 1997 Green Paper on “Partnership for a new organisation of work” stressed the importance of both flexibility and security for competitiveness and the modernisation of work organisation. The idea also features prominently in the adaptability pillar’ of the EU employment guidelines where the social partners are invited ‘to negotiate at all appropriate levels agreements to modernise the organisation of work, including flexible working arrangements, with the aim of making undertakings productive and competitive and achieving the required balance between flexibility and security’. This “balance” is also consistently referred to in the Commission’s Social Policy Agenda 2000-2005. An integral part of the re-launch of the Lisbon Strategy in 2005 was the emphasis on training, which continues to remain a central aspect of flexicurity. The need for security of employment to balance flexibility in the labour market is also reflected in the European social dialogue. For example, the Framework Agreement on part-time work (concluded 6 June 1997) and the Framework Agreement on fixed-term work (concluded 18 March 1999) both refer to “flexibility in/of working time and security for workers”. Employment security is a particular concern in relation to fixed-term work. In the Commission’s Explanatory Memorandum to the proposed draft directive implementing the Agreement, the Commission emphasises that “...the social partners” contribution is positive in itself in that it guarantees that consideration is given both to business competitiveness and to the interests of workers’. Although in recent years there have been different interpretations of the flexicurity term, with the ETUC in particular rejecting the claim that job security needs to be replaced by employment security, recent developments suggest that the social partners along with the Commission are moving towards an interpretation which is acceptable to all parties. The key breakthrough occurred towards the end of 2007, when the European Parliament endorsed a resolution entitled the Common Principles of Flexicurity on 29 November. The Parliament’s position is a response to the Commission Communication Towards common Principles of Flexicurity. In December 2007, the Council adopted eight common principles of flexicurity as follows.

- Flexicurity is designed to implement the main principles of the Lisbon Strategy.
- Flexicurity, in addition to being committed to life-long learning, active labour market policies and a modern social welfare system, sees the need for flexible contractual arrangements.
- Flexicurity needs to adapt to the different circumstances in each Member State.
- Flexicurity needs to support open and inclusive labour markets which help to reintroduce inactive employees back into employment.

If, in February 2008, the European Commission launched a “*Mission for Flexicurity*” (see footnote n.11) there is more than one sign that civil rights of people involved by de-regulation of labour market in Europe are severely compromised. The labour market is deeply segmented. The idea that de-regulation is not so bad as it affects only a small part of the labour force is not at all convincing. In Italy the reform produced a duality in the labour market as it interested especially affected the new entrants. Older, more experienced workers with stable contracts on the one hand; younger, less experienced workers with temporary, atypical contracts or “rented”, that will probably remain so due to their probable everlasting temporariness. Freelance workers, quasi-employees (co.co.co. workers) are distinguishable for not benefiting from employment protection legislation, having lower social security contribution and being paid less and without any “rent-sharing” perspectives.

Excessive turnover does not allow human capital accumulation. Contini and Pacelli (2005) assert that, as far as WHIP is concerned, job and worker-turnover in the Mezzogiorno are far higher than in the rest of the country but with fewer direct shifts from less productive to higher productive jobs, being more associated to firm turnover.

Temporary contracts are a device to bypass the regulation of individual dismissals and represent an indirect but effective deterrent to shirking. Unlike work – and – training contracts (which spread in 1994 and are characterised by a fixed term and reduced social contributions for young workers) temporary contracts make it impossible for the worker to acquire skills. In dangerous work they risk dying before receiving any training (see section 6b); in safe work the probability of renewal is very scarce. If this were

- Flexicurity needs to involve the smooth transition between jobs by constantly upgrading employees’ skills and providing the necessary social protection in transition periods.
- Flexicurity should promote both gender equality as well as considering means to reconcile work–life balance issues.
- Flexicurity needs the support of the social partners.
- Flexicurity needs to involve a cost-effective distribution of resources which public budgets can sustain.

In February 2008, the Commission underlined its commitment to flexicurity by announcing the setting up of the “*Mission for Flexicurity*”. Consisting of members representing the Commission, ETUC, Business Europe and the French government (French presidency of the Council from July 2008), the Mission’s role is to visit four or five Member States, and discuss in depth the state of play as regards the development and implementation of the national pathways based on the Common Flexicurity Principles. In December 2008, the Commission will present the Mission report to the employment ministers, outlining ways in which the principles can be best implemented, taking into account the specific circumstances of each Member State.

not so, the employer would have invested more in the job relationship than is possible with this kind of contract.

Neither efficiency wage nor bargaining and insider-outsider theories are reasonably applicable to the relation between employers, “quasi-employees” and/or “quasi-unemployed”. Last but not least, different implications of the reforms are to be considered as regards the North-South and the gender gap. Temporary contracts are too often a device to bypass the regulation of maternity and child-care.

3. The Wage Curve: A Theoretical Insight

Before Blanchflower and Oswald’s “The Wage Curve” of 1994 (henceforth B/O W-C), labour economists regressed wages on individual or firm characteristics to estimate wage gaps and measure the value of education, skills, firm level of investments in R & D, and so on. What is new in the B/O W-C is the adding of individual local labour characteristics as regressors in microeconomic wage functions, where “local” stands for a place and/or an industry.

B/O found an empirical regularity in that, for different kinds of workers, in different economies, at different times, a 1% increase in the rate of local unemployment produces a 10% decrease in contemporaneous wages locally paid to the employees.

In other words, the W-C suggests the existence of a stable relationship between local unemployment and the wage level with a downward-sloping convex curve in the wage/unemployment plane. That is, the wages of workers in labour markets with high unemployment are lower than wages of similar workers in markets with lower unemployment.

As observed by Card (1995), from the first reading of B/O’s “The Wage Curve” the reader starts to compare earlier studies of interregional migration and labour market equilibrium (Harris, Todaro, 1970; Hall, 1970; Roback, 1982), more recent studies of the cyclical variability of real wages (Bils, 1985; Solon, Barsky, Parker, 1994) and studies of the short-run responses of wages and unemployment to local labour market shocks (Bartik, 1991; Blanchard, Katz, 1992). The possibility of local unemployment affecting wage rates was first considered by earlier studies of interregional migration and labour market equilibrium by Harris and Todaro (1970) and Hall (1970). These works were both based on the compensating wage differentials theory by Adam Smith so well summarized by the assertion:

The whole of the advantages and disadvantages of the different employments of labour and stock must, in the same neighbourhood, be either perfectly equal or continually tending to equality. If in the same neighbourhood, there was any employment evidently either more or less advantageous than the rest, so many people would crowd into it in the one case, and so many would desert it in the other, that its advantages would soon return to the level of the other employments (Smith, 1976)

Therefore, as far as the compensating differential theory is concerned, there is a positive (and not a negative) relation between wages and unemployment. No room is therefore left for a wage curve in this theory.

Keynes (1936) explained pro-cyclical real wages in terms of monopoly and pro-cyclical elasticity of demand while he never departed from the first postulate of classical theory. From a theoretical point of view, pro-cyclical real wages are compatible both with *disequilibrium models* presented by Patinkin (1965), Clower (1965), Leijonhufvud (1967), Barro and Grossman (1971), Malinvaud (1977), Muellbauer and Portes (1978) and with imperfectly competitive models (Solow, 1986; Layard, Nickell, 1991; Carlin, Soskice, 1990; Blanchflower, Oswald, 1994).

As well described by Patinkin (1965), defining himself more Keynesian than Keynes, lowering real wages is neither necessary nor sufficient to restore full employment. Involuntary unemployment is not the result of real wage rigidity but of the insufficient effective demand in the output market that constrains production and labour demand.

In the neo-Keynesian approach the non-Walrasian equilibrium is due to market imperfections. Without market imperfections, neoclassical full equilibrium is reached. Wages are not set to clear the market.

Firms act as local monopsonists, or being engaged in monopsonistic competition in the case of costless entry.

Unemployment is involuntary. And, as already deduced from Marx's *Capital*, the existence of an army of unemployed serves as a discipline device for the employed (Rowthorn, 1977). Rowthorn (1977: 237) himself considered the level of demand a device that is able to control what Layard and Nickell (1986) called "the battle of mark-ups".

