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# Wage curve *versus* Phillips curve: a microeconomic estimation for the Spanish case

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## **Abstract**

The aim of this paper is to test for the existence of a wage curve for the Spanish economy between 1994 and 1996. The results confirm the negative relation between the level of nominal wages and the unemployment rate in local labor markets. We also analyse whether there is a relation between the local unemployment rate and wage changes, as the Phillips curve describes, with disaggregated data, introducing the lagged dependent variable into the specification and check the value of its coefficient. The results do not permit us to affirm that there is evidence of a Phillips curve relation.

**Key Words:** Wage curve, Phillips curve, panel data.

**JEL Classification:** J31, J60, J69.

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## Introduction

The wage curve proposes an inverse relation between the level of nominal wages and the unemployment rate in local labor markets, incorporating control variables that measure individual worker characteristics such as age, sex, education, professional category, among others. Workers with the same individual characteristics belonging to labor markets with a higher unemployment rate receive lower wages than those in labor markets with lower unemployment. The wage curve can be interpreted as a method of calculating an index of wage flexibility that measures the sensitivity of wages to an excessive supply in a local labor market.

The theoretical interpretations of the wage curve, within the framework of the New Keynesian theories, in the context of a non-competitive labor market are:<sup>1</sup> the theory of efficiency wages, the bargaining models and the insider-outsider models. According to the theory of efficiency wages firms should offer adequate wages if they want to keep the workforce motivated. Unemployment is, in this case, a disciplinary mechanism: when it is high, the wages can be lower.<sup>2</sup> Employees are frightened of losing their jobs and so put in high effort even if wage is comparatively low. The firms can reduce wage slightly while still maintaining a motivated workforce. Conversely, if the unemployment rate is low, employers will have to pay higher wages, which explains the negative relationship between wage and unemployment rate. This model does not take into account, however, the capacity of the workers to intervene in wage determination. Bargaining models and *insider-outsider* models do contemplate this capacity, which, in turn, is conditioned by the unemployment rate.

In bargaining models, a high level of unemployment can reduce the bargaining power of the trades unions, which offers an explanation of the negative relation shown by the wage curve. If the unemployment rate is low, employees have more power to demand higher wages, as they will have less difficulties in finding a job if they lose the one they had. On the other hand, if something goes wrong, and individual workers need to obtain other jobs, finding jobs is likely to be harder when the local labor market is depressed. These models are less attractive when applied to countries where the power of the trades unions is low or where wage bargaining is carried out at the national level. In *insider-outsider* models, the

<sup>1</sup> See Blanchflower and Oswald (1994, 1995).

<sup>2</sup> A fundamental property of efficiency wages models is that the wages of a given group of workers are related to their unemployment rate. For example, a high unemployment rate of non-skilled workers has no effect on the wages of skilled workers.

existence of high adjustment costs (hiring and firing costs) give greater negotiating power to the *insiders* compared to the *outsiders*.

These theories, that allow us to explain the existence of a wage curve in certain countries, are applicable to the Spanish labor market, characterized by regions with different unemployment rates together with low labor mobility, which prevents workers in areas of high unemployment and low wages from moving to areas with low unemployment and higher wages. Furthermore, Spain has a high level of temporal work contracts and a wage bargaining framework that is, fundamentally, structured at the sectorial level on a provincial scale. Thus, in areas of high unemployment, firms will not have to pay higher wages to avoid workers leaving or shirking, as the efficiency wages models explain. Bargaining models would also explain the inverse relation between wages and local unemployment for the Spanish economy, due to the degree of intermediate centralization in wage bargaining. Lastly, the high level of temporal work contracts in the Spanish labor market explains the wage curve through *insider-outsider* models.

On the other hand, Phillips curve, proposed by Phillips (1958), establishes a negative relationship between changes in nominal wages and unemployment rate. Such curve provided the economic policy with the possibility of a trade-off between inflation and unemployment. However, Friedman (1968) and Phelps (1967) suggested a long-term rigid Phillips curve, which showed a single unemployment rate compatible with a stable inflation, called natural rate of unemployment. In this context, authorities have a narrow margin to apply the economic policy. Besides, Lucas (1972) adds rational expectations to the Phillips curve. According to this theory, the agents' information is perfect and their foresights perfectly anticipated. The economic policy will only be effective if the government is able to surprise the agents, since the aforementioned trade-off will not exist.

The differences between the wage curve and the Phillips curve are: first, the wage curve proposes a negative relation between the level of wages and the local unemployment rate. The Phillips curve negatively relates the aggregate unemployment rate with the increase in wages. Second, the wage curve is traditionally estimated on microeconomic data. The Phillips curve is traditionally estimated on macroeconomic data. Furthermore, the wage curve represents points of equilibrium of wages-unemployment pairs within a non-competitive labor market model, while the Phillips curve is a set of points of disequilibrium that represent the process of adjustment in a competitive labor market model.<sup>3</sup>

<sup>3</sup> Montuenga and Ramos (2005) offer a review of the most relevant contributions on the relation between the wage curve and the Phillips curve from a microeconomic point of view.

In this paper, we have carried out a microeconomic study, using the panel data technique, to test for the existence of a wage curve for the Spanish economy that would confirm the negative relation between the level of nominal wages and of local unemployment between 1994 and 1996. We have chosen this period because in it Spain shows the highest rate of unemployment for the last fifty years.

