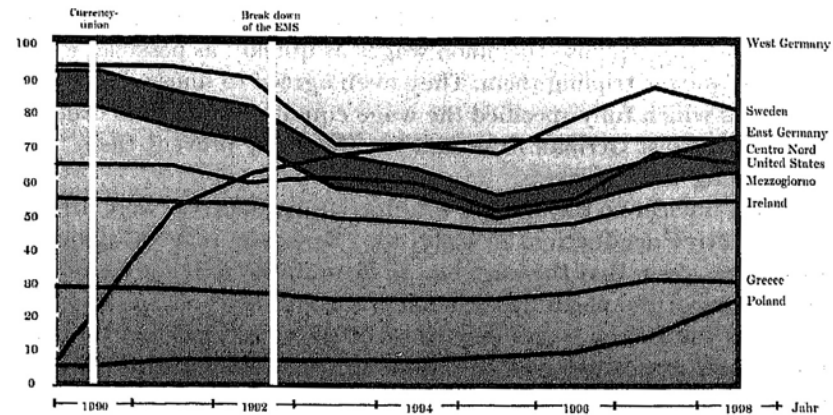


manufacturing sector whose wages are more moderate than those of others because the competitive pressure is higher. In the government sector and elsewhere actual wages have reached about 85% of those in the west.

FIGURE 6. — *Hourly wage cost in manufacturing relative to west German cost (At current exchange rates)*



Sources: OECD, *Main Economic Indicators* (various issues); Statistisches Bundesamt, *Fachserie 16, Reihe 5*, (various issues, Tabelle 1.1: Index der durchschnittlichen Bruttostundenverdienste der Arbeiter im Verarbeitenden Gewerbe); *Economics of Transition* Vol. 4 (2), 1996, table 6, S. 548 (Wages and salaries for Poland 1990-95); Deutsche Bundesbank, *Monatsbericht*, (various issues); Statistisches Bundesamt, *Statistisches Jahrbuch*.

That the east German wage policy was beyond all economic reason, can best be seen by comparing the east German wages with those of other countries. The figure shows that the east German wages surpassed the Irish wages as early as 1991 although the east German economy had nearly completely collapsed in a depression that was much more severe than the great depression at the end of the twenties. In 1992 when the German depression still was pronounced the east German wage curve cut the US wage curve, and in 1992/1993 it even cut the south and north Italian wage curves. The Swedish wage curve was hit in 1995, but due to a recovery of the Swedish crown east German wages have remained below the Swedish ones since then.

The Italian wages were, on average, at about 80% of the West German wages in the beginning of the nineties when a thousand lira cost about 1,40 deutschmarks, but with the collapse of the EMS in

1992 the value of the lira began to sink down to a minimum of about 0,82 deutschmarks in 1995. Also the Scala mobile was abolished in that year which allowed real wages to fall. Both effects reduced the wages to about 50% of the German wages and boosted the competitiveness of the Italian economy. Since then the south and north Italian wages have come up again and are now at 62% and 72%, respectively, of the west German ones.

Through the period considered the wage gap between northern and southern Italy has remained at about 15% of the northern level. As in Germany, this gap is probably due to the fact that north Italian wages exceed the nation-wide union wages on average, while south Italian wages are rather close to the union wages.

It is remarkable, though, that the wage gap between east and west Germany is about twice as large as the gap between the two Italian regions considered. In west Germany there is a gap between union and actual wages of about 15%. With a zero gap in the east, this in itself would have resulted in a wage convergence to 85% of the western level, just as in Italy. The reason why the gap is much larger than this lies in the fact that east German firms found a way to avoid the union wages altogether. Most of the new firms founded in east Germany after 1991 decided not to join the employers unions in order not to be covered by the initial wage agreements, and many other firms have simply violated the wage contracts with the tacit agreement of the unions. Many firms went bankrupt and were founded again as new legal entities in order to circumvent the binding power of the collective wage contracts. The result is that currently about 85% of east German firms and more than 55% of east German employees have wage contracts below the union wages. The economy has found a way to partly heal the initial mistakes. Nevertheless, the initial wage agreements and the supportive public statements by politicians have been able to catapult the east German wages to where they are now and if only for psychological reasons it will be hardly possible to return to more moderate wages in the near future.

As was shown in Figure 1, the two Mezzogiornos both have an aggregate productivity which is less than 60% of the respective productivity in the more advanced parts of the two countries. Thus, it seems, the wages should also stand at the 60%. However they do not. The east German wages are more than 70% of the west German ones and the south Italian wages are 85% of the north Italian ones. This is the problem.