Following Solow (1986),

"Someone defined an economist as a parrot trained to repeat 'Supply and demand, supply and demand'. There are many worse things you could teach a parrot to say – and we hear them every day – but I want to suggest that, in the case of the labor market, our preoccupation with price-mediated market clearing as the 'natural' equilibrium condition may be a serious error".

Moreover following B/O,

“one of the underlying ideas in this book, is that the competitive model of the labor market is probably an inadequate framework for the study of pay and unemployment” (p. 20).

And following Card (1995),

“the compensating differential theory pertains to the expected unemployment rate in local market, while the wage curve relation ... concerns contemporaneous unemployment”.

B/O presented three alternative models as theoretical interpretations of W-C: a model of regionally based implicit contracts; an efficiency wage model; a bargaining model. Thus the Wage Curve is interpreted as one of the building blocks of imperfect labour markets, as a quasi-labour supply function looking at one side of the market. In a bargaining or union model the ability of insiders (unions) to claim larger shares of the surplus to be divided is kept low by a high number of outsiders leaving on the surrounding and potentially applying for a job. In the efficiency wage model wages paid influence productivity; the propensity to shirk and to provide work effort is controlled by the level of local unemployment because if this is high employees are more frightened to loose their jobs and put in higher effort even at low wage levels. In other words, in both the bargaining and efficiency wage models there is a negative relation between wages and unemployment.

As observed by Card (1995) in the contractual model, spatially isolated employers offer a standard Azariadis-Baily-Gordon wage/employment contract to potential employees. Differences in amenity values of places generate differences in wages and expected local unemployment rates, while the level of unemployment benefit is constant across areas (this is a critical assumption). For each realization of the demand shock, in order to offset income risk, the optimal contract will lead to a higher level of contractual employment and wages in the low-amenity regions. Thus there will be lower unemployment and higher wages in the low-amenity regions.

Layard, Nickell and Jackman (1991) sought to reconcile the two points of view: the wage curve may exist in the short run as a signal of bargaining or of efficiency wages (partial-equilibrium models), but, in the long run, migration will lead to convergence of per capita remunerations and hence to a decay of the wage curve (equilibrium model). Unemployment rates differ widely between regions, occupations and age, race and sex groups, and

such differences are very often highly persistent. L-N-J distinguish the reasons why occupation and geographical mobility does not eliminate the differences between unemployment rates into persistent and temporary imbalances between supply and demand for labour across skill groups, regions and age groups. They call both imbalances as “mismatches”.

To define the structure of unemployment, when the labour force is exogenous, the short run has to be considered separately from the long run, when migration is possible between skill groups and regions (but not between sexes and races). L-N-J assert that cross-section studies may fail to highlight the existence of a wage curve as they capture a mix of the wage equation and the long run equilibrium migration condition which slopes the other way in, *ceteris paribus*, migration competitive equilibrium. The solution is the estimation of repeated cross-sections and of panel data without forgetting time-dummies.

Farther from a reconciliation are B/O. They attribute the stability over time of the wage curve to regional amenities that may compensate for poor coupling of wages and regional unemployment such that regions may lie along the same wage curve. Interregional migration does not always succeed in eliminating pay and employment differences across the regions among workers with the same skills. Migration is not an instantaneous reaction to small differences in economic variables. It is a costly and slow process. Migration will take place only gradually in response to regional inequalities. When differences in wages or unemployment persist they may reflect local amenities (sunshine; certainty of property rights; diffuse legality) or disamenities (e.g.: extremely widespread crime; pollution; extreme temperatures; high rainfall; lack of sunshine).

As a matter of fact whether a local characteristic is an amenity or a disamenity is really questionable and subjective (e.g. wind-speed is an essential input for generation and accumulation of wind-energy and for wind-surfers, sailors and their coaches while it may be a disamenity for their own little babies).

There may be more agreement on more extreme local characteristics (e.g. who wants to live for ever at Poles!).

However, the statistical stability of the relation across countries and over time made B/O argue that it is an equilibrium locus of wages and unemployment rates that replaces the market level labour supply function. Moreover the 200 estimates for 30 countries recently showed by Nijkamp and Poot (2005) “*fly in the face of the expected equilibration of earnings as predicted in the Harris-Todaro and compensating differential models*” (Persky, Felsenstein, 2008, p. 9).

Phelps (1992: 1004) described the equilibrium wage curve as a surro-

gate employment supply curve that, as Woodford (1992: 396) observed, lies to the left and is flatter than the true Marshallian labour supply curve. In this case the wage curve is part of “structural” unemployed models (Layard, Nickell, 1986; Layard, Nickell, Jackman 1991; Lindbeck, 1993; Phelps, 1992, 1994; Woodford, 1992, 1994).

Non-equilibrium, agent-based, models of workers and firms with on-the-job searching, endogenous entrepreneurial decision and endogenous wage and income determination as that of Richiardi (2005) are able to reproduce Wage, Beveridge and Okun curves and other stylized facts, generally accepted in labour economics, as emerging only out of equilibrium, during the adjustment processes towards the stationary state. And, thus, from a theoretical point of view, taking these facts as “building blocks” of equilibrium models might be misleading. If wages are mainly driven by productivity no wage curve will appear. In a joint investigation of empirical regularities Richiardi (2005) suggested that the shape of the wage curve is not independent of the shape of the Beveridge and Okun curves which are thus related to the matching function.

“The somehow fuzzy evidence on the existence and the slope of these curves may be due to the fact that the data considered by many empirical studies belong to different regimes, more or less distant from a stationary state” (Richiardi, 2005, p. 24).

The job vacancy chains models (Persky, Felsenstein, 2008) reinterpret Marshallian surpluses as the change in the area under B/O W-C type. Via wage curves, changes in regional unemployment rates are used to estimate changes in local wages to calculate changes in rents going to workers. These welfare gains are consistent with worker gains achieved through mobility up regional job chains opened by new growth in labour demand.

In theory, new regional jobs (local employment growth) yield two distinct sources of welfare gains to workers: 1) mobility gains for workers taking up newly created jobs and for those filling the vacancies left by the first kind of workers (vacancy chains); 2) the Marshallian producer surpluses for workers remaining in old jobs experiencing real wages increases as the labour market tightens (increasing demand).

Which of the two effects will prevail depends on the elasticity of local wages curve; if this is high mobility gains prevail.

The demand-driven vacancy chain model assumes involuntary unemployment and underemployment and studies the effect of increasing demand for labour on local unemployment. The effect on the unemployment rate will depend on whether the increase in demand is mainly for before

“unemployed”, “out-of-labour force” or “in-migrants”. If wage curves (one for each labour market segment) take the place of neoclassical supply curves of labour, any reduction in unemployment rates can be translated into increases in wage rates. In a multi-sector wage curve model, these wage increases constitute Marshallian-like surpluses or rents.

4. Empirical Results: Before and after the 1993 Income Policy Agreement

In the case of Italy the wide range of evidence obtained from research alternates “deaths” and “resurrections” of the W-C. Structural breaks in time series are only part of the explanation of the variety of the results. The greatest evidence is the effect of the databases used for the analyses. The databases mostly used were: Eurisko Social Survey, Bank of Italy’s Survey of Italian Household Budgets, INPS Archives; ISTAT Regional Accounts, Capitalia’s database (former Mediocredito’s database), Revelli’s Worker History Panel.

Following Card (1995), the wage curve to be estimated can be written as¹¹:

$$\log w_{irt} = a + b \log U_{rt} + c X_{irt} + d Z_{rt} + f_r + g_t + e_{irt} \quad (1),$$

where w_{irt} is the real wage rate for individual i ($i = 1, \dots, N$) observed in the regional labour market r ($r = 1, \dots, R$) in period t ($t = 1, \dots, T$). U_{rt} is the unemployment rate in labour market r in period t ¹²; X_{irt} and Z_{ir} are two

¹¹ The log-log form of (1) is a log linear proxy of the first order condition of an optimization problem of wage determination either in the bargaining approach (e.g. Layard *et al.*, 1991) or in the efficiency wage approach (e.g. Salop, 1979; Shapiro and Stiglitz, 1984; Phelps, 1994; Campbell, Orszag, 1998).

