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The Italian Labor Market: Stylized Facts, Institutions, and Directions for Reform

Prepared by Eswar S. Prasad and Francesca Utili*

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Abstract

This paper provides a synthesis of existing and new empirical perspectives on the structure of the Italian labor market, using data at different levels of disaggregation. The analysis indicates that aggregate data mask considerable disparities in labor market outcomes across regions and demographic groups. The evolutions of sectoral wage and employment structures also point to some dimensions of labor market rigidities. A micro data set with individual data is then used to highlight key structural problems that affect labor supply and demand. The implications of these different strands of empirical analysis for the formulation and effective implementation of labor market policy are then discussed.

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Authors' E-Mail Addresses: eprasad@imf.org; francesca.utili@nuf.ox.ac.uk

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SUMMARY

This paper provides an empirical characterization of the main features of the Italian labor market, using data at different levels of disaggregation. The main contribution of the paper is the synthesis of existing and new empirical perspectives and the derivation of specific policy recommendations based on this analysis.

The aggregate data are found to mask considerable disparities in labor market outcomes across regions and demographic groups. The evolutions of sectoral employment and earnings structures also point to some dimensions of labor market rigidities. Individual data from the Bank of Italy's 1995 Household Survey are then used to provide a finer characterization of the wage structure, including interregional and intersectoral wage differentials, and to analyze the determinants of employment and labor force participation propensities.

The main problems in Italy include large and growing disparities in regional unemployment rates and low participation and employment rates, especially for youth and women. The structure of wage bargaining has restricted the differentiation of wages that would be consistent with productivity differentials, thereby perpetuating regional disparities by limiting investment flows into high unemployment areas and by reducing the incentives for labor mobility, which has also been hindered by numerous institutional impediments. Further, formal mechanisms for employment intermediation, where public employment agencies have hitherto had a monopoly, have been inefficient and have contributed to limited labor mobility for all workers and difficult school-to-work transitions for youth.

The paper provides a number of policy recommendations for improving the functioning of adjustment mechanisms in the labor market. The interactions between different sets of policies and the need for fundamental and broad-based reforms, which, in turn, could affect the credibility and effectiveness of these reforms, are highlighted.

I. INTRODUCTION

As Italy prepares for European Monetary Union, the potential role of domestic short-term stabilization policies in responding to exogenous shocks has declined. This has brought to the forefront of policy discussions those structural features that could influence the ability of the economy to adjust to such shocks. As in other EU countries, the efficient and flexible functioning of the labor market is of particular importance in this regard and could become a crucial determinant of the economy's long-term growth prospects. This paper provides a descriptive analysis of the main features of the Italian labor market, including certain key institutional features. Empirical aspects of the labor market are then characterized using a variety of econometric techniques and by examining data at different levels of disaggregation. This analysis sets the stage for an evaluation of recent reforms aimed at improving the functioning of the labor market and points to directions for further changes.

This paper begins by examining recent developments in aggregate features of the labor market. During the latest cyclical recovery, total employment has remained stagnant and the unemployment rate has not declined despite modest output growth. These aggregate figures, however, conceal striking disparities in labor market outcomes across regions. For instance, by the end of 1997, the unemployment rate in the Northern part of Italy had declined to about 6 percent while the unemployment rate in the South was about 23 percent and rising. In addition, there are considerable disparities in employment and unemployment rates across different demographic groups. Section II examines these and other salient features of labor market developments from a longer-term perspective, reviewing developments in regional labor markets as well as the evolutions of employment shares and relative wages across sectors. The possible role of inter-sectoral labor reallocation in contributing to the persistence of high unemployment during the recent recovery is also analyzed.

Section III provides a brief discussion of some of the main institutional features of the Italian labor market. In particular, the wage indexation and wage bargaining structures prevailing through most of the period examined here resulted in marked rigidities that constrained the ability of the economy to respond to adverse macroeconomic shocks. Further, they have resulted in narrow wage differentials across regions, sectors, and occupational classifications, possibly hindering the efficient allocation of labor, for instance, by reducing the incentives for interregional and intersectoral mobility. A number of changes and reforms to these institutional features of the labor market have been introduced in recent years. Although these reforms have had a salutary effect on aggregate wage and inflation dynamics, and played a major role in containing inflationary pressures following the Lira's exit from the ERM in September 1992, they have had scant success thus far in boosting employment growth and reducing unemployment.

An evaluation of these reforms and suggestions for further changes based on an analysis of aggregate data are, however, complicated by the fact that such data could mask substantial compositional effects due to heterogeneity in the labor force. For instance, observed wage differentials between two sectors could reflect differences in the average level

of human capital of workers in those sectors rather than actual differences in the underlying wage distributions. To control for such observable worker characteristics and to gain a more precise understanding of the wage structure, Section IV uses data from the 1995 household survey conducted by the Bank of Italy. This micro data set is also used to examine the determinants of employment and labor force participation propensities. This analysis, combined with direct evidence from the survey on the characteristics of unemployed workers and reasons for non-participation in the labor force, provides insights that could be useful for designing measures to improve the efficient functioning of labor markets.

Section V draws together the implications of the different strands of empirical analysis and indicates specific directions for further labor market reforms. Although recent reforms, including the measures in the September 1996 tripartite agreement, indicate a recognition by the main social partners of the structural problems in the Italian labor market, a more concerted effort is required to tackle many of these problems. The analysis in this paper points to the need for comprehensive rather than piece-meal reforms in the labor market, within a broader framework of structural reforms that also tackle rigidities in product markets.[2] The longer-term macroeconomic performance of the Italian economy could well hinge on the success of these reforms.

II. Main Empirical Features

This section first reviews the main empirical features of the Italian labor market from an aggregate perspective. An examination of disaggregated data is then used to show that the aggregate data mask substantial variation in labor market developments across different sectors, regions, and demographic groups. These differences have important implications for formulating and implementing labor market policy.

A. The Broad Picture

As in other European countries, the unemployment rate in Italy has drifted up over the last two decades (Figure 1, upper panel). The aggregate unemployment rate, however, masks enormous differences in regional unemployment rates. The differential between the unemployment rates in the South and the North has widened markedly since the 1970s. By the end of 1997, the unemployment rate was about 6 percent in the North, 10 percent in the Center, and 23 percent in the South.

A notable feature of the recent recovery has been the widening differential between unemployment rates in the North and the South. While the unemployment rate in the North has declined during the recovery, the unemployment rate in the South has continued to

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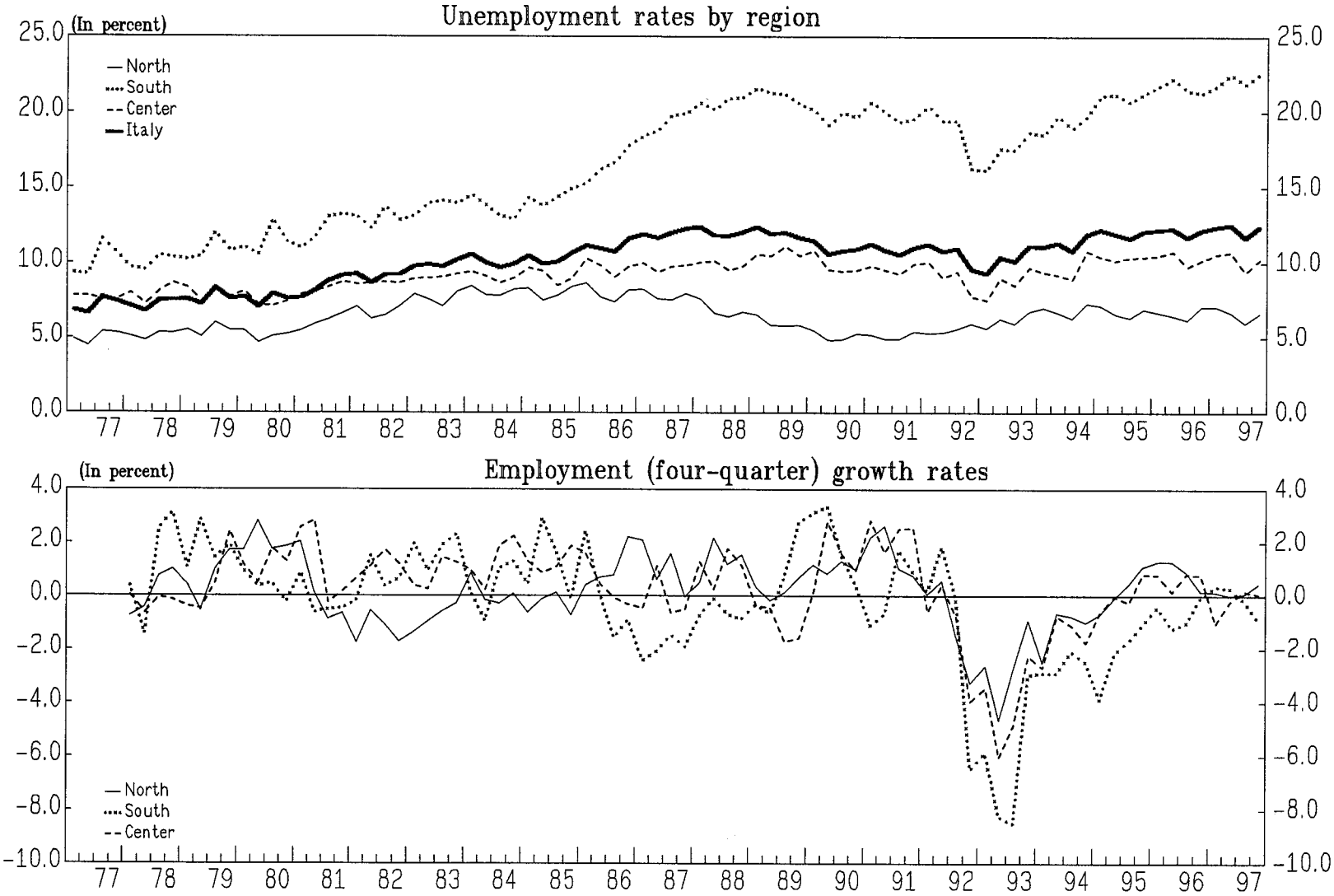
[2]Bertola and Ichino (1996) argue that the limited and tentative reforms in recent years lacked credibility and may in fact have exacerbated the unemployment problem.

Figure 1

Italy
Unemployment and Employment Growth



Source: Bank of Italy and authors' calculations.

increase, reaching a historical high in 1997.[3] Figure 1 (lower panel) shows that, during the recent recession, sustained negative employment growth over a period of three to four years resulted in employment losses that were especially large in the South. Employment in the South has only recently stabilized, after almost four years of successive declines, leaving the level of Southern employment substantially below that prevailing in 1992. Employment growth rates in the North and in the Center, on the other hand, turned positive in the latter half of 1995 but have tapered off since early 1997.

The unemployment rate is affected not just by developments in employment but also by changes in labor force participation rates that could be related to the business cycle as well as longer-term factors. To abstract from the effects of such changes and to obtain a more accurate picture of the evolution of employment and nonemployment, it is useful to examine the employment-population ratio, defined as the ratio of employed persons to all potential labor force participants between the ages of 15 and 65.[4]

Figure 2 shows the employment-population ratio in Italy and also provides a cross-country comparison. This ratio has declined gradually in Italy since the early 1980s and, in 1997, stood at 52 percent. A striking fact is that this ratio has been historically much lower in Italy than in most other continental European countries and substantially lower than the ratios in Japan and the Anglo-Saxon countries. These figures imply that, even at those times during the last three decades when the Italian economy might be characterized as having been at "full employment," the employment-population ratio was under 60 percent, well below the corresponding ratios for other countries shown here. These data indicate a higher rate of non-employment among potential labor force participants in Italy than in other countries. It should be noted, however, that the low employment-population ratio in Italy, based on official employment statistics, could, in part, reflect the higher share of employment in the informal sector in Italy than in other industrial economies.[5]

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[3]The dispersion of regional unemployment rates in Italy is estimated to be the largest among OECD countries. Other EU countries that have significant but smaller regional disparities in unemployment rates include Belgium, Germany, and Spain. An important difference relative to the Italian situation is that, in all of these countries, changes in regional unemployment rates have been positively correlated during the 1990s. See Mauro and Spilimbergo (1998) for an analysis of regional unemployment in Spain and Pugliese (1993) for additional perspectives on the regional segmentation of the Italian labor market relative to other European labor markets.