That the wages are too high becomes particularly obvious when the Irish situation is considered. Thirty years ago, when Ireland joined the EU, Ireland had a GDP per capita which was only a quarter of that of Germany. Today it has reached about 90 percent of the German GDP. Ireland is the fastest growing region in the EU with real growth rates of about 8% per year. The Irish GDP per capita of the population in working age is currently 80% more than the respective figure in southern Italy and 46% more than the east German value, but the Irish wage cost per hour is only 85% of the respective south Italian figure and only 76% of the east German one. It is clear why Ireland is a much better location for mobile capital than southern Italy or east Germany and why its general economic performance is so much better.

4. *Dutch disease in Italy and Germany.*

Despite the possibility of explaining the combination of low productivity, high wages and a lack of convergence as a long-run equilibrium phenomenon, it is not clear that the situation will always be like that. After all, as already mentioned, Italy has allowed regional wage differentiation in 1999, and in east Germany an increasing number of firms simply quit the employers' associations. This new development will bring more dynamism to the labour markets whose consequences will have to be guarded.

Unfortunately, however, there is at least one important reason why optimistic expectations do not seem to be justified at this stage. This is the existence of the welfare state which, as was explained above, is channelling vast amounts of resources into the two retarding regions. The welfare transfers are partly motivated by the wish to compensate for the regional disadvantages, partly they are the seemingly self-evident implication of nation-wide social security systems. But whatever their causes, they effectively change the incentive structure in the economy and draw human resources away from productive activities towards others for which the government is willing to pay. This may involve rent seeking with public projects and criminal activities, but the most important element undoubtedly is the direct repercussion on the labour market. In Germany, early retirement schemes, unemployment benefits, retraining programmes and, in particular, social welfare, have to be mentioned, which all have effectively increased the reservation wage and pulled parts of the labour force

away from the regular labour market. In Italy the situation is very similar, but the emphasis is on different aspects of the welfare system.

In Italy the pension system has a particularly strong diverting effect on the labour market, because the rules under which early retirement is possible are very generous. While in Germany two thirds of the population between 55 and 64 years of age are still working, in Italy, this share is only 43%. On the other hand, unemployment benefits are paid in Italy only for a relatively short time period of up to 6 months. In Germany, the maximum number of months is 32, which is two and a half years.

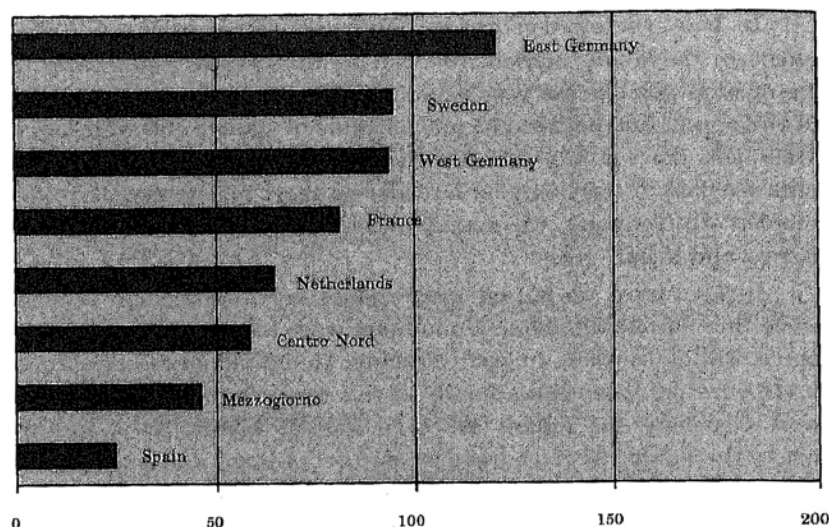
In Germany, social aid programmes are a particular problem since they implicitly define a minimum wage income below which no one is willing to work. In east Germany, an individual receives about 9,416 euro per year, and a family of five receives 16,022 euro, and in west Germany the figures are even slightly higher. In a country where the annual average wage income net of taxes and social security contributions is about 16,000 euro these figures are definitely too high. It is impossible to run a market economy when the minimum income guaranteed through the welfare system is equal to the average net-of-tax wage income.

To gain a more systematic overview of the problem, *Figure 7* offers an international comparison which contrasts the social aid level for a family of five with the respective country's or region's average net wage income. The figure confirms the impression that the problem is particularly severe in east Germany, where social aid is at a record level. In Italy, by contrast, the share of wages in social aid is rather small by international standards.