¹² As observed by Card (1995) the obvious absence of “ i ” in the unemployment variable term of the equation (1) has important implications. The actual number of observations in the case of a group means regression is RT and not NT ; the error components e_{irt} in equation (1) will be correlated across people from the same regional labour market because individuals in the same labour market may share some common components of variance that are not entirely attributable either to their specific measured characteristics or to the local unemployment rate. In this case, the estimated standard error of the unemployment effect obtained from the “ NT ” regression will be significantly downward biased (Moulton 1986, 1990). Following Blanchflower and Oswald (1994) a simple way to overcome Moulton’s problem is to average over individuals in region r and period t to estimate: $\log w_{rt} = a + b \log U_{rt} + c Y_{rt} + f_r + g_t + e_{rt}$, where w_{rt} is the average log real wage for all individuals in region r at time period t , Y_{rt} is the whole set of measured characteristics for all individuals in region r at time period t and the un-

sets of measured characteristics of individual i such as age, education, marital status, employment work status (X_{irt}) and gender (Z_{ir}); f_r is the region effect, g_t the time period effect and e_{irt} the error term.

As regards the international literature, the wage curve empirical relation is found by Blanchflower and Oswald (1994) for most of the OECD countries, for the USA by Card (1995) and Bratsberg and Turunen (1996); for Germany by Wagner (1994), and by Baltagi and Blien (1998); for East Germany by Baltagi, Blien and Wolf (1999); for Janssens and Konings (1998) for Belgium; Nijkamp P. and Poot J. (2005) for thirty countries.

As regards the Italian labour market, Blanchflower and Oswald (1994) found that employment elasticity of pay was -0.12 in 1980s.

Research estimating the wage curve frequently refuted the existence of such a relationship in the 1990s (Manacorda, Petrongolo, 1999; Lucifora, Origo, 1999). According to this research, the level of wages does not reflect the very high level of unemployment and this is one of the major obstacles to economic development. The prevailing national level of wage bargaining and scarce diffusion of negotiation at industry and firm level have generally been indicated as the main reasons for the scarce dispersion of wages among Italian regions. By contrast, other empirical works have indicated Italy as a leader for wage and labour flexibility among the OECD countries though, unfortunately, also a leader for negative employment dynamic. Moreover, sector and firm levels of bargaining are already commonly found in private industry and, above all, in manufacturing (Costabile, Papagni, 1998).

Netti (1999, 2001, 2006) found the wage curve in the Italian manufacturing industry using the Capitalia's database over the periods 1989-91, 1992-94, 1995-97, 1998-00 and the Bank of Italy's Historical Database of the Survey of Italian Household Budget over the period 1993-2000.

Since 1989 there had been a statistically significant elasticity of wages (labour costs per employee) to unemployment (even higher than 10% in some sectors). In particular, according to the sector of analysis, the elasticity of wages to unemployment was 9-15% in 1989-94; 7%-13% in 1995-97; 10% in 1998-00¹³.

At the same time, only with the Capitalia's database, we were able to de-

observed determinants of wages across markets, e_{rt} , are considered to be not correlated across observations. Unfortunately this is a very imprecise way to estimate the coefficients for the individual control variables whose presence is rare and is one of the most appreciable characteristics of a database. Following Greene (1997, pp. 289-292) "the best use of the group means will never be better than using original data, and may be worse", and then "the greater the variation within the groups that is discarded by replacing individual elements with group means, the greater will be the information loss".

¹³ For more details see Netti, 1999, 2001, 2006.

tect whether wages reflected firm performances by measuring their elasticity to value-added per employee. The value-added elasticity was 20-40% in 1989-94, 37-73% in 1995-97.

The increasing trend showed by the figures of unemployment and value-added per-employee elasticity stands for an increasing effect of firms performance (“inside” factor) while a contemporary decreasing effect of local unemployment (“outside” factor) on wages.

As observed by Layard, Nickell, Jackman (1991, pp. 181-192), the significant effect of firm-specific factors on wages (inside factors), like value-added, profitability, distance from full-capacity, is a clear sign that *non-compensating* wage differentials are at work as wages are not set to clear the market. The increasing importance of “inside” factors is a sign that the reforms of the Italian labour market have failed to increase labour market competition for, of course, in a competitive labour market firm-specific factors have no role to play. Moreover, it is worth noting that the coefficient on unemployment is decreasing in that of firm-specific value added.

However, as it was observed by Netti (1999b) and Svimez (2007) regional disamenities (outside factors) in the south of Italy (high crime rate, uncertainty in property rights, poor infrastructures, credit rationing, ...) are still dramatically important in explaining firm performances and hence occupation and pay levels.

Using the WHIP database, Devicienti *et al.* (2006) found an unemployment elasticity of the top-up component of wages of -0,076 which lowered to -0,029 in case total wages were taken as dependent variables. This low value, persisting in WHIP’s data even after 1993, is justified by the Authors by considering that top-up components only represent 22% of total wages.

It is worth remembering that WHIP’s data are derived from INPS’ archives. It is not clear, either from Devicienti *et al.* (2006), Leombruni (2005) or from <http://www.laboratorioevelli.it/whip> if normalization bias, discussed previously (par. 1), is solved and, in that case, what kind of solution is proposed to overcome Ginzburg *et al.* (1998, 1999) severe but really shareable conclusions.

According to Devicienti *et al.* (2006), top-up components of wages were reconstructed as employees’ total wage in excess to the base, minimum, wage stipulated by his (her) specific occupation national contract including any automatic price indexation. Employees whose wage was below their base level were excluded. This exclusion points out that the original WHIP’s data contained wages below their own base level.

Moreover, as Devicienti *et al.* (2006) asserted that the available variable is the workers’ average *weekly* wage, this may be a signal that WHIP’s data are still affected by contribution evasion bias. It is worth remembering, in

fact, that INPS' *monthly* mandatory contributions refer to minimum contractual *daily* wages and that the number of days paid declared in a month is too often lower than the effective ones and, however, than 26.

Another clue of the persistence of bias is the decision of Devicienti *et al.* (2006) to restrict the WHIP's sample to full-time employees. But, it is worth noting that, the Authors considered a large definition of full-time employees: those with at least three months in continuous employments.

Moreover, referring to the 10% of individuals having negative top-up components, the Authors claimed undetectable reporting and coding errors!

With all this in mind let's come to the results of their analysis. The Authors found a break in their estimates of the "top-up wage curve" just after 1993 and attributed their result to a "*resurrection*" of a wage curve *inexistent in the eighties and in the early nineties and that has re-emerged after the 1993 Income Policy Agreement.*

No reference is made by the Authors either to previous works, demonstrating the impossibility to use virtual wages (i.e. Ginzburg *et al.*, 1998, 1999) in serious analyses, or to those demonstrating the existence of the wage curve since the end of eighties (Netti, 1999a).

The power of the "publication" bias is really astonishing!

5. Empirical Results: after the De-regulation of the Labour Market

"Inside" and "outside" factors explaining wages are considered for the period 2001-2003 by means of Capitalia's database and for the period 2002-2006 by means of Bank of Italy's Historical database of the Survey of Italian Household Budgets.

Equation (1) is estimated; regressions and tests performed are shown in the appendices¹⁴.

5a) Manufacturing budget data¹⁵

As far as Capitalia's database is concerned, the per-employee value added becomes a very significant "firm" factor in explaining wage performance in manufacturing. The per-employee value added elasticity of

¹⁴ The regression models used are in depth analysed in Greene (1990, 1991). For an in depth analysis of the results please contact the Author at the e-mail address: netti@unina.it.

¹⁵ Accurate description of the database is in Capitalia (2005).

wages is about 88% in a Least Squares Dummy Variable Regression (LSDV) characterised by an adjusted R-squared of 82%.

The stratification variables evidenced, as regards:

1. “time”, a slightly decreasing trend of wages (2001 is the benchmark);
2. “sectors”, a positive effect of scale and specialised suppliers Pavitt’s sectors (hi-tech sector is the benchmark);
3. “dimension”, no significant effect (more than 500 employees is the benchmark);
4. “regions”, a negative significant effect for Abruzzo, Piemonte, Lombardia (Valle d’Aosta is the benchmark);

The other regressors evidenced, as regards:

1. typical contracts, no effect of the number of definite part-time (v. full-time) workers, indefinite part-time workers, training contract workers;
2. atypical contracts, a positive effect of occasional workers while a negative effect of hired workers (interinali);
3. education level, no effect (no education level is the benchmark);
4. qualification level, a positive effect of blue unskilled collars and white collars.