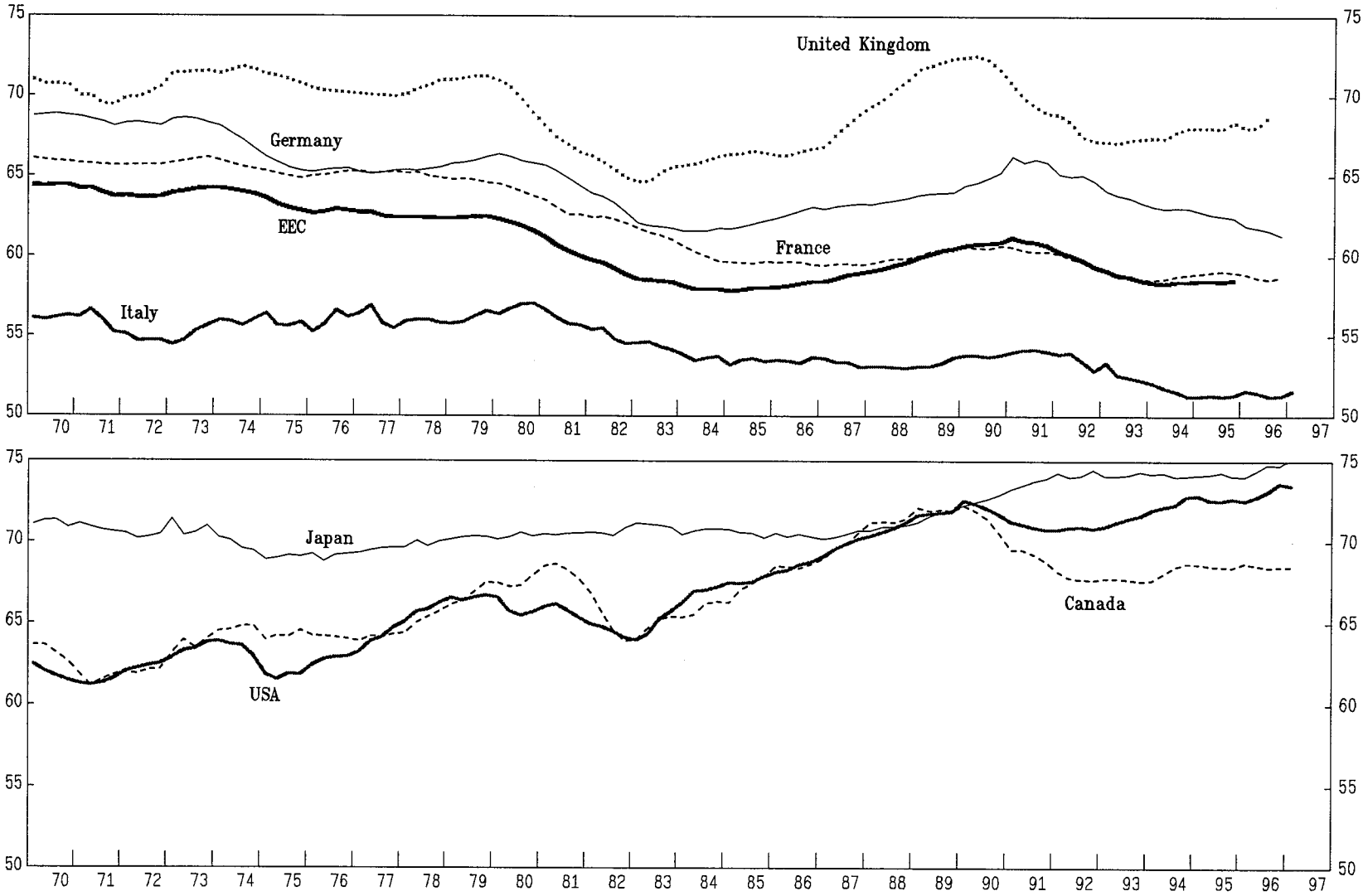
[4]These age brackets were chosen to facilitate international comparison. The minimum working age in Italy is 14.

[5]The existence of a large informal sector may in turn be attributable, among other factors, to the fact that Italy has one of the highest tax wedges among OECD countries.

Figure 2
Italy

Employment-Population Ratios: A Cross-Country Perspective

(In percent)



Source: OECD Analytical Databank.

Notes: The employment-population ratio is the ratio (multiplied by 100) of total civilian employment to the total civilian population between the ages of 15 and 65.

B. Some Disaggregated Perspectives

The relatively stable aggregate employment-population ratio, however, conceals large disparities in the levels and evolutions of this ratio for males and females. Figure 3 (upper panel) shows that the employment-population ratio for males has declined gradually from 85 percent in the mid-1970s to about 72 percent in 1997. The employment-population ratio for females rose from 35 percent in the mid-1970s to about 40 percent in 1990 and has since remained essentially unchanged. Figure 3 (lower panel) also shows that the labor force participation rate for males has declined by about 10 percentage points over the last two decades, offset by a corresponding increase in the participation rate for females. The increasing presence of women in the labor force and in employment is similar to the experience of other industrial countries. Nevertheless, the participation and employment rates of women in Italy remain far below those in most other industrial countries. The increasing role of women in determining aggregate labor market dynamics has important implications for labor market policy that will be discussed later in the paper.

Figure 4 (top panel) shows employment-population ratios broken down by region. Not only has this ratio been lower in the South of Italy compared to the Northern and Central regions, but has declined in the South since 1990, and continued to decline, although at a slower rate, even during the recent recovery. In all three areas, the employment-population ratio for males has fallen over the last decade, but the decline has been especially sharp in the South. The female employment-population ratio has increased gradually since the 1970s in the North and the Center, but has remained essentially flat—at a low level of less than 30 percent—in the South.

The lower panel of Figure 4, which shows labor force participation rates broken down by region, also indicates marked regional differences, with a high and relatively stable participation rate in the North and the Center, and a low and declining participation rate in the South. While participation rates for males have fallen over the last two decades in all three areas, the participation rates for women have increased significantly in the North and the Center, but not in the South.

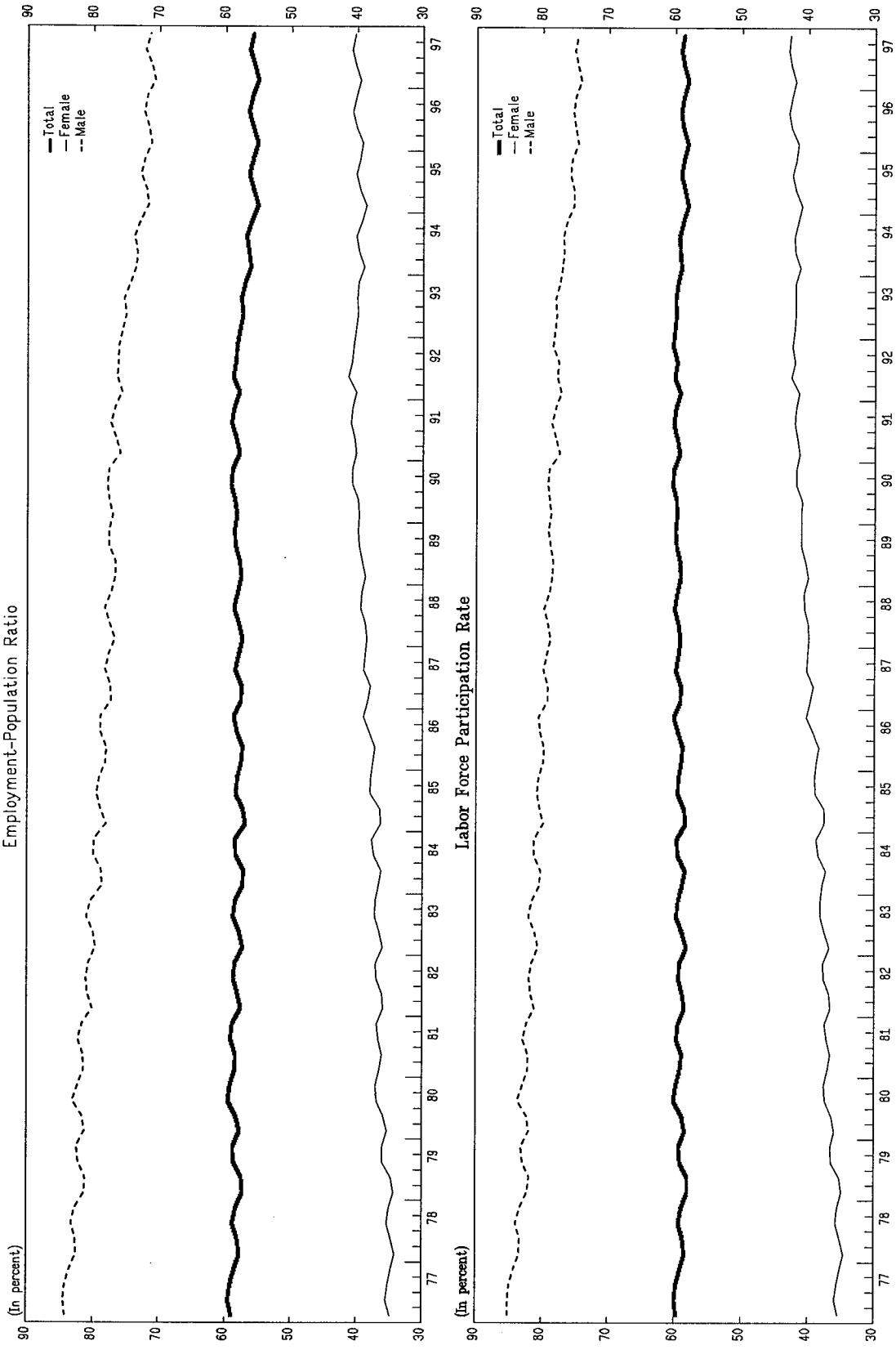
In summary, the Italian labor market is characterized by relatively low levels of labor force participation and employment in the formal sector. In particular, the constraints on female labor supply, which, until recently, included the lack of temporary and flexible work arrangements that tend to induce more women to enter the labor force, appear to be significant in Italy and to be particularly acute in the South.

C. Wage Dynamics

During the 1970s and 1980s, the wage formation process in Italy was characterized by annual indexation of nominal wages to realized inflation and by what was effectively a centralized wage bargaining structure. The first of these features implied that real wage flexibility was implicitly constrained by a floor of zero real wage growth. This is evident in the

Figure 3
Italy

Labor Force Status by Gender



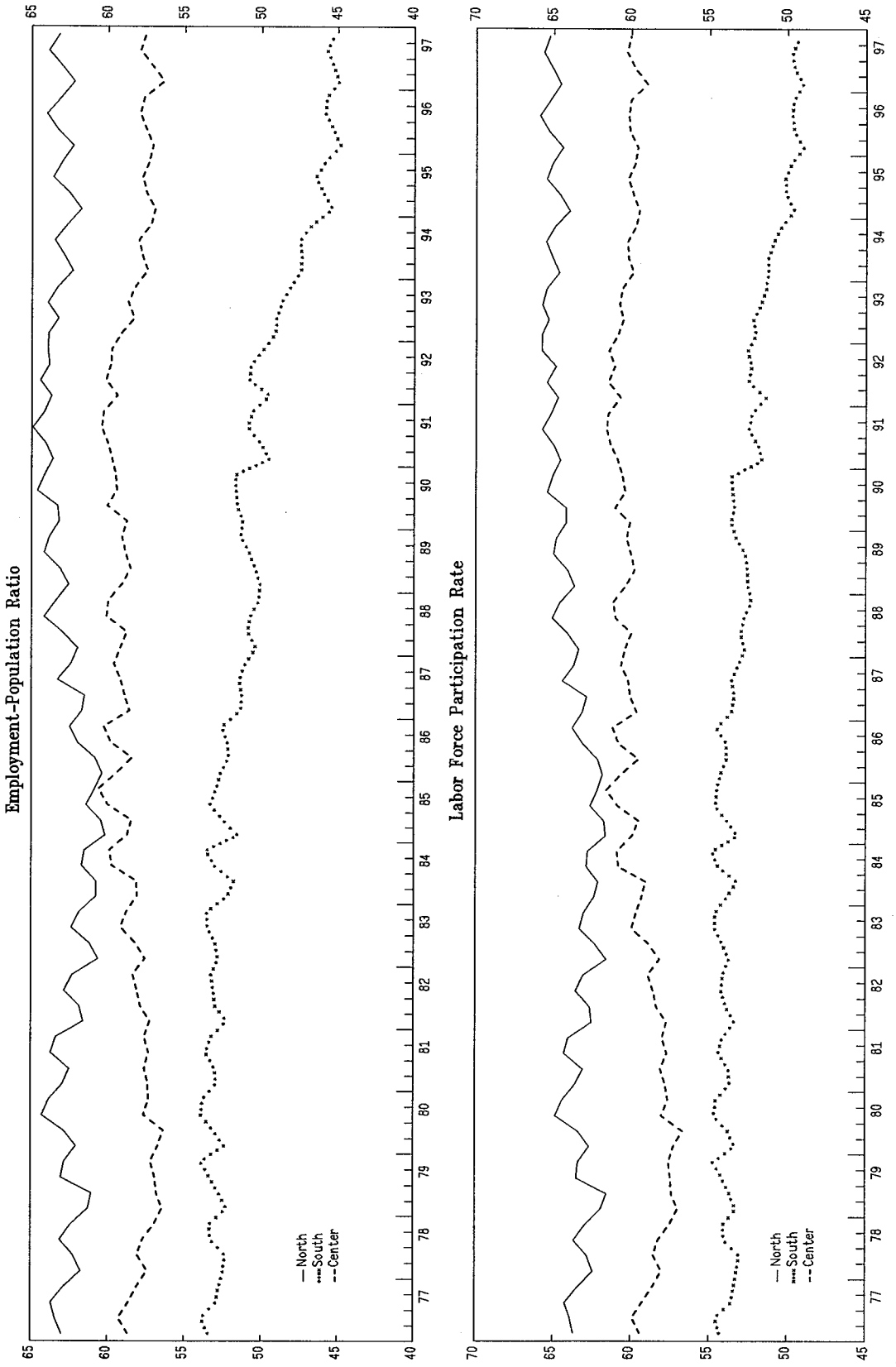
Source: Bank of Italy and authors' calculations.