With regard to the private industry the disincentives created by the public transfers to southern Italy and east Germany are very similar to the Dutch disease phenomenon which was intensely discussed by economists in the early eighties (12). If a country detects a large quantity of natural resources, which it can sell on the world market, the domestic currency tends to appreciate, and with rising wages some of the labour force is relocated to the resource sector. The international competitiveness of the manufacturing sector falls, and resource exports crowd out commodity exports produced by that sector.

(12) See BRUNO and SACHS (1982) and VAN WIJNBERGEN (1984 a and b).

FIGURE 7. — *Share of social aid in net wage income in various countries (Social assistance received by a family of five per month as of 1 January 1998, in euro.)*



Sources: OECD, Economic Outlook 1999; Bundesministerium für Arbeit und Sozialordnung; Ifo Institute and CESifo Data Base for Institutional Comparisons in Europe (DICE).

Note: The tax burden of a family of five was computed as the income tax plus employee social security contributions less cash benefits and was deducted from gross wages to obtain the net wage income. The gross income is that of an average worker in manufacturing.

It is true that none of the two Mezzogiornos enjoy an abundance of natural resources, and they do not have a separate currency either. The effects observed in the Dutch disease case nevertheless reappear. For one thing, it does not matter whether a region receives a gift of nature or a gift from another region. The inflow of financial funds has similar consequences. For another, the terms of trade effect does not need a formal currency appreciation. It may also be brought about by internal price adjustments.

In the case of the two Mezzogiornos the various types of idleness — from retirement via sickness and unemployment to laziness — which are financed with the social transfers are similar to the occupation in the resource sector, and the appreciation shows up in the increase of the wage rate and the prices of land and non-traded commodities resulting therefrom. These effects may perpetuate the prob-

lems discussed in the previous section despite the new flexibility of wages resulting from most recent developments.

As was mentioned, in Holland the resource sales crowded out some of the export-intensive manufacturing industry. Table 4 shows that this aspect too, has its analogy in the two Mezzogiornos. The table compares the sectoral composition of employment in the four regions considered and reports the differences in the respective percentage points of employment shares. It shows that, relative to the north, southern Italy lacks 7 percentage points of manufacturing employment and, relative to the west, east Germany lacks about 10 percentage points. The latter is particularly alarming if it is considered that, during the existence of the GDR, the east German manufacturing share exceeded the west German one by 4.4 percentage points, being one of the highest in the world (18).

TABLE 4. — *The sectoral composition of the privately employed labour forces in the Italian and German regions*

	Centro Nord	Mezzogiorno	Italian difference	West Germany	East Germany	German difference
Agriculture	0.08	0.10	0.07	0.04	0.08	-0.01
Manufacturing	0.24	0.17	-0.07	0.25	0.15	-0.10
Construction	0.04	0.06	0.02	0.07	0.15	0.08
Services	0.55	0.54	-0.01	0.56	0.55	-0.01
Government	0.13	0.22	0.09	0.08	0.11	0.03

Sources: SVIMEZ and Statistisches Bundesamt, Mikrozensus 1999.

This completes the analysis of the causes of the Mezzogiorno problem. It is debatable whether the term «disease» was really appropriate for the Dutch restructuring process, because this process manifested a useful reaction to the new resource situation. However, in the case of southern Italy and east Germany, the term clearly is appropriate for describing what is going on. The artificial wage equalisation and voluminous transfers for non-market activities is a dangerous blend of interventions in the market economy that will prolong the sickness of the Italian and German Mezzogiornos.

5. The cures.

If there is a disease, a cure is needed. One obvious cure is, as explained, decentralised wage bargaining, and it seems that the first

(18) See SINN and SINN (1992, p. 41).

steps towards such a system have already been taken in the two countries. It is not enough, however, that the negotiations are shifted from the centre to the provinces. Germany has a system which is based on provinces, and yet this system proved unable to correct the initial mistakes in the proxy negotiations. An arguably better system is one where only wage guidelines are negotiated on the province level, and where the single companies would then have the right to agree on lower wages if they wished. Thereby, many marginal firms which are at the brink of bankruptcy could be rescued, and new firms could more easily get started. In east Germany, the association of the metal and electric industries of Thuringia has recently negotiated such a revolutionary new wage contract. This might be a good example for others.