5b) *Individual data*¹⁶

The “outside” effect of unemployment on wages is still evident in the Bank of Italy’s database (SHIW). The unemployed elasticity of pay is of about 4-5% that is 2-3% lower than in the previous periods (Netti, 2006).

The highest individual wage differentials are relative to qualifications and gender. Men’s wages are more than 40% higher than those of women’s one. Managers and entrepreneurs earn much more than the others.

A look within the sectors reveals something else.

1. As far as the *industrial sector* is concerned the “outside” effect of regional unemployment which is of about 5% in the OLS model and 4% in the REM model is concealed by the regional stratification index (Ireg) in the LSDV model. The LSDV model is preferred to the OLS and REM models by the LM and Hausmann tests respectively. Male gender, high skill and high level of education positively influence the level of wages paid.
2. As regards the *public sector*, the regional stratification index (Ireg) in the LSDV model inverts the sign of unemployment elasticity of wages in the OLS (26%) and REM (12%) models. Male gender, high skill and high level of education positively influence the level of wages paid.

¹⁶ Accurate description of the Bank of Italy’s database may be found in <http://www.bancaditalia.it>

3. With regard to *construction* LSDV with Ireg is rejected by the LM and Hausmann tests versus both OLS and REM models according to which there is an unemployment elasticity of wages of about 35-37%. Male gender positively influences the level of wages paid.
4. For the *financial sector*, an unemployment elasticity of wages of 51% in OLS is concealed by Ireg in the LSDV and REM models which are statistically preferred. Male gender and medium level of education positively influence the level of wages paid.
5. In terms of the *transport* sector preferred REM model stands for a 25% unemployment elasticity of wages which was 39 % in the OLS. The LSDV model with Ireg stratification index is rejected by the Hausmann test.

We can conclude as follows:

- regional amenities (or disamenities) have become more significant than local unemployment in explaining wages differentials in different sectors (the regional stratification index is rejected only in the case of *construction* and *transport*);
- high levels of education and skill positively influence wages only in the *public sector*; a medium level is enough for the *financial sector*;
- male gender explains wage differentials in almost all the sectors;
- the local unemployment elasticity of wages is still predominant with respect to other regional characteristics in *transport* and *construction*.

6. Labour Forces and Regional Rates of Unemployment in the ISTAT's New Data Collection (RCFL)

To understand fully what is happening after the near-complete deregulation of the labour market it is necessary to introduce some new definitions.

The harmonized standards introduced by the EU Council's Regulation n. 577/98 (see Official Journal of the European Community of 14.3.1998) produced a substitution of a self-perception subjective criterion with an objective yardstick to measure the state of the employed¹⁷.

The objective yardstick defines as employed those who, in the working population (more than 15 years old), have worked at least one hour a week before the interview, albeit, for free in his (her) family firm, or paid in kind or with a provision of services wherever else. If absent from work in that week (i.e. less than an hour of weekly work), the interviewees are objec-

¹⁷ The subjective criterion is, however, kept in the questionnaire to understand the discrepancies between the two criteria.

tively employed if they return to work within three months or even later if paid at least the 50% of their former wage or if they keep their occupation in the case of self-employment.

On the basis of these new standards the ISTAT reconstructed the time series (IV quarter of 1992 – IV quarter of 2004) of the main indicators of labour market. What follows was observed with respect to the original series:

1. higher employment (level and rate); + 177,000 of which + 9,000 in the North,
2. -141,000 in the Centre, + 309,000 in the Italian “Mezzogiorno” and, as regards gender,
3. + 287,000 females and – 109,000 males.
4. lower unemployment (level and rate); – 93,000 of whom, + 55,000 in the North,
5. 21,000 in the Centre, – 127,000 in the “Mezzogiorno” and, as regards gender,
6. -58,000 thousands for males and – 35,000 thousands for females.

In terms of the unemployment rate, -0.4 % of which + 0.3 % for males and -0.8% for females.

The following table reports the 2007 regional unemployment rate in the new ISTAT data collection.

Tab. 2 – 2007 ISTAT's Regional unemployment rate (decreasing order)

<i>Total</i>		<i>Men</i>		<i>Women</i>	
Sicily	13	Sicily	10.6	Sicily	17.3
Campania	11.2	Campania	9.5	Puglia	15.5
Puglia	11.2	Calabria	9.4	Basilicata	15.3
Calabria	11.2	Puglia	9.0	Campania	14.6
Sardinia	9.9	Sardinia	7.2	Calabria	14.5
Basilicata	9.5	Molise	6.4	Sardinia	14.2
Molise	8.1	Basilicata	6.3	Molise	10.9
Lazio	6.4	Lazio	5.1	Abruzzo	9.8
Abruzzo	6.2	Italy	4.9	Lazio	8.2
Italy	6.1	Liguria	4.2	Italy	7.9
Liguria	4.8	Abruzzo	3.9	Umbria	6.9
Umbria	4.6	Piemonte	3.5	Toscana	6.3
Toscana	4.3	Toscana	2.8	Marche	5.7
Piemonte	4.2	Umbria	2.7	Liguria	5.2
Marche	4.2	Marche	2.7	Piemonte	5.2
Lombardia	3.4	Lombardia	2.6	Veneto	5.2
Friuli V.G.	3.4	Valle d'Aosta	2.4	Friuli V. G.	4.7
Veneto	3.3	Friuli V.G.	2.4	Lombardia	4.6
Valle d'Aosta	3.2	Emilia Romagna	2.1	Valle d'Aosta	4.3
Emilia Romagna	2.9	Veneto	2.0	Emilia Romagna	3.9
Trentino A. A.	2.7	Trentino A. A.	1.9	Trentino a. A.	3.8

Source: <http://www.istat.it>

7. The Outgoing Labour Force Phenomena and the Post De-regulation “Inclusion” Problem

The Svimez (2007) observed a dramatic increase in the outgoing labour force phenomena especially in the case of the “Mezzogiorno”. The phenomenon is independent of the dynamic of employment which is similar to that of the rest of Italy. In 2006 the number of employed is increased by 105,000 in the “Mezzogiorno” (+1,6% in a year) and 320,000 in the rest of Italy (+2% in a year).

The very scarce opportunities to find a job in those areas produce an outflow of people from the status of (often temporary) employed to that of an outgoing labour force without passing through the status of unemployed. This holds even with the new, less binding, definitions of “people looking for a job”. Indeed, according to ISTAT’s RCFL, “job-searchers” are those (from 15 to 74 years old) who will be able to work within the two weeks of the interview and if they have demonstrated to be searching for a job with at least a simple action (even simply surfing the net) during the four weeks before the interview.

Tab. 3 – 2007 ISTAT’s Regional inactivity rate (decreasing order)

<i>Total</i>		<i>Men</i>		<i>Women</i>	
Campania	50.7	Calabria	34.9	Campania	67.3
Calabria	49.4	Campania	33.7	Sicily	64.8
Sicily	48.7	Sicily	32.1	Puglia	64.5
Puglia	47.4	Basilicata	30.7	Calabria	63.7
Basilicata	45.2	Puglia	29.9	Basilicata	59.7
Molise	41.7	Molise	28.9	Molise	54.6
Sardinia	41.4	Sardinia	28.3	Sardinia	54.5
Abruzzo	38.3	Abruzzo	25.6	Abruzzo	51.0
Italy	37.5	Italy	25.6	Italy	49.3
Lazio	36.2	Lazio	24.3	Lazio	47.6
Liguria	33.0	Liguria	24.2	Veneto	43.0
Marche	32.3	Umbria	24.2	Liguria	41.7
Toscana	32.3	Piemonte	23.9	Marche	41.5
Umbria	32.3	Toscana	23.8	Friuli V. G.	41.5
Piemonte	32.2	Marche	23.2	Toscana	40.7
Friuli V.G.	32.1	Friuli V.G.	22.9	Lombardia	40.7
Veneto	31.9	Valle d’Aosta	21.9	Piemonte	40.5
Lombardia	30.8	Lombardia	21.2	Umbria	40.4
Trentino A.A.	30.0	Veneto	21.1	Trentino A. A.	39.7
Valle d’Aosta	29.6	Trentino A. A.	20.6	Valle d’Aosta	37.7
Emilia Romagna	27.6	Emilia Romagna	19.9	Emilia Romagna	35.4

Source: <http://www.istat.it>

As Svimez (2007) observed, in 2006 fewer than 1 million (907,000) people were searching for a job in the “Mezzogiorno”; in 2000 there were about 500,000 more. Of these, half are in work and the other half are outside the labour force. This phenomenon has been accompanied by a decrease in unemployment in the same area of about 37% in the last six years (from 19% in 2000 to 12.3% in 2006).