Figure 4

Italy

Employment and Participation Rates by Region

(In percent)



Source: Bank of Italy and authors' calculations.

evolution of real wage growth in industry shown in Figure 5 (top panel). Except for brief periods where the annual frequency of indexation implied that nominal wage growth could be temporarily below CPI inflation, real wage growth was positive virtually throughout the 1970s and 1980s, irrespective of aggregate business cycle conditions. This element of wage indexation also appears to have contributed to the persistence of inflationary shocks throughout this period.

A key aspect of the 1992–93 labor market reforms involved changes in the wage formation process. The automatic indexation of wages was eliminated. Instead, an agreement was reached with the unions whereby sectoral contracts negotiated at the national level would determine nominal wages for a period of two years, based on targeted inflation (which is expected to reflect official inflation objectives), and employment and working conditions for a period of four years. After two years, wage contracts could be re-negotiated. The most important feature of this agreement was that discrepancies between actual and targeted inflation over the duration of a contract were to serve only as a guide for future wage negotiations and would not result in an automatic compensation for this differential.

Although the two-year duration of wage contracts may have introduced some inertia in nominal wages, overall the incomes policy has had a clear salutary effect on real wage formation. It is particularly noteworthy that, unlike in previous instances of exchange rate depreciation, the substantial depreciations of the lira in 1992 and in 1994–95 did not feed through into wages. As shown in the middle panel of Figure 5, real wage growth was significantly negative in the industrial sector from the latter half of 1992 through the first half of 1996. A similar pattern is revealed by the general wage index (for the overall economy) shown in the bottom panel of this figure. This evidence suggests that changes in the wage formation process have had a significant effect on improving real wage flexibility.[6]

However, nominal wage growth has increased marginally since the beginning of 1996, while the rate of inflation has declined significantly. Consequently, real wage growth turned positive in the latter half of 1996 and has continued to increase through 1997. The increase in nominal wage growth during 1997 partly reflects an element of catch-up in newly negotiated wage contracts that were based on targeted inflation for the next two years (as per the wage bargaining framework) but that also sought to make up the difference between actual and target inflation over the previous two years. In addition, some of the contract negotiations concluded during 1997 were for contracts that had expired in 1996. Consequently, lump-sum payments were made in 1997 to account for the retroactive wage increases for 1996.

Table 1 shows the pattern of wage negotiations, within the context of the new wage bargaining framework introduced in July 1993, for certain important industries. The table

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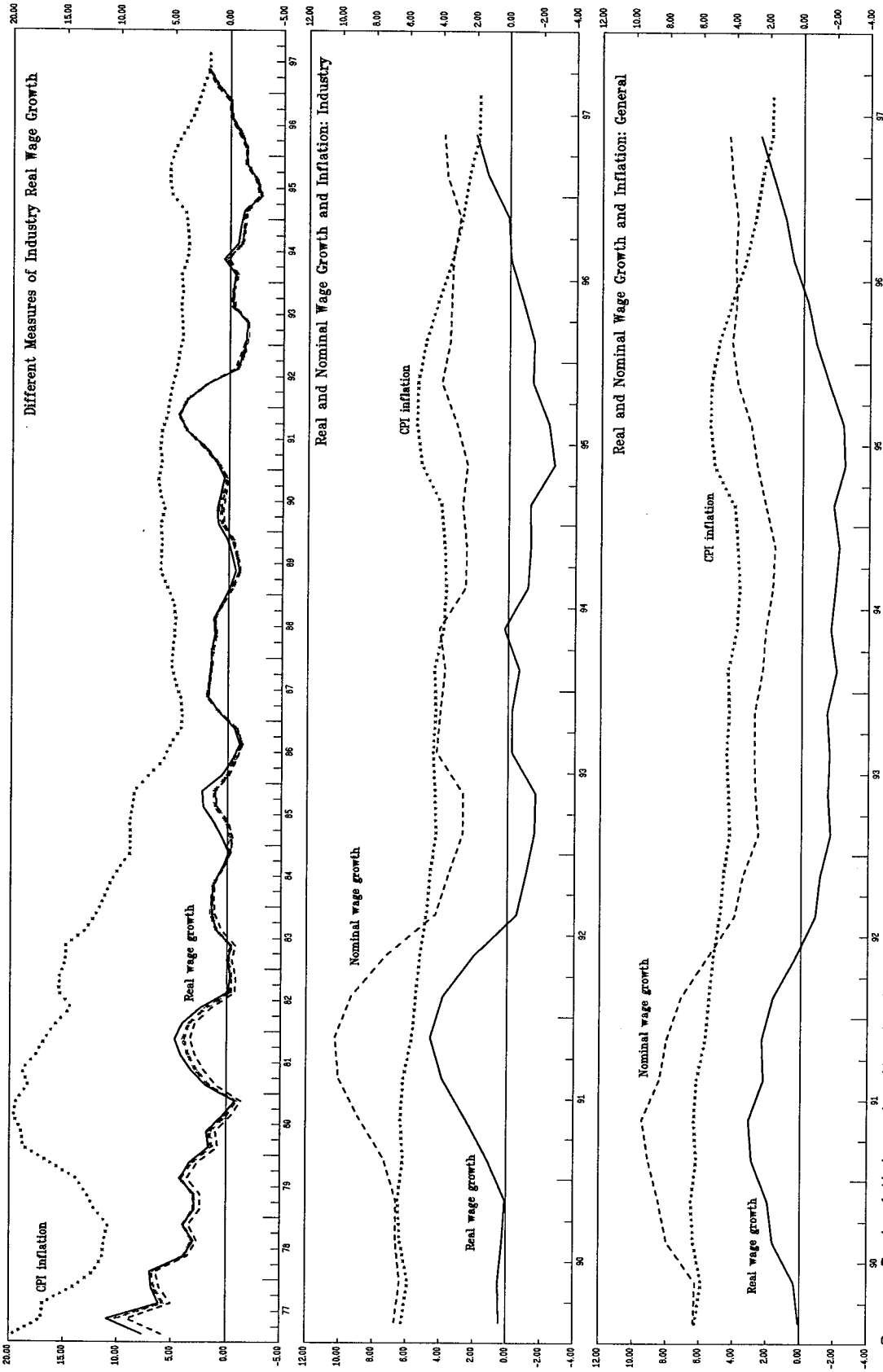
[6]Fabiani, Locarno, Oneto, and Sestito (1997) argue that the wage moderation engineered by the incomes policy embodied in the 1992–93 agreement may have contributed to some of the recent decline in inflation.

Figure 5
Italy

Real Wage Growth (four-quarter growth rates, in percent)



Source: Bank of Italy and authors' calculations.
Notes: The wage indexes for industry used in the top panel are (i) minimum contractual hourly wage for laborers, (ii) minimum contractual wage (weekly) for laborers, and (iii) minimum contractual wage per employee for all workers. This third measure is used for the lower two panels.

Table 1. Inflation and Wage Dynamics Under the New Wage Bargaining Framework: Evidence from Major Wage Contracts.
(Total increase over duration of contract—in percent)

	First Round				Second Round			
Sector	Effective Date	Target Inflation	Nominal Wage Increase	Actual Inflation	Effective Date	Target Inflation	Nominal Wage Increase	Actual Inflation
Paper products	Jul. 93	7.3	7.5	8.7	Jul. 95	7.4	7.9	7.9
Chemicals	Jan. 94	6.1	7.9	9.5	Jan. 96	6.6	8.0	5.8
Petroleum	Jan. 94	6.1	6.7	9.5	Jan. 96	6.6	7.9	5.8
Banking	Jan. 94	6.1	9.1	9.5	Jan. 96	6.6	7.7	5.8
Insurance	Jan. 94	6.1	5.9	9.5	Jan. 96	6.6	7.9	5.8
Metal workers	Jul. 94	5.3	7.6	9.8	Jul. 96	4.6	8.6	
Tourism	Jul. 94	5.3	7.2	9.8	Jul. 96	6.1	9.2	
Publishing	Oct. 94	5.0	6.1	9.8	Oct. 96	5.5	7.5	
Trade	Jan. 95	4.6	8.3	9.5	Jan. 97	5.1	9.1	
Food	Jun. 95	7.6	7.0	8.3	Jun. 97	4.0	4.5	
Textiles	Jul. 95	7.5	8.6	7.9	Jul. 97	4.7	5.3	

Source: ISCO.
Notes: Negotiations on certain contracts that expired in 1996, such as the one for metal workers, were completed in 1997, but were made effective retroactively.

shows, for the duration of the contract, the "target" inflation rate underlying the contract negotiations, the average nominal wage increase, and, where available, the ex-post realized rate of CPI inflation. A notable feature is the significant decline in target inflation underlying contracts renewed in 1997.

Thus, despite the uptick in nominal wage growth during 1997, it is apparent that inflation expectations have been brought down markedly by both the good inflation performance in recent years and the prospects of restrained inflation under EMU. However, these wage developments, occurring as they have in an environment with modest employment growth and persistently high aggregate unemployment, indicate the risks inherent in longer-duration nominal wage contracts since such contracts could implicitly result in some degree of real wage inflexibility in the short run.

D. Sectoral Employment and Wage Structures

Examining labor market dynamics at the sectoral level can be quite helpful in understanding patterns of overall labor market developments. Both short-term and longer-term evolutions of sectoral employment and wage structures are of interest in this regard.

Figure 6 (upper panel) plots the employment shares of five broadly defined sectors in the Italian economy over the last two decades. As in other industrialized countries, the share of employment in agriculture and manufacturing has trended downward over this period while the share of service sector employment has increased. The share of employment in public administration is quite high in Italy, although not atypical by European standards, and has in fact increased from 18 percent of total employment in 1977 to about 23 percent at present.[7]

Another distinctive feature of the Italian labor market is the significant proportion of employment that is classified as self-employment as opposed to dependent employment. In part, this reflects the pervasiveness of labor market regulations, which are particularly onerous for larger firms. These regulations have resulted in a large share of employment being in small businesses and in self-employment. The welfare implications of this phenomenon are not obvious, although it might be conjectured that larger firms have scale economies and that the preponderance of small firms and of self-employment therefore implies certain efficiency losses. In any case, it is useful to examine the prevalence of self-employment since this could have implications for designing labor market policies.

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[7]The large share of employment in public administration appears to be a feature of other continental European economies as well. The OECD's estimate of the proportion of general government employment in total employment is close to 20 percent on average for the EU-15, compared to about 15 percent for the United Kingdom and the United States. It should be noted, however, that the definition of general government employment may be somewhat narrower than the measure of public administration used in this paper.

Figure 6

Italy: Sectoral Employment Patterns

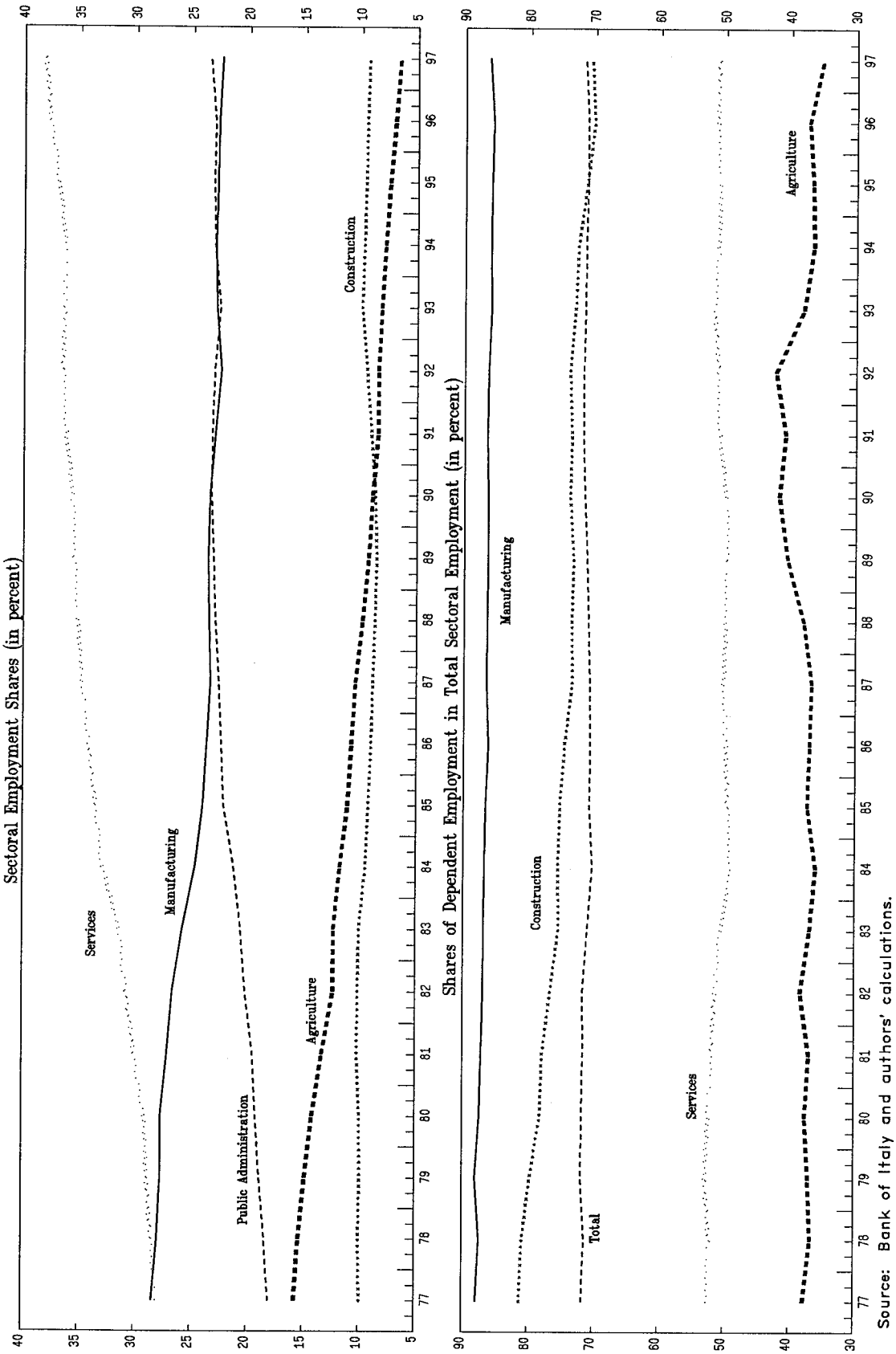

Figure 6 (lower panel) plots dependent employment as a share of total employment for the economy as a whole and also for each sector except public administration. The aggregate share of dependent employment has remained relatively stable at around 70 percent over the last two decades.[8] While the share of dependent employment has declined in construction, the shares in other sectors have remained quite stable. These figures indicate that the share of self-employment in total employment is about 12 percent in manufacturing, 50 percent in services, and 65 percent in agriculture. It is possible, however, that these shares overstate the importance of self-employment. Anecdotal evidence indicates that dependent employment in small business enterprises is sometimes masked as self-employment in order to obviate onerous labor market regulations. The recent strong growth of employment under the category termed *lavoro parasubordinato* (a form of free-lance employment) appears to be consistent with this interpretation.