Decentralised bargaining would not help very much, however, unless the social system is reformed. In Germany, and to a lesser extent in Italy, social aid is a major problem for the labour market. Currently the system is designed such that the government pays people for being idle, and, as explained, this fact implies that social aid is too high a lower boundary on wages. The alternative is to pay people for working, as is done with the Earned Income Tax Credit of the United States which recently was also introduced in Finland. In Germany the government takes away one deutschmark of aid if the individual earns one additional deutschmark. In the US, the government instead adds 40 cents to every dollar earned up to a certain income target. Unlike the German system this system does not impose a lower boundary on wages but, to the contrary, induces people to actively seek jobs even if they are badly paid, because they can then claim more money from the government. This reduces the wage for unqualified labour and creates jobs. The jobs are created everywhere, in households and firms even without more capital formation. However, when wages are lower, it can be expected that more capital will flow into the region. The overall labour productivity in the sense of GDP per population in working age increases, and at least some productivity convergence can take place.

While the American system is run on such a low scale that it was unable to avoid the problem of the working poor, Italy and Germany could install more generous systems, fitting their social democratic traditions. This system would not necessarily be more expensive than the current one. In fact, it can easily be shown that the government will save money if the labour demand elasticity is above unity and a

total income for unqualified labour equal to the current level of social aid is aimed at. Conversely, if the government is willing to spend the same amount of money on social aid as today, the degree of target achievement for social policies will increase if all people whose wages fall because of the new system receive social aid.

In Italy such a system is less urgent than in Germany not only because social aid is lower relative to wages, but also because black market activities seem to be more common among the recipients of social aid. Black market work is better than no work. Yet, a system that induces black market activities is certainly inferior to one which relies on official labour contracts, because it is unable to fully exploit the benefits of specialisation and economies of large scale.

This remark also applies to the Italian pension system which is hardly sustainable in a country which has the lowest birth rates in the world. The necessary pension cuts enforced by the changing demographic composition of the population could easily be enacted by increasing the retirement age instead of cutting the pension per year. Policemen do not have to retire at 50 to become black market employees of lawyers thereafter.

Apart from decentralised bargaining and the Earned Income Tax Credit, it would probably make sense in Germany and Italy to target the public transfers to infrastructure investment than to social support, because this would help overcome the locational disadvantages which are the ultimate reason why wage equalisation policies have been so harmful.

In 1989 the Italian Prime Minister Andreotti had argued that he liked Germany so much that he preferred having two Germany rather than one. But this applies to Italy as well. Indeed, had there been two Germany and two Italy, the kinds of problems studied in this paper would not have arisen, because neither the artificial wage equalisation nor the problematic resource transfers would have occurred. However, we hope that the reader will agree with the authors that national unity is a value beyond economics for which it may well be worth sacrificing five percent of GDP. We are sure that the Italians will not demolish Garibaldi's statutes and the Germans will maintain those of Bismarck. After all, there are possibilities of curing the problems as we have shown.

APPENDIX

A statistical analysis of the time series properties of output differences between the Centro Nord and the Mezzogiorno

This appendix discusses the question of whether the Mezzogiorno converges with northern Italy. *Figure 1* clearly illustrates that the per capita incomes of the Centro Nord and Mezzogiorno of Italy are far from having converged to the same levels. This impression is confirmed by Boltho et al. (1997) who show that there has been a catching up process of the Mezzogiorno during the fifties, but not during the subsequent decades. They show in a cross section of Mezzogiorno regions that initial conditions only mattered for the growth performance during the 1950's, thus proving evidence of beta-convergence as defined by Barro (1991). The results by Boltho et al (1997) are confirmed by Boldrin and Canova (2000) for several less developed regions in Europe.

However, what is less obvious is whether the time path of the regional differences is moving towards a dynamic steady state where per capita incomes are different or towards a process of divergence in the long run. We will show that the latter is the case, i.e. the two parts of the country are indeed drifting apart.

We apply the recently developed time series approach of Bernard and Durlauf (1996). According to these authors, two series have reached a dynamic steady state if the long term forecasts made at a given date are equal. The two series have thus converged if

$$\lim_{T \rightarrow \infty} E(y_{cn}(t+T) - y_{mez}(t+T) | \mathcal{I}_t) = 0,$$

where E denotes the expectations operator, y denotes per capita GDP, t , time and denotes the information set a period t . The subscripts *cn* and *mez* indicate the Centro Nord and the Mezzogiorno.