In the following table indicates of the persistent “inclusion” problem.

7a) Migration

In 2006, 270,000 people left the “Mezzogiorno” for the Centre-North of whom 150,000 only temporarily (Svimez, 2007). The figures of the phenomenon relative to the period 2004-2007 are in the table below. The total is very close to that of the period of intense migration from the south of Italy to the north (1961-63) when it was of 295,000 (Svimez, 2007).

However the difference between the two migration phenomena is far from slight; the permanent versus temporary nature has different causes and effects on individual leaving standards.

Tab. 4a – Regional migration rates 2004-2007 (per 1,000 inhabitants)

	<i>Internal migration</i>				<i>Migration from abroad</i>			
	2004	2005	2006	2007*	2004	2005	2006	2007*
Piemonte	0.6	-0.1	0.5	-0.5	6.8	5.1	4.3	10.9
Valle d’Aosta	3.3	4.9	3.2	2.1	4.5	4.8	4.1	5.7
Lombardia	2.0	1.3	1.7	1.1	11.0	6.7	5.6	7.4
Trentino-Alto Adige	2.5	1.8	1.7	1.8	6.4	6.3	5.8	6.6
Veneto	1.5	1.2	1.4	0.9	9.3	6.8	5.8	8.4
Friuli-Venezia Giulia	2.6	1.8	2.3	2.0	6.2	4.9	5.5	6.2
Liguria	1.8	1.3	1.1	0.3	7.4	4.1	4.2	5.3
Emilia-Romagna	4.9	4.3	4.5	3.6	9.2	6.9	5.9	8.3
Toscana	2.3	1.7	2.3	1.2	7.9	6.0	5.2	8.7
Umbria	2.7	2.9	2.2	1.5	9.2	7.3	5.1	9.7
Marche	3.3	2.3	2.4	2.1	6.9	6.0	4.8	7.6
Lazio	0.7	0.9	1.3	0.8	9.2	5.7	4.8	8.0
Abruzzo	2.1	2.5	1.7	1.8	4.9	3.7	3.1	7.1
Molise	-0.5	-1.2	-0.5	0.1	2.1	2.2	2.0	4.0
Campania	-3.9	-4.4	-4.4	-4.3	4.0	1.5	1.3	3.2
Puglia	-2.1	-2.6	-2.4	-2.4	1.2	1.1	0.9	2.8
Basilicata	-3.1	-3.3	-3.6	-3.7	1.5	0.6	0.4	3.0
Calabria	-4.8	-4.3	-3.9	-3.9	1.5	1.0	0.3	7.0
Sicily	-2.3	-1.9	-1.5	-1.8	1.2	1.0	0.8	3.3
Sardinia	0.8	0.6	1.0	0.2	1.0	1.1	1.0	2.6

Tab. 4b – Regional migration rates 2004-2007 (per 1,000 inhabitants)

	<i>Other kind of migration</i>				<i>Total migration</i>			
	2004	2005	2006	2007*	2004	2005	2006	2007*
Piemonte	8.6	0.1	0.0	-0.3	16.0	5.2	4.8	10.1
Valle d’Aosta	-0.8	0.4	-0.6	-1.2	7.0	10.2	6.7	6.6
Lombardia	1.7	-0.1	-1.0	-0.8	14.6	8.0	6.3	7.7
Trentino-Alto Adige	0.9	0.1	-0.1	-0.6	9.8	8.2	7.4	7.8
Veneto	0.3	-0.6	-0.8	-0.6	11.0	7.4	6.4	8.7
Friuli-Venezia Giulia	-0.2	-0.7	-1.4	-0.6	8.6	6.1	6.4	7.6
Liguria	5.5	11.6	-1.2	-0.4	14.7	17.0	4.1	5.2
Emilia-Romagna	4.8	-0.7	-0.5	-0.8	18.9	10.5	9.9	11.1
Toscana	0.8	0.9	-0.1	1.0	11.1	8.6	7.4	10.9
Umbria	2.6	2.7	0.5	-0.4	14.6	12.9	7.8	10.8
Marche	0.2	-0.3	-1.1	-0.3	10.5	8.0	6.1	9.4
Lazio	1.9	-0.2	28.1	-0.4	11.9	6.4	34.2	8.4
Abruzzo	4.9	0.2	0.3	2.0	11.9	6.4	5.1	10.9
Molise	2.0	-1.0	-0.6	-0.3	3.6	-0.1	0.9	3.8
Campania	1.6	0.8	0.3	3.1	1.7	-2.1	-2.8	2.0
Puglia	5.3	1.0	-0.2	-0.2	4.4	-0.5	-1.7	0.2
Basilicata	1.1	-0.1	-0.1	-0.1	-0.4	-2.8	-3.3	-0.8
Calabria	1.5	0.8	0.0	0.0	-1.8	-2.5	-3.6	3.1
Sicily	1.7	1.0	-0.1	-0.1	0.5	0.0	-0.8	1.4
Sardinia	2.6	2.3	0.6	0.3	4.4	3.9	2.6	3.1

The temporary nature of the more recent phenomenon is essentially an effect of the liberalization and spread of temporary labour contracts and leases. In the past, full-time contracts, long-term leases and low rents (controlled and frozen by policies) made people more aware of what they were doing when permanently settling down close to their workplaces. There is no more the full awareness of the past.

7b) “On-the-job deaths” and fatal accidents

“On-the-job deaths” phenomenon is spreading as another result of uncontrolled liberalization. Un-safety at work is also due to the excess turnover and the lack of training and experience of temporary employees. This emerges very clear on analysing US and UK extremely flexible labour market¹⁸.

¹⁸ A University of Illinois research paper analyzed 409 fatal accidents from 1990 to 1997 in the San Francisco Bay area. A lack of experience interpreting real-time weather by low-time or “fair weather” pilots led to misdiagnosis of severity of the weather with fatal consequences. Even if paradoxically very trained pilots may be overconfident in their abilities and do not fully appreciate the risks of flying into adverse weather. Indeed, much of pilot training involves teaching pilots to feel confident in their ability to control the aircraft in

Eurispes's Surveys of Occupational Accidents (2007) calculates that more people died at their workplace in Italy between 2003 and 2006 than among the coalition troops on the battlefield during the same period of the second Gulf War. In the period from April 2003 to April 2007 during the Gulf War, 3520 soldiers of the alliance died were 5252 people died at work in Italy from 2003 to 2006. An average of 1,376 people die each year in industrial or workplace accidents in Italy (see table below for details). Considering life expectancy (about 79 years) and the average age of workers who died (about 37 years), Eurispes measured that every death means 42 years of life lost which multiplied by the number of fatalities, amounts to 58,000 of years for ever lost to the "on-the-job death" phenomenon in 2000-2006.