Figure 7 provides an indication of the shorter-term evolution of sectoral employment. The top panel shows annual growth rates of employment in each sector while the bottom panel shows the contributions of each sector to total annual employment growth during the 1990s (the sectoral contributions sum up to total employment growth). Apart from a small increase in employment in construction in 1992, employment growth in all sectors of the economy was negative during the years 1992–94. Since then, employment levels in manufacturing and in agriculture have continued to decline while service sector employment has been the main contributor to overall employment growth. The decline in manufacturing sector employment during and after the recession is attributable in part to labor shedding prompted by the easing of layoff restrictions in the early 1990s.

Given these differences in employment growth across sectors, an examination of sectoral wage growth figures reveals some interesting patterns. Consistent with the aggregate data, real wage growth during the period 1993–95 was negative in nearly all sectors of the economy (Table 2). In 1996, as inflation continued to decline from the average levels seen in recent decades, real wage declines moderated. In 1997, on the other hand, real wages increased significantly. This increase was quite broad-based, except in agriculture and in transport and communications, which had small real wage declines. As noted above, these wage increases partly reflect special and transitory factors. Nevertheless, they raise concerns that some real wage rigidities remain in the economy especially since, except for services and public administration, most of the sectors and industries with real wage increases in 1997 also continued to have declines in their employment levels (see Figure 7), despite the recovery in aggregate demand.

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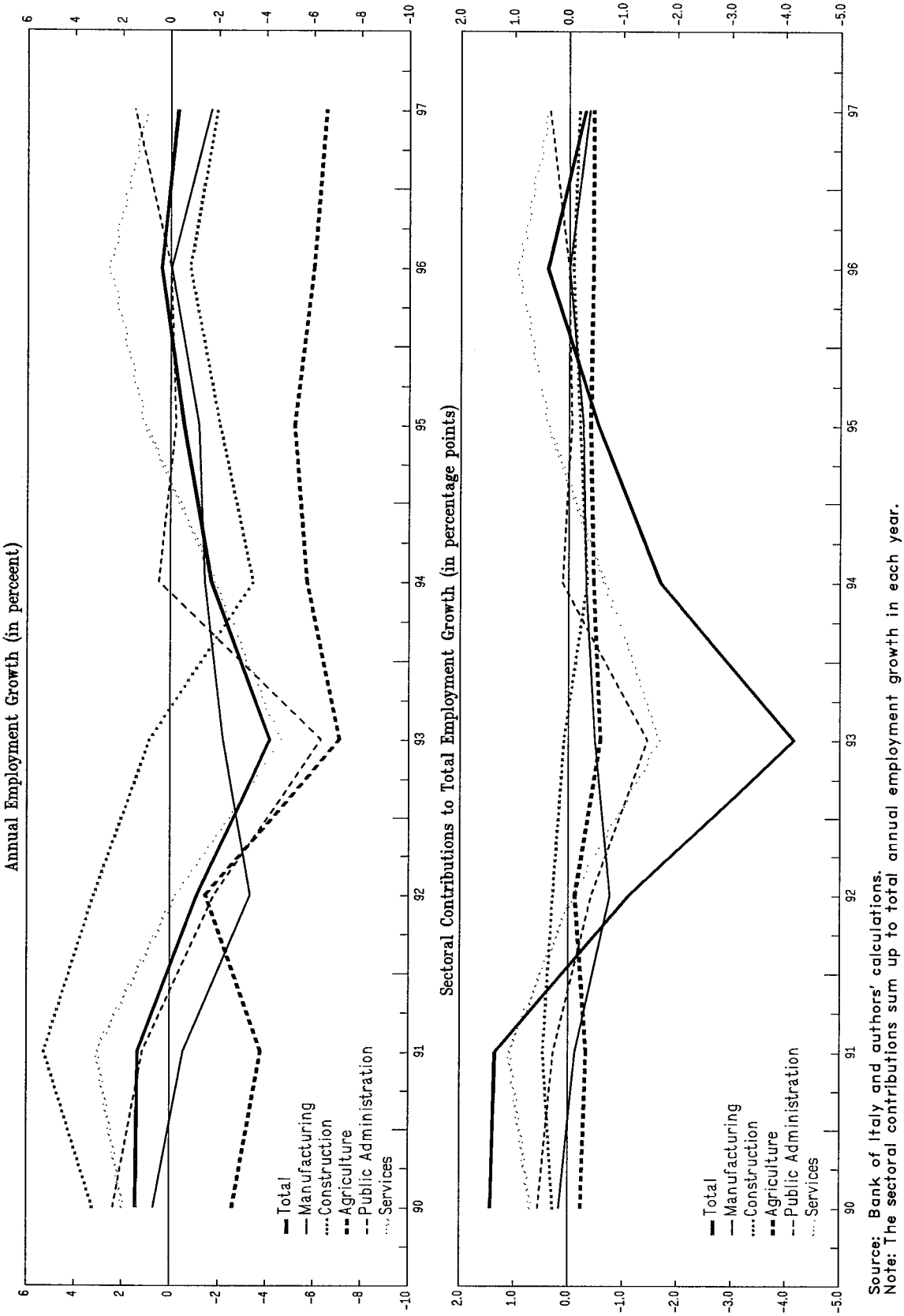
[8]Other European countries that have a share of self-employment greater than 25 percent include Greece, Portugal, and Spain. By comparison, the share of self-employment is less than 15 percent in France, Germany, and the United Kingdom.

Figure 7

Italy: Sectoral Employment growth



Source: Bank of Italy and authors' calculations.
Note: The sectoral contributions sum up to total annual employment growth in each year.

Table 2. Real Wage Growth

	1990	1991	1992	1993	1994	1995	1996	1997
General	0.98	2.61	-0.03	-1.65	-2.03	-2.12	0.14	2.16
Agriculture	-1.41	-0.52	5.49	0.29	-3.43	-3.21	-1.77	-0.88
Industry	0.30	3.00	1.04	-0.94	-0.73	-1.96	-0.55	1.67
Construction	5.02	3.84	0.73	-3.27	0.15	-3.27	-0.92	0.88
Energy	2.74	3.88	0.49	-0.13	0.41	-0.84	-0.39	2.77
Manufacturing	-0.91	2.85	1.07	-0.40	-0.93	-1.65	-0.51	1.78
Food, beverages and tobacco	-0.42	0.57	2.49	1.15	0.89	-2.65	-0.91	0.90
Chemicals	0.12	2.00	2.06	-1.31	-1.07	-0.48	1.29	0.87
Other commercial products	-0.41	3.40	0.73	-0.20	-0.97	-1.13	-0.13	1.69
Metals, engineering equipment	-1.63	4.30	0.55	-0.74	-1.50	-1.04	-0.52	2.03
Textiles	-0.61	1.11	1.93	-0.55	-0.33	-3.04	-0.18	1.43
Services								
Financial services	1.10	0.94	0.96	-2.27	-3.70	1.83	1.90	1.60
Transport and communication	0.93	1.80	0.30	-1.38	-3.00	-1.13	-1.11	-0.76
Public Administration	3.89	2.73	-2.66	-3.50	-3.63	-3.59	1.36	4.25
CPI inflation	6.24	6.10	5.04	4.36	3.97	5.07	3.90	2.06

Source: Bank of Italy's Household Survey, 1995, and authors' calculations.

Notes: Annual growth rates of real wages were computed using indexes of minimum contractual wages per employee (excluding family allowances) for all workers. The aggregate CPI was used as the price deflator. The figures for 1997 are based on data for the first two quarters of 1997 relative to the first two quarters of 1996.

E. Sectoral Shifts and Labor Reallocation

The intersectoral disparities in employment growth rates raise some interesting issues. Changes in the patterns of net labor flows across sectors could indicate the success of recent reforms (discussed below) in enhancing the efficient allocation of labor. Further, it is of interest to examine if the recent persistence of Italian unemployment could in fact be attributable to sectoral shifts. Lilien (1982, 1990), for instance, has argued that large sectoral shifts in employment attributable to exogenous shocks could result in significant but temporary increases in unemployment. To shed some light on this, the following statistical measure of employment growth dispersion suggested by Lilien can be used to proxy for inter-sectoral labor reallocation:

$$\sigma_t^2 = \sum_{i=1}^{N} \left(\frac{x_{it}}{X_t} \right) (\Delta x_{it} - \Delta X_t)^2 \qquad (1)$$

where x_{it} is employment in sector i at time t, X_t is aggregate employment at time t, and the operator Δ represents the growth rate of a variable. Each industry's weight was divided by the variance over time of that industry's employment growth rate in order to adjust for the effects of different cyclical sensitivities of employment growth rates across industries. Note that this measure captures only net rather than gross flows of labor across sectors. Typically, this measure of employment growth dispersion tends to rise during periods of major structural change when there are increases in net flows of labor across sectors.[9] Since annual data are used here in constructing this variable, some of the higher frequency movements in employment growth dispersion that are related to the business cycle rather than longer-term structural change are smoothed over in this analysis.

Figure 8 (upper panel) shows that this measure of employment growth dispersion has been relatively low over the last few years and well below its peak in the mid-1980s, when the economy was clearly undergoing considerable structural change. Thus, at first glance, there is little evidence of a recent increase in the pace of structural change in the Italian economy at this broad level of sectoral disaggregation.

Davis (1987) has noted that Lilien's measure of the sectoral dispersion of employment growth rates may be inadequate for capturing longer-term flows of labor. In particular, sectoral or aggregate shocks that lead to labor flows in one direction could be reversed by subsequent shocks. Thus, Lilien's measure would tend to be dominated by short-term labor

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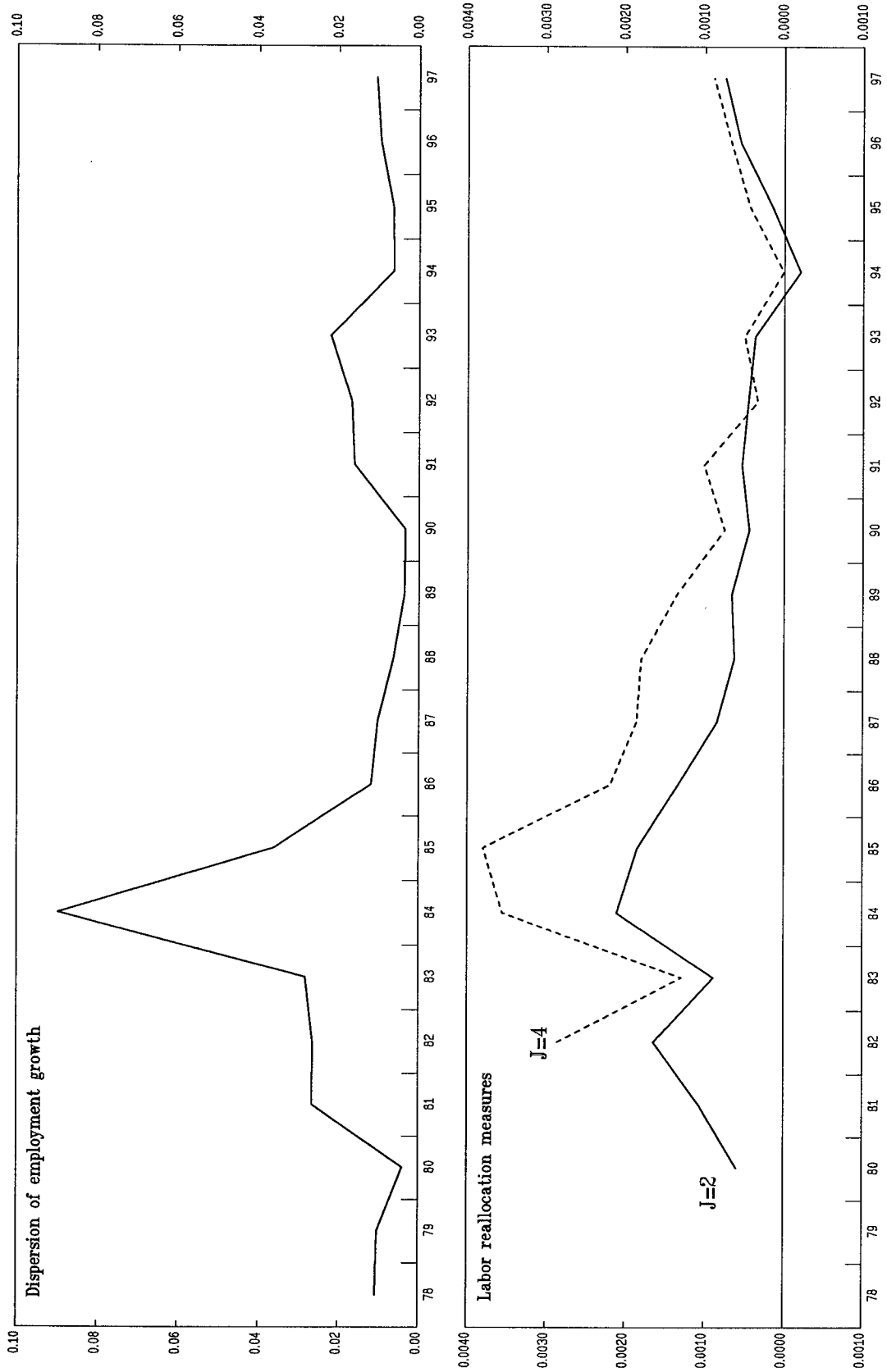
[9]Gross flows of labor across sectors generally dominate net flows in terms of magnitudes. In recessions and periods of major structural change, however, the ratio of net flows to gross flows tends to rise. Lilien (1982) has argued that a significant fraction of cyclical unemployment in the United States is attributable to such sectoral shifts.