In practice, the test for this definition of convergence amounts to testing whether the cross regional differences in real per capita income are a zero mean stationary stochastic process. This can be done with standard unit root procedures. In order to correct for the small sample bias, inherent in time series studies based on annual data, we employ finite sample critical values suggested by Cheung and Lai (1995).

Previous evidence from time series tests on output convergence is mixed. While Bernard and Durlauf (1995) find only little evidence of output convergence, Cheung and Garcia Pascual (2000) show that

some earlier results of non-convergence are attributable to the low power of the unit root test.

In the following we formally test for the presence of a unit roots or deterministic component in the difference of the real per capita income in the Centro Nord and the Mezzogiorno of Italy. The augmented Dickey and Fuller (ADF) test allowing for both an intercept and a time trend is used. Let X_t be the output difference at time t . The ADF test is based on the regression equation:

$$\Delta X_t = \mu_0 + \mu_1 t + \alpha_1 \Delta X_{t-1} + \dots + \alpha_p \Delta X_{t-p} + \varepsilon_t,$$

where Δ is the first difference operator and ε_t is an error term. The Akaike information criterion (AIC) is used to determine p , the lag parameter. We start with the most general model as given above and subsequently drop insignificant parameters. The results of the regression are reported in *Table 1* for the aggregate production and 1 a to 1 c for three major sub-sectors.

The clear significance of the constant in *Table 1*, μ_0 , reflects the difference in the levels, which are obvious from *Figure 1*. This would be enough to reject the convergence hypothesis according to the definition by Bernard and Durlauf (1996). In a less strict sense, one could still interpret the presence of a constant as evidence in favor of *conditional convergence*. However, we also reject this concept of convergence, because we cannot reject the null hypothesis of a unit root in the series, when looking at the Augmented Dickey Fuller (ADF) test. This implies that changes in the cross country differences of real per capita GDP are permanent shocks and do not die out completely after a certain period of time. Furthermore, the time trend, μ_1 , is significant and positive. Although quite small, this implies that the two regions are in fact significantly diverging over time.

Furthermore, it is of interest to understand which sector in the economy is driving the divergence of the two regions. Is the problem of Southern Italy a *sectoral* problem of the agricultural sector, rather than a *regional* problem, as often claimed? *Tables 1a-c* report the unit root tests for three major sectors of the economies: agriculture, industry and services. Overall, the results indicate that the divergence phenomenon between the two regions is not explained by the agricultural sector, as often argued, but rather by the divergence of output per unit of labor in the industry sector — the only one with a significant constant and a significant time trend in the output differences. *Table 1a* shows that the output differences in the agricultural sector and services sector are not significantly different from zero, nor do they

display a significant time trend. For the industry sector, on the other hand, both the constant and the time trend are significant. The deterioration of the industrial sector is again a common phenomenon in the Two Mezzogiornos.

TABLE 1. — Unit Root test results: output differences per unit of labour in Mezzogiorno vs. Centro-Nord

	Coefficient	Std. error	t-stat.	P-value
μ_0	0.047*	0.021	2.20	0.037
μ_1	0.003*	0.119	2.70	0.018
α	-0.519*	0.225	-2.30	0.030
α_1	-0.428*	0.159	-2.68	0.018
ADF				0.435

Note: The ADF test statistics calculated from the levels of the annual real per capita GDP data are reported. The lag parameter selected by the Akaike information criterion was equal to one. (*) indicates significance at the five percent level (see CHEUNG and LAI, 1995).

TABLE 1a. — Output differences per unit of labour in the agriculture sector

	Coefficient	Std. error	t-stat.	P-value
μ_0	0.048*	0.028	1.53	0.188
μ_1	0.007	0.863	0.85	0.404
α	-0.413	0.241	-1.71	0.100
α_1	-0.524*	0.175	-2.98	0.007
ADF				0.724

Note: See Table 1.

TABLE 1b. — Output differences per unit of labour in the industry sector

	Coefficient	Std. error	t-stat.	P-value
μ	0.010*	0.045	2.24	0.034
μ	0.017*	0.007	2.34	0.027
α	-0.422*	0.162	-2.60	0.015
ADF				0.296

Note: See Table 1.

TABLE 1c. — Output differences per unit of labour in the services sector

	Coefficient	Std. error	t-stat.	P-value
μ_0	0.054	0.036	1.52	0.140
μ_1	0.001	0.001	0.94	0.353
α	-0.136	0.107	-1.26	0.218
ADF		0.872		

Note: See Table 1.

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