Tab. 5 – Accident at work: Total and fatal accidents

Years	Tot. Accidents				Mortal accidents			
	Agric.	Ind.e services	Publ. Sector	Tot.	Agric.	Ind. e services	Publ. Sector	Tot.
Men								
2003	54,215	670,494	8,031	732,740	121	1,196	9	1,326
2004	52,593	657,395	8,487	718,475	160	1,059	6	1,225
2005	50,485	631,194	8,362	690,041	118	994	11	1,123
Women								
2003	17,164	209,748	17,542	244,454	8	112	3	123
2004	16,670	212,044	19,540	248,254	15	78	10	103
2005	15,801	213,658	20,066	249,525	9	71	3	83
Total								
2003	71,379	880,242	25,573	977,194	129	1,308	12	1,449
2004	69,263	869,439	28,027	966,729	175	1,137	16	1,328
2005(*)	66,286	844,852	28,428	939,566	127	1,065	14	1,206

Eurispes's elaborations on the Inail's Annual Report (2005)

Most fatal accidents occur within the agriculture, construction, industry and transport sectors and in the northern regions of Lombardy and Emilia Romagna, Italy's northern industrial heartland. According to a 2005 report by the International Labour Organisation (ILO), Italy has an annual fatality

all flight regimes. However, an unfortunate by-product of this training may be a degree of overconfidence in one's skill level and an unrealistic optimism about the chances of avoiding harm through personal control that general aviation pilots exhibited both relatively low levels of risk awareness and generally high optimistic self-appraisals of abilities and judgment. A recent survey reveals that health and safety is afforded considerable attention by many companies in the United Kingdom, although smaller organizations are less likely to have positive attitudes towards related issues or strategies. This is a significant finding, given that workplace fatalities, injuries and "lost days" due to illness or injury remain high despite the UK's comparatively good health and safety record within the EU and recent legislative developments.

rate of 6.9 per 100,000 workers, the second highest of the 15 member states within the study. The rate – calculated by dividing the number who die at work by the number of employed – is also far higher than the rates in both France (3.0) and the UK (0.8). The death toll among them is particularly high – they account for some 11% of those who died between 2002 and 2006, according to the Eurispes study, even though they account for less than 5% of Italy’s population. On a deeper level, experts agree that the higher rates are intrinsically linked to Italy’s vast underground black and criminal economy. There is a great problem with illegal working and a series of cascading contracts that are won by large firms are then split into smaller sub-contracts, which are awarded to smaller firms, who, in turn, split the jobs into even smaller sub-contracts. At each step the worker is less protected. The frequency of fatalities at work, known in Italy as “white deaths”, is considered a national scandal in one of the Group of Seven (G7) rich nations. International Labour Organisation data show the rate of workplace deaths in Italy is more than 40 percent higher than in France, nearly twice as high as Germany’s and seven times as high as in Britain. The structure of Italy’s economy and labour market makes it a breeding ground for such tragedies: it has a huge underground economy, high illegal immigration and a prevalence of companies relying on a low cost base and temporary, often immigrant, staff. A National Day for Work Victims is held every year in October, but the fatalities continue and are now well past 500 this year. Last year’s official total was 1,302 but the real count is even higher.

8. Fiscal Aspects¹⁹

Italy introduced a tax reform package in 1996-1998 ranging from tax administration and tax compliance to local taxation. Reform of business and capital income taxation were the most important innovations. One aim was to increase the financial and real neutrality of corporate taxation. The Italian corporate sector tax system was based on the corporate profit tax of 37% (IRPEG) and on a local income tax of 16.2% not deductible from the former tax base (ILOR) wealth tax on net worth (0.75%). This system was seen as an obstacle to the development of capital markets and hence as an important factor in explaining the central role of the banking system in fi-

¹⁹ Some of the observations made in this section are taken from M. Bordignon, Giannini S., Panteghini P. (2000), Reforming Business Taxation: Lessons from Italy. WP of the Società Italiana di Economia Pubblica.

nancing production and the high debt-equity ratio of Italian firms. Tax avoidance, tax evasion and tax planning operations (shifting of profits where there are lower tax rates) are too often the answers. Thus the tax system is regarded as a major obstacle to investment, innovation and growth in the country.

The aim of the 1998 tax reform was therefore to reduce the tax rate on profits and the wide gap between debt and equity finance. After the reform corporate sector taxes were as follows: the regional tax of 4.25% on value added (IRAP) and the Dual Income Tax (DIT). DIT is set at a rate of 19% on “ordinary income”, representing the opportunity cost of using equity capital both in the form of new subscription and retained earnings and 37% on residual profits, and a rate of 37% on “extra-profits”. IRAP is a new regional tax on all business and self employment activities, with a very large tax base computed annually and not deductible from the tax base of either IRPEF or IRPEG (IRES since 2004).

The value added tax base is made of three main components: labour costs, interests on debts and pre-tax profits. It is defined specifically for different business categories. Generally, the IRAP base is the accounting difference between revenue from sales and the cost of intermediate goods and services. As labour costs and interest payments are not deductible from the tax base, the IRAP base is nearly equal to the budget sum of wages, profits, rents and interest payments.

This new tax implies a significant movement towards fiscal decentralisation, as revenues from IRAP go directly to regions where the productive activity is performed. The regional distribution of the revenues from the IRAP collection is based on the labour cost component. This is a solution to the probable multi-regional localization of profit and interest components. Since 2001 the regions also have the possibility of varying the tax rate by up to 1% above or below the base level of 4.25%, discriminating among sectors and activities. Interest payments were completely untaxed before IRAP. By disallowing interest payment deductibility IRAP introduces a positive tax wedge between gross and net returns that is on a debt-financed marginal investment. However, by taxing interest at the business level the introduction of IRAP allowed a sharp reduction in the average rate of taxation on profits and reduced the advantage for debt financing at firm level.

Moreover, by widening the tax base and including even labour costs, the IRAP transformed a large social contribution into a reduction of the tax burden on business as it substituted the mandatory contribution to the National Health Service. Its revenues will mainly serve the regional health services.

Some aspects of IRAP have raised considerable criticism for their distributive effects. The overall tax burden of manufacturing firms decreased

by 2.4% in 1998 (Confindustria, 1999). The burden of taxation was shifted to non-corporate and professional sectors, thereby penalising firms in less developed regions, like, the Mezzogiorno, which have low profitability and high debt-to-equity ratios and are strictly dependent on the local banking system (Bontempi *et al.*, 1998).

9. The Wages Downward Drift and the Debate on the Fiscal Wedge on Wages

Faini and Gagliarducci (2005) presented the following table to illustrate the dramatic the slowdown of real wages.

Tab. 6

	Wages per units of work		CPI		Real wages (Total CPI)		Real Wages (C. CPI).	
	N. C.	P.S.	Total	C.	N. C.	P.S.	Total	C.
1996	2,3	-	4	3,9	0,6	-	0,6	-
1997	4,3	4	2	1,8	2,2	2,0	2,4	2,2
1998	2,4	2,4	2	1,8	1,2	1,2	1,3	1,3
1999	1,8	1,4	1,7	1,7	1,1	0,8	1,1	0,8
2000	2	2	2,6	2,5	0,8	0,8	0,8	0,8
2001	2,4	3	2,8	2,8	0,9	1,1	0,9	1,1
2002	2,1	2,3	2,5	2,3	0,8	0,9	0,9	1,0
2003	2,2	2,1	2,7	2,5	0,8	0,8	0,9	0,8

Source: ISTAT. N.C. = national contracts including public sector; P.S. = estimate private sector; CPI = Consumption Price Index; P.S. = only private sector of industry and services; C. CPI = CPI for white and blue collar families.

Mario Draghi, Governor of the Bank of Italy, has recently highlighted the very low level of real wages and the worrying decline in purchasing power and living standards. It has been widely suggested that the main culprit is the fiscal wedge on wages: de-regulation of the labour market and consequential excess turnover may have lessened workers' bargaining power so much that firms have become able to transfer any increase in the fiscal wedge by lowering wages paid.

What sounds strange is that, as Gallegati and Richiardi (2008) observe, according to the OECD the fiscal wedge for employees has slightly decreased (from 46.4% in 2000, to 45% in 2003 and the current 45.9% for a

single wage-earner with a medium pay). Hence it is not the fiscal wedge which is the cause of the downward wage drift. Moreover, the authors maintain that the correlation between net wages and the tax burden is very weak in EU (of about -0.2).

A further curiosity lies in its definition as the fiscal wedge is not entirely made up of taxes. The fiscal wedge on wages is the differences between firm labour costs and worker net retribution²⁰. It is made of different components:

- a) the IRAP, a regional tax with the labour cost in its tax base while deductible from IRPEG (IRES since 2004);
- b) the national social security contributions, that is the insurance premium paid (both employers and employees) in percentage with respect to payment to INPS to care for dependent relatives and insure against any kind of risk (maternity, health disease, injury, death and unemployment);
- a) the contributions to pensions, that is a deferred retribution. When reduced, this is a tantamount to stealing workers' money (Leombruni and Richiardi, 2006);
- b) IRPEF, which is a national progressive tax on net remuneration for which employers are only withholding agents.