Figure 8

Italy

Measures of Sectoral Labor Reallocation



Source: Bank of Italy and authors' calculations.
Note: See the text for details on computations of these measures.

flows rather than longer-term labor reallocation. Davis constructed the following labor reallocation measure that attempts to measure whether net intersectoral flows of labor in one period are reinforced or reversed by subsequent flows of labor:

$$\sigma^2_{t,j} = \sum_{i=1}^{N} \left(\frac{x_{it}}{X_t} \right) (\Delta x_{it} - \Delta X_t) (\Delta_j x_{it-1} - \Delta_j X_{t-1}), \quad (2)$$

where Δ_j represents the percentage change in a variable over j periods. Relatively large (small) values for $\sigma^2_{t,j}$ indicate that the time t direction of labor reallocation reinforces (reverses) the time t-1 reallocation over the preceding j-period horizon. This measure is designed to examine whether, over different time horizons, labor flows are consistent with patterns of structural change in the economy, where structural change is to be interpreted as reflecting changes in the sectoral composition of total employment.

Labor reallocation measures computed with j equal to 2 and 4 are displayed in the lower panel of Figure 8. These measures of labor reallocation are well below their respective levels reached in the mid-1980s, although there is a modest increase in both measures of labor reallocation since 1994. The measures of employment growth dispersion and labor reallocation examined here portray a similar picture of an economy that is undergoing some structural change but at a modest rate that is fairly typical by historical standards. Hence, the persistence of high unemployment during the recent recovery cannot be attributed to sectoral shifts. Further, there is at best limited evidence that recent labor market reforms have increased net labor flows across sectors. It should, however, be recognized that, at finer levels of disaggregation than the data used here, the evidence for structural change could be stronger.

III. Labor Market Institutions and their Effects

As is the case with labor markets in other economies of continental Europe, the Italian labor market has been characterized by a number of inefficiencies engendered by institutional factors. This section provides a brief and selective review of certain institutional features that may have played a role in hampering the efficient functioning of the labor market. Recent reforms and changes in these features are also examined.[10]

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[10]The 1970 Charter of Workers' Rights (*Statuto dei Lavoratori*) resulted in substantial rigidities in hiring and firing procedures, the compensation structure, rules for workers' mobility within firms, etc. These rigidities and their deleterious effects are well documented in the literature. See Demekas (1994) and Bertola and Ichino (1996) for a comprehensive description of labor market institutions in Italy, and Brunetta and Ceci (1996) for details on the 1992–93 tripartite agreement and related reforms.

A. Income Support Mechanisms

The Italian unemployment insurance (UI) system has a rather atypical structure, especially in comparison to other continental European countries. For instance, the total expenditure on public unemployment benefits (only about ½ percent of GDP) is considerably lower than in most other European countries. Further, since the coverage of unemployment benefit schemes is lower in Italy than in most other EU countries, the usual disincentive effects that plague many UI systems are comparatively less pronounced.

While direct unemployment insurance benefits are quite limited, a more important component of the benefits system is the *Cassa Integrazione Guadagni* (CIG). The CIG was originally designed to compensate for hours not worked due to temporary reductions or suspensions of activity by industrial firms, but has become a key instrument of income protection for workers in the manufacturing sector. The coverage of CIG has expanded over time and now includes the construction sector, although it is still limited to industrial firms with 16 or more workers and other commercial enterprises with more than 200 workers. The CIG provides, for a period of up to twelve months, a benefit replacement rate equal to 80 percent of the last earned wage. A special component of the CIG allows similar benefits to be extended for a period of up to four additional years in cases of restructuring or reorganization by firms.

The number of hours compensated under the provisions of the CIG are shown in Figure 9 (upper panel). The CIG has played an important role in unemployment stabilization in the Italian economy over the last two decades, with a large number of manhours compensated under this scheme in the early 1980s. During the recent recession, there was a cyclical increase in the number of hours compensated under the CIG but the level remained well below that reached in the 1980s. In the 1990s, the role of the CIG has partly been substituted for by "mobility lists", which make the cyclical component of unemployment more transparent.[11] In addition, a mobility allowance was introduced in 1991 to replace Special Unemployment benefits.

With these changes, permanent redundancies are now identified more promptly. Moving workers from the CIG to mobility lists and providing them with a mobility allowance has had the advantage of improving the incentives of workers who are laid off to engage in active job search. Firms are required to give priority in their hiring to workers on mobility lists and, in some cases, also receive subsidies for such hiring. Further, recent measures to tighten eligibility requirements have also led to a decline in the total number of hours compensated

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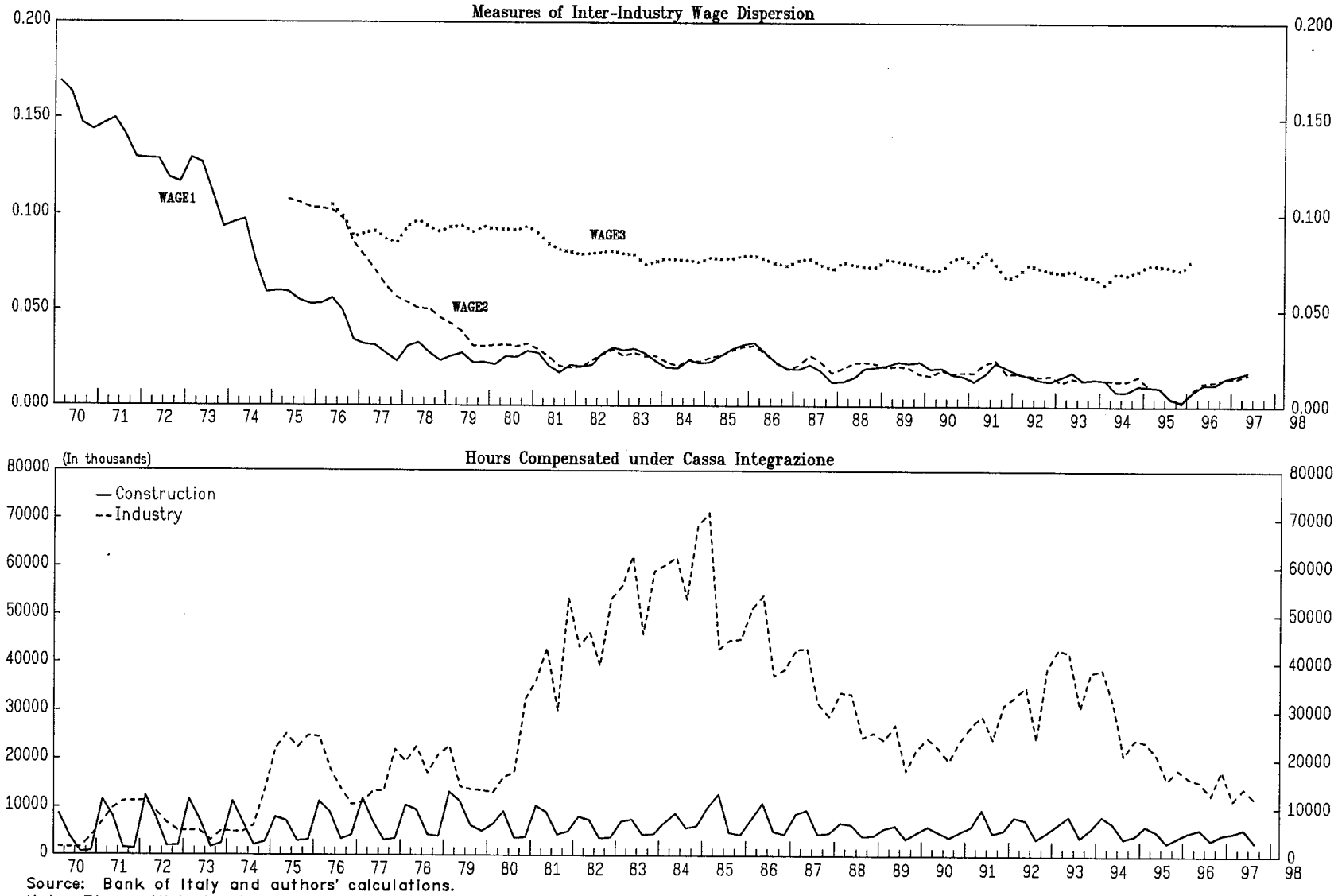
[11]Workers covered under the CIG are not classified as unemployed in official unemployment statistics while workers on mobility lists are. The unemployment rates reported in this paper incorporate the Bank of Italy's adjustment to the unemployment figures to include workers compensated by the CIG.

Figure 9
Italy

CIG, Wage Dispersion



Source: Bank of Italy and authors' calculations.
Notes: The coefficients of variation in the lower panel are based on the logarithms of three alternative indexes of wages in eleven industries: minimum contractual hourly wages for laborers (WAGE1); (ii) minimum contractual wage per employee (WAGE2); and (iii) minimum contractual wage for laborers (WAGE3).

under the CIG and suggest that some of the adverse incentive mechanisms engendered by this scheme have been dealt with to a significant extent.

However, the Italian UI system does still suffer from a few shortcomings. The CIG scheme effectively provides income protection to "insiders," thereby reducing the role of "outsiders" in influencing wage and employment bargaining outcomes. Further, the limited coverage of other forms of unemployment insurance tends to inhibit mobility across jobs by acting as a disincentive for risk-taking in the labor market. Another concern is the fact that first-time job seekers and labor market re-entrants receive no income support through the UI system. Thus, while the Italian UI system has not, unlike in many other European countries, contributed significantly to increases in aggregate unemployment, deficiencies in the structure of this system have in some respects inhibited the efficient functioning of the labor market.

B. Wage Dispersion

An important determinant of the ability of different parts of the economy to respond to shocks is the degree of aggregate as well as disaggregate wage flexibility. Industry- and region-specific shocks play an important role in economic fluctuations in most industrial countries.[12] Rigidities in wage differentials across sectors and across regions could translate temporary shocks into permanent effects on employment and unemployment. Further, wage differentials that do not accurately reflect productivity differentials are likely to constrain the adjustment of labor markets to exogenous shocks and also hinder the efficient allocation of labor by reducing the incentives for labor mobility. This is evidenced, for instance, by the steady decline over the last decade in interregional migration despite the widening disparity of regional unemployment rates.[13]

Certain institutional features appear to have contributed to a sub-optimal degree of wage differentiation in Italy. In an attempt at promoting greater wage equality, the wage indexation scheme known as the *scala mobile* was modified in 1975 to provide similar cost-of-living adjustments for all workers, independent of their earnings levels. This resulted in a sharp compression of wage differentials across occupational classifications in the 1970s. The

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[12]Bayoumi and Prasad (1997) find that, for Italy, industry-specific shocks are more important than common shocks across all industries for explaining fluctuations in disaggregated output growth.

[13]Faini, Galli, Gennari, and Rossi (1997) document trends in inter-regional migration in Italy. Based on survey evidence, they also list a number of institutional factors, such as an inflexible housing market, that have hindered migration within Italy.

1983 reform of the indexation system halted the decline in wage differentiation and the indexation system was abolished altogether in 1992.[14]

The centralized wage bargaining system has also contributed to the relatively small intersectoral and interregional wage differentials in Italy compared to most other industrialized countries. The wage bargaining procedure resulted in legally binding wage floors that were negotiated for each sector and for category of occupation by unions and employers at a central level and that were applied uniformly across regions. Since negotiated wage floors have traditionally accounted for a substantial fraction of most workers' earnings, this centralized bargaining procedure resulted in relatively narrow differentials in wages across regions and also across sectors (possibly reflecting coordination by national unions).

The new wage negotiating framework introduced in 1993 formalized a two-level wage bargaining structure, where the second level of bargaining was not limited to larger firms, as had been the case before. Under this framework, national industry-level contracts determine the structure and evolution of wages over a two-year period and determine employment and working conditions over a four-year period. Industry-level wage contracts are to be set in a manner consistent with official inflation targets. The second level of bargaining would be at the firm level and would allow wages to be linked to productivity or profitability indicators.