To reduce the fiscal wedge, policy may cut taxes – namely IRPEF and IRAP –, narrow their tax base or cut employers' and/or employees' contributions.

10. Conclusions

De-regulation of the Italian labour market, far from solving the problems of a dual economy, has reinforced them and now that de-regulation is very near to completion a “Mission for Flexicurity” has been launched by European Commission.

Duality between typical and atypical workers, but even between men and women, as far as labour protection law is concerned, is no proper solution to the “inclusion” problem which still characterises the country. Atypical new entrants in the labour market have to cope with excessive job turnover and insecurity. Employment protection legislation and the welfare state had to be considered as civil rights to protect men and women from old age, illness, exclusion, penury, untimely death, “on-the-job death”.

²⁰ As labour cost is the sum of gross annual wages, employer contributions and IRAP, take-home remuneration is the sum of net retribution (i.e. gross annual wage minus IRPEF, workers' contribution) and family allowances, the fiscal wedge is the sum of employer and worker contribution's, IRAP, IRPEF.

Deprivation of these civil rights, resulting from the de-regulation of the labour market, is a departure from standards of health and morality.

As regards duality between employers and employees the L-N-J “battle of mark-ups” is definitely lost by employees: the wage curve is decaying and loosing its meaning; unemployment rate may be regarded as a comparative minor source of variation of earnings with respect to “inside” factors. We found that, as far as “firm” factor is concerned, the coefficient on unemployment is decreasing in that of firm-specific value added. The effect of firm-specific factors on wages (inside factors), like the value-added, profitability, distance from full-capacity, is a clear sign that non-compensating wage differentials are at work. Wages are not set to clear the market. The increasing importance of “inside” factors is, thus, a sign that the reforms of Italian labour market have not succeeded in increasing labour market competition for, of course, in a competitive labour market firm-specific factors have no role to play.

Moreover the signals that “inside” factors like human capital variables (namely education and job experience) have become predominant with respect to “outside” ones (namely local unemployment rate) could have been judged positive if they had not been associated with the kind of change in the composition of the labour force produced by de-regulation. The new, for ever less skilled and protected “quasi-employees” or “quasi-unemployed” are objectively considered as “employed” by the new definitions in labour force collection even if they work for free and/or for very short term. The increasing outgoing labour force phenomena due to discouragement, migration and “on-the – job deaths” is still too much ignored.

What are then the effects on firms and growth? Neither “tax planning operations” (shifting of profits where there are lower tax rates) nor “silent internationalization” of SMEs (Bugamelli, Cipollone and Infante, 2000, Ginzburg, 2005) have been successfully halted. The structural problems evidenced by the Svimez (2007) are very far to be solved. The development of Mezzogiorno is, still, severely compromised by a hostile territory affected by social insecurity and a high crime rate (obviously increased by “inclusion” problems in the labour market); lack of infrastructures (namely roads, railways lines, airports, ports, ...) and services (schools, hospitals, ...), scarce diffusion of technology and services for firms and credit rationing (even reinforced by the local effect of the new Basel Agreements).

It is difficult to understand how these problems could be solved, rather than consolidated, by the widespread insecurity produced by the recent reforms. Excessive turnover of workers and firms, strengthened by the recent reforms, are severe obstacles to human capital accumulation. A hostile territory produces social inequality, poverty and under-consumption that se-

verely compromise growth. All these shortcomings can only be worsened by a further cut of the “fiscal wedge” that will be probably brought about by dismantling the national social security and pension systems as the tax component of the wedge have already been cut or narrowed by the last government’s financial acts. Besides, in this situation, repropose “wage cages” (gabbie salariali) have no meaning in the solution of the “inclusion” problem.

Is it reasonable to place one’s hope for the future in a Mission for Flexicurity?

Appendix:

Dependent variables:

LRW = Natural logarithm of deflated per-employee firm labour cost; National Consumer Price Index (1995 = 100) is used for deflation

LYD = Natural logarithm of deflated individual household labour income (net wages, salaries and fringe benefits); National Consumer Price Index (1995 = 100) is used for deflation

Regressors:

LDVAE = Natural logarithm of deflated per-employee firm value-added; National Consumer Price Index (1995 = 100) is used for deflation

LRUNR = Natural logarithm of regional unemployment rate

LINDPT = Natural logarithm of permanent part-time workers

LDETFU = Natural logarithm of temporary full-time workers

LDETPT = Natural logarithm of temporary part-time workers

LTRAINE = Natural logarithm of “with training” contract employees (formazione-lavoro)

LQUASIE = Natural logarithm of quasi-employees (co.co.co)

LCASUALE = Natural logarithm of casual-employees (occasionali)

LHIREDE = Natural logarithm of hired workers (interinali)

LEXTRAE = Natural logarithm of non-EU workers

LCOMPED = Natural logarithm of employees with compulsory education

LSDIPL = Natural logarithm of employees with secondary-school diploma

LUDCERT = Natural logarithm of employees with University degree certificate

LREDE = Natural logarithm of employees in R&D

LPROFC = Natural logarithm of employees engaged in professional course

LENTRPR = Natural logarithm of entrepreneurs

LFAMAN = Natural logarithm of family managers

LEXMAN = Natural logarithm of external managers

LMIDMAN = Natural logarithm of middle-ranking managers

LWHITEC = Natural logarithm of white-collars

LSBLUEC = Natural logarithm of skilled blue-collars

LUBLUEC = Natural logarithm of unskilled blue-collars

Time dummy variables (each year = 1; other years = 0)

YEAR1 = 2001 (benchmark)
YEAR2 = 2002
YEAR3 = 2003

Regional dummy variables (each region = 1; other regions = 0)

Mezzogiorno:

ABR = Abruzzo
BAS = Basilicata
CAL = Calabria
CAM = Campania
MOL = Molise
PUG = Puglia
SAR = Sardinia
SIC = Sicily

Centre-North:

LAZ = Lazio
MAR = Marche
TOS = Toscana
UMB = Umbria
ER = Emilia Romagna
VEN = Veneto
TAA = Trentino Alto Adige
FRI = Friuli Venezia Giulia
LOM = Lombardia
PIE = Piemonte
LIG = Liguria
VDA = Valle d'Aosta (benchmark)

Pavitt sectors dummy variables (each sector = 1; other sectors = 0)

Pavitt1 = traditional-sector
Pavitt2 = scale-sector
Pavitt3 = Specialised suppliers
Pavitt4 = High-technology (benchmark)

Size classes dummy variables (each size class = 1; other classes = 0)

EDIM1 = 11-20 employees
EDIM2 = 21-50 employees
EDIM3 = 51-250 employees
EDIM4 = 251-499 employees
EDIM5 = \geq 500 employees (benchmark)

Household characteristics for Bank of Italy's database

Gender: man/woman

Qualifications: Q1 = blue collar, Q2 = office worker or school teacher, Q3 = cadre or manager; Q4 = sole proprietor/member of the arts and professions, Q5 = other self-employed; Q6 = retired; Q7 = other not employed (benchmark).

Marital status: M1 = married; M2 = single; M3 = divorced or separated; M4 = widow (benchmark)

Education level: E1 = none; E2 = primary school; E3 = junior secondary school; E4 = professional school (three years); E5 = secondary school; E6 = three-year graduation; E7 = graduated; E8 = post-graduation specialization (benchmark)

Statistical Appendix

Analyses were conducted using the procedures for panel data models in which a large number of cross-section observations is observed for a certain period. Besides, since not all the individuals are present every year the procedures are those for unbalanced panels (a review of these models and techniques may be found in Greene, 1990; 1995; 1997).