The change from a relatively centralized to a decentralized wage bargaining system carries both risks and opportunities. As noted by Calmfors and Driffill (1988) and Calmfors (1993), there is likely to be a non-monotonic relationship between the degree of centralization of wage bargaining and labor market outcomes. Centralized unions are more likely to internalize the externalities inherent in the fact that unions are more beholden to "insiders" than to unemployed workers who are not union members. On the other hand, centralized unions could lead to lower wage differentiation, as has been the case in Italy. Further, these factors interact with the degree of union power and the degree of co-ordination among unions in the wage-setting process.[15] Hence, it is difficult to determine precisely the optimal wage bargaining structure for maximizing social welfare.

Nevertheless, given the changes in the wage bargaining structure and other aspects of wage formation, it is useful to provide a preliminary empirical assessment of the effects of these reforms on wage dispersion. Figure 9 (lower panel) shows the dispersion—as measured

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[14]The 1983 reform of the indexation system included a 15 percent reduction in inflation coverage. As discussed by Bertola and Ichino (1996), the indexation system was then progressively weakened. In particular, a cap was instituted on *scala mobile* payments in 1984, and cost-of-living adjustments were made proportional to earnings in 1986.

[15]Decentralized wage bargaining could enhance wage differentiation but could lead to a wage-price spiral if relative wage competition among unions is significant, thereby resulting in adverse effects on aggregate employment.

by the standard deviation—of (the logarithms of) nominal wages for dependent employees in 11 industries using three alternative wage series: (i) minimum contractual hourly wage indices for laborers, (ii) the minimum contractual wage per employee for all workers, and (iii) the minimum contractual wage per employee for laborers.

As has been documented by other authors (e.g., Erickson and Ichino, 1994), the wage indexation system resulted in a significant compression of wage differentials during the 1970s, both across sectors and across skill groups. The sharp decline in the sectoral dispersion of wages during this period is evident for all three measures of wages. Changes to the wage indexation system in the mid-1980s resulted in an increase in wage dispersion but, thereafter, wage differentials across sectors continued to decline gradually. Since 1995, however, the sectoral dispersion of wages appears to have risen, as evidenced by increases in all three dispersion measures. This suggests that the 1992–93 changes in wage bargaining arrangements have been effective in promoting flexibility in the sectoral wage structure by, *inter alia*, providing an enhanced role for enterprise-level contracts that explicitly link wage settlements to measures of productivity and profitability. The substantial compression of sectoral wage differentials relative to historical levels suggests, however, that the Italian labor market remains relatively inflexible in this dimension and that further progress is necessary.[16]

A similar examination of regional wage differentials is hampered by a lack of reliable wage data disaggregated at the regional level. Further, differences in industrial structures across regions could influence observed interregional wage differentials. To overcome these problems, and to provide a finer characterization of employment and wage structures, we now turn to a more detailed analysis using micro data.

IV. The Structure of Earnings and Employment: Evidence from Micro Data

This section presents an alternative perspective on the main features of the Italian labor market. Individual data from the Bank of Italy's household survey are used to analyze the wage structure in more detail. Further, evidence from this micro data set on the reasons for unemployment and for non-participation in the labor force could help gain some insights into factors that affect employability and labor supply decisions and that could be used in formulating appropriate policy measures.

A. Earnings

Average measures of wage differentials across regions and across sectors could be contaminated by aggregation bias due to worker heterogeneity. For instance, an apparently

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[16]The OECD estimates that the coefficient of variation of labor cost levels per working hour for production workers across thirteen industries in the manufacturing sector was 0.15 in Italy in 1994, compared to about 0.30 for Canada, Japan, and the United States, and an average of 0.20 for France, Germany, Spain, and the United Kingdom (OECD, 1997).

large average wage differential between two sectors could simply reflect differences in the average level of human capital of workers in the two sectors. Micro panel data can be used to control for observed worker attributes and thereby provide more accurate measures of wage differentials. In addition, such data can also be used to obtain measures of wage differentials between male and female workers, across different skill levels, across different firm sizes, etc., that control for other observed attributes of workers.[17]

The data used in this part of the analysis are drawn from the 1995 version of the Bank of Italy's household survey, which includes data on individual workers' earnings and other characteristics. Summary statistics for the data samples are presented in Appendix Table A1.[18] The analysis of the wage structure is limited here to dependent workers (employees) and excludes self-employed workers. An important caveat is that the earnings data represent net after-tax earnings. Given the progressivity of the income tax structure, this could in principle understate wage differentials across, for instance, skilled (high wage) and unskilled (low wage) workers. Since the tax structure is similar across regions and local income taxes are not significant, estimates of regional wage differentials are less likely to be affected by this feature of the data.

Empirical analysis of the wage structure is based on ordinary least squares regressions of the form:

$$\log e_i = \alpha + \beta X_i + \sum_{j=1}^{k} \gamma_j I_{ij} + \epsilon_i \qquad (3)$$

where e_i represents average weekly earnings of worker i and X_i is a vector of individual-specific characteristics that also includes job-specific variables such as the size of the firm that a worker is employed in. I_j is an indicator of the sector of occupation; this set of indicator variables is omitted in the sectoral regressions.

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[17]See Keane and Prasad (1996) for a discussion and an empirical example of how estimates of sectoral wage equations using data aggregated at a sectoral level can be biased by compositional effects.

[18]The survey is based on a stratified sample where the basic sampling unit is the 'household'. Over or under sampling of particular groups and differences in non-response rates across sub-strata imply that the sample may not be fully representative. Sampling weights that can be used to correct for this non-representativeness are provided by the Bank of Italy but, since we use individual rather than household-level data, these weights are not necessarily appropriate for our purposes. Nevertheless, we ran the regressions reported in this section using these sampling weights and found that the estimated coefficients differed only marginally from those reported in the paper. Results from the weighted regressions are available from the authors.

Table 3 reports results for regressions of weekly earnings. The first column of this table shows the results from the regression using the full sample of employed workers. The estimated coefficients on the industry dummies are shown in one of the bottom rows of the table (relative premium). These coefficients represent estimates of earnings differentials across sectors, relative to earnings in the manufacturing sector. Since the earnings variable is expressed in logarithms, the coefficient estimates are interpretable as percentage differences relative to earnings in manufacturing.

Average earnings in agriculture are estimated to be about 60 percent lower than in manufacturing. Among other sectors, however, the earnings differentials are in general quite narrow. There is only about a 10 percent differential between earnings in manufacturing and average earnings in trade, transport and communications, and real estate. As in other countries, earnings in the household and personal services sector are lower than in manufacturing while earnings in the financial sector are among the highest

The coefficients on the dummy variables Center and South (in the first column) capture the estimated earnings differentials of workers in these regions relative to workers in the North, after controlling for worker characteristics as well as sector of occupation. These coefficient estimates indicate that, relative to the North, average earnings are 8 percent lower in the Center and 18 percent lower in the South.

The earnings premium for workers with a high school education compared to workers without a high school degree is 19 percent. Workers with a college degree earn an additional premium of about 10 percent. The large earnings premium for workers with higher levels of general human capital is consistent with other evidence of large and increasing skill premia due to skill-biased technological change since the 1970s—similar to evidence that has been documented for other industrial countries. The coefficient on the dummy variable for males indicates that male workers on average have 28 percent higher earnings than female workers, even after controlling for education levels, labor market experience, region and sector of employment, and other observable attributes. The coefficient estimates for the firm size dummies clearly show that, despite controlling for observed worker characteristics, workers in larger firms have significantly higher earnings.[19]

The estimated sectoral and regional earnings differentials for 1995 suggest that the labor market reforms introduced in 1992–93 do appear to have helped in fostering some

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[19]This is potentially an important result. Since larger firms are permitted to link pay levels above nationally-contracted minimums to firm-specific productivity and profitability, this finding suggests that labor productivity is, on average, higher in larger firms. This indicates that there could be significant efficiency losses arising from labor market regulations that have fostered an industrial structure that is skewed toward smaller firms.

Table 3. Wage Regressions
(Dependent variable: log net earnings)

	All	Agriculture	Manufacturing	Construction	Trade	Transport	Finance	Real Estate	Personal Services	Government
Center	-0.08*	0.28	-0.07*	-0.18	-0.17*	0.08	-0.02	-0.20	-0.19*	-0.04
	(0.02)	(0.20)	(0.03)	(0.09)	(0.06)	(0.10)	(0.07)	(0.10)	(0.08)	(0.02)
South	-0.18*	-0.49*	-0.16*	-0.40*	-0.28*	-0.15	-0.11	-0.28*	-0.25*	-0.09*
	(0.02)	(0.15)	(0.03)	(0.07)	(0.05)	(0.09)	(0.07)	(0.10)	(0.08)	(0.02)
High school	0.19*	0.46*	0.18*	0.30*	0.10*	0.23*	0.11	-0.00	0.17*	0.17*
	(0.01)	(0.16)	(0.02)	(0.08)	(0.05)	(0.08)	(0.10)	(0.11)	(0.08)	(0.02)
College	0.30*	-0.52	0.43*	0.22	0.52*	0.25	0.46*	-0.05	-0.15	0.23*
	(0.02)	(0.59)	(0.06)	(0.27)	(0.14)	(0.17)	(0.11)	(0.16)	(0.22)	(0.03)
Male	0.28*	0.54*	0.26*	0.21	0.28*	0.51*	0.17*	0.24*	0.54*	0.23*
	(0.01)	(0.12)	(0.02)	(0.14)	(0.04)	(0.11)	(0.07)	(0.09)	(0.07)	(0.02)
Fsize 2 (20-99)	0.16*	0.12	0.12*	0.23*	0.15*	0.03	0.25*	0.26*	0.28*	
	(0.02)	(0.16)	(0.03)	(0.07)	(0.06)	(0.12)	(0.11)	(0.11)	(0.09)	
Fsize 3 (100-499)	0.24*	0.54*	0.20*	0.30*	0.19*	-0.21	0.46*	0.47*	0.23*	
	(0.03)	(0.22)	(0.03)	(0.13)	(0.10)	(0.12)	(0.09)	(0.18)	(0.11)	
Fsize 4 (≥500)	0.30*	0.29	0.30*	0.28*	0.15*	0.31*	0.32*	0.41*	0.28*	
	(0.02)	(0.59)	(0.03)	(0.14)	(0.08)	(0.10)	(0.07)	(0.16)	(0.13)	
Relative premium		-0.60*		-0.16*	-0.03	0.06	0.28*	0.00	-0.24*	0.22*
		(0.04)		(0.03)	(0.02)	(0.04)	(0.04)	(0.04)	(0.03)	(0.02)
Adjusted R-squared	0.38	0.31	0.34	0.23	0.26	0.39	0.50	0.37	0.28	0.23
Nobs.	6222	180	1851	351	670	190	225	179	300	2276

Source: Bank of Italy's Household Survey, 1995, and authors' calculations.
Notes: The firm size dummy variables are based on the total number of registered employees (indicated in parentheses) in the establishment. The relative premium is the estimated average sectoral earnings premium relative to the manufacturing sector, expressed as a percentage of average earnings in manufacturing. These premia were computed from the coefficients on the industry dummies in the regression with all observations (column 1). The additional controls included in the regressions are Experience and its square, and the following dummy variables: MARRIED, URBAN, INVALID, and SICK (persons with chronic diseases). An asterisk indicates statistical significance at the 5 percent level.

degree of wage differentiation.[20] It is useful, in this context, to examine regional and other aspects of differentials *within* each sector. Hence, the earnings regressions were also run separately for workers in each sector. The only difference relative to the regression for the full sample is that the sectoral dummies were excluded. The sector-specific wage regressions are reported in columns 2–10 of Table 3.

The North-South earnings differentials are greater in industries such as construction and, particularly, in industries that typically have lower union densities—including agriculture, real estate, and household and personal services. Not surprisingly, the regional differentials are among the smallest in public administration. The existence of a statistically and economically significant earnings premium for workers in larger firms is a robust finding across virtually all sectors of the private economy.

A different perspective on the wage structure is provided by using hourly, rather than weekly, earnings. It is possible that employment contracts stipulate specific weekly earnings but, as part of an implicit bargain between firms and employees, both regular and overtime hours could bear the brunt of adjustment in response to changes in demand conditions. Table 4 reports results from wage regressions similar to those reported in Table 3 but using hourly earnings as the dependent variable.

The regression with all observations (column 1) shows that differentials in hourly wages between the North and the South are about 12 percent, much lower than the estimated weekly earnings differential of 18 percent. Thus, measures of weekly earnings appear to overstate the extent of interregional wage differentiation. The estimated premium for workers with a high school degree remains about 19 percent but the hourly earnings premium for workers with a college degree compared to workers with only a high school degree increases to 28 percent (0.46-0.18), much larger than the weekly earnings premium. The male-female earnings differential, on the other hand, drops to 9 percent using this measure of hourly earnings. The estimated effect of firm size on earnings remains essentially unchanged.

The estimated sectoral differentials for hourly wages, shown in the bottom row of Table 4, are in many cases quite different from the differentials in weekly earnings. For instance, the average hourly earnings differential between agriculture and manufacturing is close to zero, compared to the 60 percent differential in weekly earnings. This discrepancy, of course, reflects the substantially lower average weekly hours worked in agriculture compared to manufacturing. Another notable feature of these results is the substantially lower dispersion of hourly earnings across sectors, compared to the dispersion of weekly earnings.