The estimation models are as follows:

(1) The classic regression model or Ordinary Least Squares model (OLS)

$$y_{it} = \mu + \beta'x_{it} + \varepsilon_{it}$$

$$i = 1, \dots, n; t = 1, \dots, T; E[\varepsilon_{it}] = 0 \text{ and } \text{VAR}[\varepsilon_{it}] = \sigma_{\varepsilon}^2$$

(2) The Least Squares Dummy Variable Model (LSDV)

$$y_{it} = \alpha_i + \beta'x_{it} + \varepsilon_{it} = \alpha_1 d_{1it} + \alpha_2 d_{2it} + \dots + \beta'x_{it} + \varepsilon_{it}$$

(3) The one-way random effect model (REM)

$$y_{it} = \alpha + \beta'x_{it} + \varepsilon_{it} + u_i$$

$$E[u_i] = E[\varepsilon_{it}] = 0, \text{VAR}[\varepsilon_{it}] = \sigma_{\varepsilon}^2, \text{VAR}[u_i] = \sigma_u^2, E[\varepsilon_{it}, u_j] = 0,$$

$$E[\varepsilon_{it}, \varepsilon_{js}] = 0, E[u_i, u_j] = 0 \text{ (} i \neq j, t \neq s \text{)}$$

$E[\varepsilon_{it} + u_i] = 0; \text{VAR}[\varepsilon_{it} + u_i] = \sigma^2 = (\sigma_{\varepsilon}^2 + \sigma_u^2);$ but, for a given i , the disturbances in different periods are correlated by virtue of their common component,

$$\text{CORR}[\varepsilon_{it} + u_i, \varepsilon_{is} + u_i] = \rho = \sigma_u^2 / \sigma^2$$

(4) The least squares dummy variable model or two-way fixed effect model

$$y_{it} = \alpha_0 + \alpha_i + \gamma_t + \beta'x_{it} + \varepsilon_{it}$$

$$\sum_i \alpha_i = \sum_t \gamma_t = 0$$

$$E[\varepsilon_{it}] = E[u_i] = E[\gamma_t] = 0,$$

$$E[\varepsilon_{it}, u_j] = E[\varepsilon_{it}, \gamma_s] = E[u_j, \gamma_t] = 0, \text{ for all } i, j, t, s$$

$$\text{VAR}[\varepsilon_{it}] = \sigma_{\varepsilon}^2, \text{COV}[\varepsilon_{it}, \varepsilon_{js}] = 0, \text{ for all } i, j, t, s,$$

$$\text{VAR}[u_i] = \sigma_u^2, \text{COV}[u_i, u_j] = 0, \text{ for all } i, j$$

$$\text{VAR}[\gamma_t] = \sigma_{\gamma}^2, \text{COV}[\gamma_t, \gamma_s] = 0, \text{ for all } t, s$$

Model (1) is a classical regression model that does not consider the “group-wise” nature of the data. The method of ordinary least squares (OLS) provides consistent and efficient estimates of parameters μ and β . Model (2) is a one-way fixed effects model; it is a classical regression model in which the differences among cross-section units are captured by differences in the constant terms using dummy variables. The least square dummy variable (LSDV) is the estimation approach; it is a partitioned ordinary least squares approach with N group specific constants. In the paper a fixed regional effect model is estimated; it assumes that regional effects (f_r) are fixed, that is differences among regional groups are captured by R constant terms (see also Baltagi and Blien, 1998).

In the case of the “one-way” random effect model (3), instead, the individual effects are modelled as specific disturbances randomly distributed among the cross-section units. It is a generalized regression model. The efficient estimator is the generalized least squares (GLS) (method of generalized least squares). The econometric software used (LIMDEP) uses a two-step procedure. In the first step the regression is estimated by the OLS or the LSDV methods. In the second step, after estimating the two variance components (σ_ε^2 and σ_u^2) by means of the residuals from the first regression, the GLS or FGLS (feasible general least squares) are obtained regressing $(y_{it} - \theta y_i)$ on $(1 - \theta)$ and $(x_{it} - \theta x_i)$ where $\theta = (1 - \sigma_\varepsilon / \sigma_2)$ and $\sigma_2^2 = \sigma_\varepsilon^2 + T \sigma_u^2$. In the paper a random regional effect model is estimated; it assumes that regional effects (f_r) are distributed as random variables.

Model (4) is a two-way fixed effects model; $T - 1$ dummy variables are added to model (2) to capture fixed time effects. Model (5) is a two-way random effects model; time effects are modelled as randomly distributed disturbances; Fueller and Battese (1974) developed the FGLS method for the two-way REM.

The panel data may be unbalanced in both directions: neither the number of time periods observed for each group, nor the number of groups observed in each period need to be fixed. To use two-way FEM or REM the data need only consist of a sample of observations indexed by both group and time. But if there are time-invariant regressors, such as gender or region, it is impossible to compute the fixed effect estimator and the group-wise nature of the data must be captured by the random effect models.

The Tests:

I. Test statistics for the various classic models:

A) For models 1 to 5, the log-likelihood function, sum of squared residuals based on the least squares estimates, and R^2 are calculated

1. $y_{it} = \alpha + \varepsilon_{it}$
2. $y_{it} = \alpha_i + \varepsilon_{it}$
3. $y_{it} = \alpha + \beta'x_{it} + \varepsilon_{it}$
4. $y_{it} = \alpha_i + \beta'x_{it} + \varepsilon_{it}$
5. $y_{it} = \alpha_0 + \alpha_i + \gamma_t + \beta'x_{it} + \varepsilon_{it}$

- B) Chi-squared statistics based on likelihood functions (Likelihood Ratio test) and F statistics based on the sums of squares for testing the constraints of:
- Model 1. on 2. (no group effect on the mean of y),
 - Model 1. on 3. (no fit in the regression of y on x's),
 - Model 1. on 4. (no group effects or fit in regression),
 - Model 2. on 4. (group effects but no fit in regression),
 - Model 3. on 4. (fit in regression but no group effects),
 - Model 4. on 5. (fit in regression, group effects but no time effects),
 - Model 3. on 5. (fit in regression but no group and time effects).

The statistics, degrees of freedom and probability value (probability that the statistic would be equalled or exceeded by the chi-squared or F random variable) are given for each hypothesis.

II. Two specification test statistics:

Breusch and Pagan's Lagrange multiplier statistic for testing the REM model against model 3. above and Hausman's chi-squared statistic for testing the REM model against the FEM model. Probability values and degrees of freedom are given for both statistics.

Lagrange Multiplier test of Breusch-Pagan (1979)

Under the null hypothesis of homoscedasticity ($H_0 = \sigma^2_i = \sigma$) the LM test is distributed asymptotically as a chi-squared distribution with a number of degrees of freedom equal to the number of involved regressors. The rejection of the null hypothesis points out the dominance of REM versus the classical regression model 3 ($H_1 = \sigma^2_i = \sigma (a + b x_i)$).

Therefore, large values of the LM statistic argue in favour of REM against the classical regression with no (group and/or time) specific effects.

Hausman's test (1978)

The test is founded on the fact that the random model it considers the individual effects as random disturbances and, hence, not correlated to the regressores. Rejection of the null hypothesis points to the prevalence of the fixed effects model.

However, if there are time-invariant regressors the "two-way" model to be estimated will inevitably be the random one.

Therefore large values of the Hausman's statistic argue in favour of the fixed effects model over the random effects model.

In the case of unbalanced panels heteroscedasticity can arise due to the different group size (groupwise heteroscedasticity). This does not constitute a real problem since the LIMDEP automatically considers the different group size provided that indicators of group size and periods are first constructed. In the presence of heteroscedasticity both the adjusted OLSs and the GLSs or FGLS can be used.

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Abstract

The Italian Wage Curve. The Effects of the Recent Labour Market Reforms

The paper examines some effects of the recent reforms aimed at increasing flexibility in the Italian labour market. It shows their incapability to respond to the "inclusion" problem which still characterises the country. New temporary low-skill jobs were created but the reforms have neither enforced industrial competitiveness nor increased productivity. Far from solving the problems of a dual economy, de-regulation of Italian labour market has reinforced them and has concurrently eroded civil rights thereby making a departure from standards of health and morality. Excessive turnover of workers and firms is a major obstacle to human capital accumulation. A hostile territory produces social inequality, poverty and under-consumption that severely compromises growth.

Key words: Labor and Demographic Economics; Wages, Compensation and Labor Costs; Wage Level and Structure; Wage Differentials

JEL Classification: J, J3, J31

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