The results of sectoral wage regressions using the hourly earnings measures are reported in columns 2–9 of Table 4. Consistent with the aggregate results, these results show

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[20]Bertola and Ichino (1995) and Erickson and Ichino (1995) examine wage inequality and changes in the Italian wage structure over time.

Table 4. Wage Regressions
(Dependent variable: log net hourly earnings)

	All	Agriculture	Manufacturing	Construction	Trade	Transport	Finance	Real Estate	Personal Services	Government
Center	-0.06*	-0.07	-0.05*	-0.10	-0.07	0.07	-0.10*	-0.19*	-0.13	-0.03
	(0.01)	(0.16)	(0.02)	(0.06)	(0.04)	(0.07)	(0.05)	(0.09)	(0.07)	(0.02)
South	-0.12*	-0.31*	-0.15*	-0.14*	-0.33*	-0.01	-0.07	-0.37*	-0.27*	-0.01
	(0.01)	(0.12)	(0.02)	(0.05)	(0.03)	(0.06)	(0.05)	(0.09)	(0.06)	(0.02)
High school	0.18*	0.28*	0.17*	0.11*	0.07*	0.31*	0.19*	0.01	0.06	0.22*
	(0.01)	(0.12)	(0.01)	(0.05)	(0.03)	(0.06)	(0.06)	(0.10)	(0.06)	(0.02)
College	0.46*	-0.10	0.40*	0.65*	0.39*	0.34*	0.43*	0.09	0.38	0.51*
	(0.02)	(0.46)	(0.04)	(0.17)	(0.09)	(0.12)	(0.07)	(0.14)	(0.21)	(0.02)
Male	0.09*	0.12	0.12*	-0.12	0.07*	0.21*	0.14*	0.14	0.09	0.06*
	(0.01)	(0.09)	(0.02)	(0.09)	(0.03)	(0.08)	(0.05)	(0.08)	(0.06)	(0.01)
Fsize2 (20-99)	0.11*	-0.07	0.10*	0.02	0.16*	0.04	0.20*	0.26*	0.17*	
	(0.02)	(0.13)	(0.02)	(0.05)	(0.04)	(0.09)	(0.08)	(0.10)	(0.07)	
Fsize3 (100-499)	0.19*	0.19	0.17*	0.07	0.26*	0.12	0.34*	0.31	0.24*	
	(0.02)	(0.17)	(0.02)	(0.08)	(0.06)	(0.09)	(0.07)	(0.16)	(0.09)	
Fsize4 (≥500)	0.27*	0.41	0.27*	0.12	0.29*	0.27*	0.22*	0.32*	0.33*	
	(0.02)	(0.46)	(0.02)	(0.09)	(0.05)	(0.07)	(0.05)	(0.14)	(0.11)	
Relative premium		-0.05		0.01	-0.01	0.09*	0.22*	-0.01	-0.05*	0.31*
		(0.03)		(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Adjusted R-squared	0.44	0.08	0.41	0.22	0.35	0.32	0.57	0.39	0.17	0.30
Nobs.	6201	180	1849	351	667	189	224	178	297	2266

Source: Bank of Italy's Household Survey, 1995, and authors' calculations.

Notes: The firm size dummy variables are based on the total number of registered employees (indicated in parentheses) in the establishment. The relative premium is the estimated average sectoral hourly earnings premium relative to the manufacturing sector, expressed as a percentage of average hourly earnings in manufacturing. These premia were computed from the coefficients on the industry dummies in the regression with all observations (column 1). The additional controls included in the regressions are Experience and its square, and the following dummy variables: MARRIED, URBAN, INVALID, and SICK (persons with chronic diseases). An asterisk indicates statistical significance at the 5 percent level.

that, in most industries, the North-South differentials in hourly earnings are lower than the differentials in weekly earnings that do not adjust for hours worked. For some industries such as transport and communications, financial services, and public administration, there are essentially no significant differences in wages between the North and the South.

In summary, using measures of weekly earnings, there appear to be some indications of statistically and economically significant earnings differentials among geographical regions and across broad sectors of the economy. However, after adjusting for weekly hours worked, it appears that actual differentials in hourly earnings remain quite narrow.

B. Employment, Unemployment, and Nonemployment

Data from the household survey can also be used to examine labor market activities—including the employment or unemployment status—of individuals in the sample. In addition, these data provide interesting insights on the labor market status of potential labor force participants, defined as including all persons between the ages of 14 and 64.

Labor force participation rates derived from this micro data set are broadly consistent with the picture obtained from other data sources, with the total labor force participation rate at under 60 percent, lower participation rates in the South than in the North, and much lower participation rates among women than among men.

Labor Force Participation Rates[21]
(In percent)

	Italy	North	Center	South
All	58.2	60.8	58.5	55.3
Males	72.5	71.8	72.3	73.4
Females	44.2	49.9	45.4	37.4

One of the questions included in the survey is about the reasons for nonparticipation in the labor force. Although the information obtained from this question is limited, it is nevertheless quite revealing. As the tabulation below shows, a substantial fraction of persons between the ages of 14 and 64 who did not consider themselves to be active labor force participants identified themselves as housewives, indicative of the weak attachment of married women to the labor force. There are marked regional disparities in these data. Married women in the South appear to have much weaker labor force attachment than those in the North.

[21]The numbers reported in this and subsequent tabulations in this section are derived from the authors' calculations based on data from the Bank of Italy's household survey for 1995.

Persons with pensions from work constitute about 30 percent of persons not in the labor force in the North but only 12 percent in the South.

Reasons for Lack of Labor Force Attachment
(In percent)

	Italy	North	Center	South
Housewives	36.9	30.4	35.2	43.8
Pensioner from work	20.5	29.7	21.4	11.5
Other pensions	7.3	6.0	8.2	8.0
Other (including students)	35.3	33.8	35.3	36.6
	100.0	100.0	100.0	100.0

Next, we examine the principal activities of labor force participants. The tabulation below classifies labor force participants into those who have dependent employment, the self-employed, those looking for their first job, and persons who have held jobs in the past but are currently unemployed (in the month of the survey). Overall, about 7 percent of labor force participants considered themselves unemployed while an additional 10 percent were unemployed and in search of their first job. These figures together indicate an aggregate unemployment rate higher than the official unemployment rate (based on the Labor Force Survey) largely because the latter measure uses a more stringent definition of labor force participation based on job search activity.

Labor Force Participants: Current Activity
(In percent)

	Italy	North	Center	South
Dependent employment	62.1	70.7	62.7	51.9
Self-employed	20.6	21.6	23.5	17.9
Looking for first job	10.3	3.7	7.8	19.5
Unemployed	7.0	4.1	6.1	10.7
	100.0	100.0	100.0	100.0

A striking feature of this tabulation is, again, the large discrepancy among regions. In the North, only a total of about 8 percent of labor force participants were looking for their first job or were unemployed in 1995. In the Center, this proportion was about 14 percent and, in the South, it reached 30 percent, of which almost two-thirds were first-time job seekers. The high percentage of labor force participants in the South in search of their first job

hints at the inadequacy of mechanisms for school-to-work transitions. In the North, on the other hand, the fraction of labor force participants looking for their first job was less than 4 percent, indicating the relative tightness of the labor market in that region. The regional disparity of unemployment rates depicted by the numbers in this table also points to inefficiencies in the mechanisms for matching potential workers with available jobs. In particular, public employment agencies have hitherto enjoyed a monopoly in providing employment intermediation. These agencies did not provide job listings or other mechanisms for matching workers and jobs even across provinces, thereby failing to facilitate the geographical mobility of labor.

Mechanisms for absorbing new entrants into the labor force are an important determinant of the efficient functioning of the labor market. The above tabulation indicated that, in this regard, the Italian labor market appears to be inefficient. An examination of unemployment rates among younger workers, between the ages of 14 and 25, confirms this and reveals a sizeable youth unemployment rate of about 20 percent in the North and over 60 percent in the South (see tabulation below). Even young workers with higher levels of education appear to face high unemployment rates in all regions.[22] This points to a crucial problem with the functioning of the labor market in Italy—the absence of mechanisms for facilitating the school-to-work transition for younger workers. A related hypothesis is that the educational system has not adapted to provide the right set of skills demanded in the labor market, where skill-biased technological change has increased the demand for specialized skills consistent with rapidly improving technology.

Youth Unemployment Rates
(In percent)

	Italy	North	Center	South
All				
Looking for first job	39.7	15.9	34.0	62.0
Other unemployed	7.5	4.9	7.6	9.6
<High school				
Looking for first job	38.4	14.2	29.0	56.2
Other unemployed	10.3	6.8	8.6	12.9
≥High school degree				
Looking for first job	41.2	17.3	38.0	71.6
Other unemployed	4.4	3.3	6.8	4.3

[22]This result should be viewed with some caution since the number of young college-educated labor force participants in the sample is quite small.

Another important aspect of unemployment that has been stressed in various contexts is the increasing share of long-term unemployment in total unemployment. This has implications for the persistence of unemployment as well as for social welfare in a broader sense. The long-term unemployed face an attrition of their skills, making them less attractive to prospective employers. Further, the attachment of the long-term unemployed to the labor force tends to weaken over time.

The tabulation below shows the distribution of unemployment among labor force participants who have experienced only short spells of unemployment (less than six months) and those who have experienced at least one long spell of unemployment (six months or more). Clearly, the contribution of the long-term unemployed to total unemployment is substantial, especially in the South, and indicates the possibility of substantial hysteresis in the unemployment rate.

Long-Term Unemployment Among Unemployed
(In percent)

Length of Unemployment Spell	Italy	North	Center	South
<Six months	17.7	23.2	21.4	13.9
≥Six months	82.3	76.8	78.6	86.1
	100.0	100.0	100.0	100.0

C. Determinants of Employment and Labor Force Participation Propensities

To buttress the descriptive results discussed above, we now present a more formal empirical analysis of the determinants of employment probabilities and labor force participation propensities. After narrowing the sample to individuals between the ages of 14 and 64 who identified themselves as labor force participants, we estimated employment probit models in which the employment dummy was regressed on a number of control variables. The results are reported in Table 5 (first panel). The first column contains the results for the full sample and the next three columns provide results broken down by region (and, therefore, excluding the regional dummies).

For the full sample, relative to employment probabilities in the North, estimated employment probabilities are lower in the Center and markedly lower in the South. An interesting result is that higher education (a college degree) improves employment probabilities in the South but not in the North. This may simply reflect the relative tightness of the labor market in the North, where there appears to be strong demand for workers of all

Table 5. Determinants of Labor Force Status
(Probit estimates)

Dependent Variable:	Employment				Labor Force Participation			
Region:	Italy	North	Center	South	Italy	North	Center	South
Center	-0.38*				-0.03			
	(0.05)				(0.03)			
South	-0.96*				-0.13*			
	(0.04)				(0.03)			
High school	0.19*	0.14*	0.12	0.23*	0.14*	0.16*	0.12*	0.12*
	(0.04)	(0.07)	(0.08)	(0.06)	(0.03)	(0.04)	(0.06)	(0.04)
College degree	0.15*	-0.05	0.08	0.31*	0.68*	0.52*	0.53*	0.96*
	(0.06)	(0.10)	(0.15)	(0.09)	(0.05)	(0.08)	(0.12)	(0.09)
Male	0.21*	0.37*	0.21*	0.13	0.26*	0.12*	0.15*	0.42*
	(0.05)	(0.08)	(0.10)	(0.07)	(0.03)	(0.06)	(0.08)	(0.05)
Married	0.49*	0.35*	0.51*	0.55*	0.66*	0.55*	0.67*	0.78*
	(0.05)	(0.10)	(0.13)	(0.08)	(0.05)	(0.07)	(0.10)	(0.08)
Married* female	0.13	0.20	-0.02	0.21	-1.42*	-1.28*	-1.53*	-1.59*
	(0.07)	(0.13)	(0.16)	(0.11)	(0.05)	(0.08)	(0.11)	(0.08)
Nobs.	9971	4254	2072	3645	16971	6926	3514	6531

Source: Bank of Italy's Household Survey, 1995, and authors' calculations.

Notes: Additional controls included in the regressions are: Experience and its square, and the following dummy variables: URBAN, INVALID, and SICK (persons with chronic diseases). An asterisk indicates statistical significance at the 5 percent level.

skill levels. Employment probabilities are higher for males and for married persons. Employment probabilities for married females are not significantly different from those for unmarried females.[23]

Table 5 (second panel) also reports results of probit regressions that examine the determinants of labor force participation propensities. These propensities are significantly lower in the South than in the North or the Center. Higher levels of education are clearly associated with higher rates of entry into the labor force. Labor force participation propensities are higher for males than for females in the North and even more strongly so in the South. In addition, these propensities are much lower for married females than for single females. These last two results are indicative of problems in integrating women into the workforce. Thus, it appears that the limited availability of part-time and other flexible work arrangements dissuades women, especially married women, from entering the labor force.

These results suggest that college-educated workers have much higher propensities to enter the labor force than those with lower levels of education, but their employment probabilities, although better, are not very different from those of workers with only a high school degree. In combination with the large estimated wage premium for employed workers with a college degree, this suggests that there are mismatches between the types of skills demanded by employers and the skills (on average) acquired through a college education.

V. Policy Implications

A number of labor market reforms were instituted during the early 1990s, with additional measures being taken in the context of the September 1996 tripartite agreement. These reforms, which are summarized in Table 6, indicate a recognition of many of the problems described in this paper. Nevertheless, much remains to be done. Reductions in the constraints on hiring and firing workers, for instance, constitute an area where past reforms need to be strengthened. In addition, drawing on the empirical analysis presented above, this section outlines a few key areas where further change is required. Many of these reforms would result in improvements in the functioning of labor markets through changes in both labor supply and labor demand.

A. Education and School-to-Work Transitions

A fundamental problem that affects the Italian labor market appears to be the low level of human capital, especially in terms of job-related skills, among entrants into the labor

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[23]A further striking result (not shown here) is the substantially lower probability of employment for workers with a history of one or more long spells (six months or longer) of unemployment. This is true in all regions and indicates the employability problems associated with long-term unemployment. The regressions containing this result are not reported here since this variable was available only for a limited subsample.

Table 6. Improving Labor Market Performance

Area	Measures Taken	Results	Recommended Further Action
1. Nontraditional work contracts		Still comparatively low diffusion of nontraditional work contracts	Ease remaining restrictions; seek means to draw more women in labor force
Part-time	Adjustment in social security contributions and pension provisions	Increase in share of total employment, to 7 percent (from 5 percent in 1992)	
Fixed-term	Discontinued automatic transformation into indefinite contracts	Increase in share of salaried employment, to 8.8 percent (from some 7 percent in 1992)	
Temporary work (through agencies)	Introduced for first time in January 1998	Underway	Re-examine extent of remaining "red tape" and exclusion of lesser qualified jobs
2. Wage differentiation	Flexibility sought through area contracts for depressed areas (*patti territoriali*; *contratti d'area*)	Limited number of contracts concluded; insufficient for required degree of differentiation	Seek broader derogation from nationwide applicability of sectoral contractual wage minima
3. Hiring and firing costs and restrictions	Reduced through series of measures in 1990s Possibility for greater public sector job redeployment under *Bassanini Law*	Employer surveys show lesser importance of such restrictions as a hurdle to job creation. Greater responsiveness of employment in last downturn, but still marked hesitancy to hire in upturn	Address significant uncertainty (and length) of judicial process for individual dismissals; further reduce employment protection (notably in banking and public sector); implement redeployment in public sector
4. Job placement	Public employment agency monopoly to end, but 12-18 month transition period before private agencies allowed	Family/personal network remains prevalent way to find jobs; public employment agencies largely ineffective	Accelerate transition period to end of public monopoly; strengthen nationwide matching and job-search assistance, especially for young
5. Unemployment insurance and related benefits	Introduced new "mobility" benefits for workers affected by collective dismissals	Replacement ratio and duration of ordinary unemployment benefit remains low; but "mobility" benefits quite generous, although limited to subset of workers; for others, ad hoc recourse to early retirement schemes and improper use of "disability" pensions	Re-examine income support for the unemployed in light of *Onofri Commission* report; unify various programs; link benefits to active job search and shorten their duration
6. Education and school-to-work transition	Increase in compulsory schooling; wide use of apprenticeships (*contratti formazione-lavoro*)	Entrants' level of human capital still low; limited pool of high-skill workers; large proportion of first-job seekers; apprenticeship contracts used essentially to allow lower entry wage, with limited actual training content	Increase focus on improving basic schooling; re-orient educational system toward useful job skills; strengthen training content of apprenticeship contracts; provide more job search assistance for younger workers
7. Tax and contribution rates	1997 tax changes	Some reduction of marginal tax on labor as from January 1998 through introduction of IRAP.	Reduce still high tax wedge further; partly balance cuts in taxes on labor with increases in indirect taxation

Note: We are grateful to Alessandro Leipold for providing this table.

market. The large earnings premium for skilled workers, especially in the higher-wage and dynamic sectors of the economy, suggests that, as in other industrial economies, skill-biased technological change has increased the demand for skilled relative to unskilled labor. Having only a limited pool of high-skill workers could affect the long-term growth prospects of the economy by limiting the ability of industries to adopt and implement technological advances. Further, in a dynamic economy undergoing significant structural shifts, workers with high levels of human capital would be better positioned to adjust to such shifts.

Numerous studies using micro data from the United States have indicated that the returns to improvements in basic schooling are much higher than the returns to retraining older workers, both in terms of employment probabilities and lifetime earnings.[24] This might be less true in Italy, where there is a high unemployment rate even among prime-age labor force participants. Nevertheless, an increased focus on basic schooling is an important priority, especially from the perspective of longer-term growth.

The high rate of youth unemployment and the relatively large fraction of young labor market participants looking for their first jobs also indicates some basic problems with the prevailing job-matching mechanisms (examined further below). More fundamentally, however, these may also indicate a mismatch between the skills emphasized by the educational system and the skills desired by prospective employers. This suggests the need for reexamining the focus of the educational system and, from a shorter-term standpoint, providing more job search assistance for younger workers.

B. Flexible Work Arrangements

A salient aspect of the Italian labor market is the prevalence of low participation and employment rates for women. In many other industrialized countries, with the Netherlands and the United States being notable examples, increasing participation and employment rates for women at all skill levels over the last two decades have been a major contributor to increases in labor supply that have boosted overall employment growth despite subdued real wage growth.

As the evidence from household data indicated, married females have particularly low labor supply propensities in Italy. This suggests that easing of restrictions on and the active encouragement of temporary, part-time, and other flexible work arrangements could draw more women into the labor force.

Recent legislative measures have extended the use of fixed-term contracts (which had previously been allowed only for seasonal and certain other special categories of work) and permitted the introduction of agency-intermediated temporary employment. Although the use of such contracts remains limited to date, these are steps in the right direction for increasing

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[24]See Heckman, Roselius, and Smith (1994) and Heckman, Lochner, Smith, and Taber (1997).

labor market flexibility.[25] These measures do not, however, obviate the need for more fundamental reforms that would tackle the onerous restrictions that remain on hiring and firing of workers more generally. The prolonged judicial process involved in individual dismissals that are subsequently contested by workers, and the attendant uncertainties from the perspective of firms, has a deleterious effect on hiring decisions, and is also in need of reform.

C. Regional Disparities

The regional segmentation of labor markets documented in this paper remains a major source of inefficiency. The relatively poor infrastructure in the South and other structural problems in these regions have discouraged investment. Elimination of structural impediments—including inefficient public administration, inadequate infrastructure, and constraints on administering the rule of law—would be necessary for sustained improvements in attractiveness for new investment.[26]

Another central concern is the lack of wage differentiation between the North and the South. As documented by numerous authors, productivity levels in the South are much lower than in the North while, as shown in this paper, the wage differentials across these regions are relatively narrow.[27] To offset this discrepancy between productivity and wages, which imply significantly higher unit labor costs in the South, the government has resorted to measures such as reductions in the social security contributions by employers in the South. These measures, however, have a fiscal dimension that is ultimately reflected in other distortionary revenue measures that affect aggregate employment levels. In any case, these measures are to be phased out under EU rules.

Recent initiatives to tackle regional disparities include special contracts for depressed areas, such as the *patti territoriali* and *contratti d'area*. These schemes are intended to involve collaborative efforts by all social partners at the local level in promoting investment

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[25]A recent report of the *Associazione per lo Sviluppo dell'Industria nel Mezzogiorno* (*SVIMEZ*) notes that, in 1997, part-time work accounted for about 6.4 percent of total employment in Italy (5.5 percent in the South), compared to about 15 percent in Germany and 24 percent in the United Kingdom.

[26]Castronuovo (1992) cites evidence that the profitability of investment (measured as the marginal ratio of capital to product) is lower in the South compared to the North.

[27]For instance, Castronuovo (1992) estimates that, in the manufacturing sector, there was a gap of about 20 percent in labor productivity between the North and the South in 1989. Viviani and Vulpes (1995) estimate similar large interregional differentials in total factor productivity. Taylor and Bradley (1997) conclude that differentials in unit labor costs across Italian regions are statistically and economically significant determinants of both the levels and persistence of regional disparities in unemployment rates.

and increasing employment creation. For instance, under these initiatives, unions have permitted temporary derogations from national wage agreements and have agreed to a greater flexibility of working arrangements. These contracts, although limited in number thus far, appear to have had some success in increasing economic activity in depressed areas. However, the fact that such derogations from national wage agreements are intended to be only temporary, may have limited the impact on investment decisions, which typically involve a longer planning horizon.

A more forceful measure would be to restructure wage bargaining arrangements in order to allow for regional wage differentiation in line with productivity differentials in a more durable manner. This would enhance the incentives for interregional labor mobility and would simultaneously reduce regional imbalances in the demand for labor by inducing investment flows into high-unemployment areas.

D. Labor Mobility

More generally, intersectoral and interregional labor mobility remain quite low in Italy, reducing the ability of the economy to respond to region- and industry-specific shocks without persistent effects on employment and unemployment.[28] A key deterrent to labor mobility is the lack of wage differentiation across sectors and, as noted above, across regions. Allowing for wage contracts that more accurately reflect productivity differentials would enable a more efficient allocation of labor.

Another constraint on labor mobility appears to arise from the ineffectiveness of formal job-matching through public employment agencies, which have enjoyed a long-standing monopoly. These agencies apparently provide little assistance in job matching across regions. Further, they have been oriented more toward collecting employment statistics rather than assisting in employment intermediation.[29] Allowing for an expanded role for private sector employment agencies, and fostering a greater role for both private and public sector agencies in providing cross-regional job listings, would be important steps in improving job matching.

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[28]Attanasio and Padoa-Schioppa (1991) and Faini, Galli, Gennari, and Rossi (1997) document the low and declining levels of inter-regional migration, although these two sets of authors reach different conclusions about the role of income support mechanisms and other institutional factors in influencing such migration.

[29]The *SVIMEZ* report for 1997 indicates that only about 7.5 percent of new job placements in Italy were arranged by (public) employment agencies. This proportion is substantially lower than in most other European countries, many of which permit the operation of private employment agencies. These include England (about 33 percent), Germany (37 percent), and the Netherlands (63 percent). Faini, Galli, Gennari, and Rossi (1997) cite evidence that informal networks (i.e., family and friends) play a far more important role in job matching in Italy, especially in the South, than in other countries.

Legislation to permit the operation of private employment agencies, as mandated by an EU Court of Justice ruling in December 1997, has been prepared by the government but remains to be enacted into law. A point of contention has been the span of time that should be given to public employment agencies to "adjust" to increased competition. Rapid enactment of this legislation and allowing for unfettered competition in providing employment intermediation would help increase the efficiency of job matching.

E. Other Aspects of Labor Market Policy

A number of other measures, such as reductions in the regulations governing hiring and firing of employees by firms, are equally important. The 1996 tripartite agreement indicates a clear recognition of these issues by the key social partners, although much remains to be done in terms of the promulgation and effective implementation of measures to address these issues. Certain other measures such as mandated reductions in the work week have, unfortunately, gained currency in recent public discussions. These measures are of dubious value in reducing unemployment and are unlikely to have a significant impact in addressing labor market inefficiencies. Further, reductions in weekly working hours by fiat, rather than as the outcome of a negotiation process between workers and employers, could lead to sub-optimal outcomes in wage and employment bargaining. Related measures such as employment subsidies would need to be carefully targeted to be effective and, even if so, are unlikely to have significant or long-lasting effects on employment creation.

F. A Broad-Based Approach

An important consideration in addressing labor market problems is that a tentative and limited approach to labor market reforms is unlikely to yield significant results. In fact, the lack of credibility of such policies could, as suggested by Bertola and Ichino (1996), have adverse short-run effects on unemployment. Given the need to generate credibility for these reforms, and taking into account potential policy complementarities among various policy measures, it is essential to adopt fundamental and broad-based rather than piece-meal reforms.

Other aspects of macroeconomic policies also have a role to play in improving labor market performance. For instance, the large overall tax burden on labor incomes and the tax wedge between production and consumption wages are likely to have significant negative effects on labor supply and labor demand, respectively. Hence, the broader issue of reducing government expenditures and the associated tax burden that is used to finance these expenditures has implications for labor market outcomes as well. Further, reducing regulations and constraints on competition in product markets often tend to have positive spillover effects

on labor market outcomes.[30] Recognizing and exploiting these policy complementarities could be crucial for improving the functioning of the labor market and, more generally, for the longer-term growth prospects of the Italian economy.

[30]To cite one example, it has been suggested by some observers that restrictions on shop opening hours may have hitherto limited the diffusion of part-time contracts in Italy. Recent measures to relax such restrictions in the retail sector could, therefore, have spillover effects on the demand for part-time labor and could encourage more women to enter the labor force.

Table A1. Summary Statistics for Data Samples
(Sample means)

	Wage Regressions	Employment Equations	Labor Force Participation Equations
North	0.48	0.43	0.41
Center	0.21	0.21	0.21
South	0.31	0.37	0.38
<High school degree	0.46	0.50	0.59
High school degree	0.42	0.39	0.34
College degree	0.12	0.11	0.07
Male	0.61	0.62	0.50
Married	0.66	0.61	0.59
Married female	n.a.	0.21	0.31
Urban	0.94	0.93	0.93
Experience	24.64	23.81	24.19
Invalid	0.02	0.03	0.03
Sick	0.11	0.11	0.14
Employed	n.a.	0.83	n.a.
Nobs:	6222	9971	16971

Source: Bank of Italy's Household Survey, 1995, and authors' calculations.

Notes: All variables shown above, except experience, are dummy variables. This implies, for instance, that 48 percent of the observations used in the wage regressions are for workers who live in the northern regions.

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