The Spanish economy had experienced a high period of growth, fostered by the expansion of international economy and the effects of the integration of Spain in the European Union in 1986. An anti-inflationist restrictive monetary policy and expansive fiscal policy derived from the political process and the consolidation of the Welfare State, led to high interest rates and a nominal and real appreciation of the Spanish peseta. This situation, together with the crisis in the European Monetary System in 1992-1993, halted the Spanish economic growth, causing a recession in 1993 and high unemployment rates in following years.

Finally, we also analyse whether there is an original Phillips curve relation; that is, between the local unemployment rate and changes in nominal wages, with disaggregated data. The combined analysis of wage curve and Phillips curve for the Spanish economy is the main contribution of this paper, which is structured as follows. Section 1 contains a review of the literature. Section 2 describes the methodology used to estimate the wage curve and the tests of the Phillips curve. Section 3 shows the results obtained in the estimation. Finally, the most relevant conclusions are presented.

## **1. Review of the literature**

The pioneers in this line of research, Blanchflower and Oswald (1994, 1995), establish the existence of a wage curve in different countries, with an estimated elasticity of wages with respect to local unemployment of around -0.1.<sup>4</sup> After this initial paper, numerous analyses have obtained, for the most part, a wage curve with a similar slope. Iara and Traistaru (2004) and Buettner (1999, 2007) attribute this inverse relation between wages and local unemployment to the low geographical mobility of the labor factor. Buettner (2007), taking account of spatial effects, shows that regional wage flexibility is significantly higher for European Union-accession countries. García and Granados (2005) show the existence of a wage curve for several countries and by economic sectors. On the other hand, for other authors, like Montuenga *et al.* (2003), the elasticity of wages with respect to unemployment

<sup>4</sup> This result is confirmed in Blanchflower and Oswald (2005).

varies from country to country, or its value is lower than standard (Nijkamp and Poot, 2005; Geraint, 2007).

The empirical evidence shows that the wage curve presents different elasticities for different groups of the population. For instance, Card (1995) finds that the elasticity of income with respect to unemployment is higher for the young, the unskilled, non-trade union members and temporary workers. Berg and Contreras (2004) show that women, the non-university educated and public sector workers have a wage curve with a greater slope. Ilkkaracan and Selim (2003) obtain evidence of a wage curve for men but not for women.

While most studies of the wage curve assume that the local labor markets are not connected, Longhi *et al.* (2006) establish that a local shock that increases unemployment would not reduce wages if the firms fear that their employees can go to another nearby labor market. Therefore, although these authors confirm the presence of a wage curve, they point out the importance of spatial effects.

As for research that tests for a wage curve for the Spanish economy, we can cite Canziani (1997), who finds a negative and significant relation between wages and present unemployment, but not with respect to past unemployment. Sanromá and Ramos (1998) show that the least protected groups in the labor market (the young, manual workers and construction workers) present a higher wage elasticity with respect to unemployment. They also point out that the negative effect of unemployment on wages confirms the low mobility of the labor factor between Spanish provinces. Montuenga (2002) presents results that are slightly lower than the standard value of -0.10, attributing this lower wage flexibility to the predominant type of bargaining. García and Montuenga (2003), in the same line as that pointed out above for other countries, find that the slope of the wage curve differs between different groups of the population. Certain workers, among them those with a higher educational level, males and those of greater age, are more protected from external shocks and their wages are less affected by the characteristics of the labor market.

Within this framework of microeconomic analysis that tests for the wage curve, most of the papers referring to other countries have also tested for a Phillips curve: methodologically, we can test for a Phillips curve by incorporating the lagged wage into the standard wage curve as another regressor.<sup>5</sup> In these dynamic models, when the coefficient of the lagged wage variable tends to zero, it shows a wage

<sup>5</sup> Within the field of macroeconomic analysis, a generation of new models of dynamic wage equations, based on the work of Layard *et al.* (1991) and Phelps (1994), among others, has emerged. Some of the empirical studies derived from this proposal, that use the specification of error correction models, suggest how the existence of a relation of the Phillips curve can be evaluated by introducing the level of lagged wages into the wage equation.

curve relation while, if this coefficient is equal to one, it is evidence of a Phillips curve. Following this proposal, Blanchflower and Oswald (1994) establish that there is not enough evidence to be able to affirm the existence of a Phillips curve, the coefficient for the lagged wage variable obtained in most of the specifications being approximately 0.5 or less.<sup>6</sup>

Bell (1996) argues that there is a significant autocorrelation in wages, so the wage curve is not static but dynamic. At the same time, he points out that the microeconomic data are inconsistent with the Phillips curve. Blanchard and Katz (1997) obtain evidence of a wage curve and, with respect to the Phillips curve, show the existence of an error correction mechanism with aggregate data and autocorrelation in wages when they use disaggregated data. Pannenberg and Schwarze (1998) indicate that there is a long-term inverse equilibrium relation between wages and unemployment but that, in the short term, there is a notable inertia in wages. The results obtained by these authors do not solve the problem of reconciling the theoretical tension between the Phillips curve and the wage curve.

Bell *et al.* (2002) do not find evidence of a Phillips curve. They also find no evidence that regional wages depend on aggregate unemployment, although there is strong evidence that individual wages are influenced by the present unemployment rate. Farés (2002), using a microeconomic methodology, shows that there is neither a wage curve nor a Phillips curve relation, while the macroeconomic specification applying an error correction mechanism describes the wage dynamics more conveniently. Iara and Traistaru (2004) and Buettner (2007) also find no evidence of a Phillips curve. Baltagi *et al.* (2007) find that the wage equation is not a pure Phillips curve, nor a static wage curve, and one should account for wage dynamics.

To sum up, the studies carried out on the wage curve and the Phillips curve (Table 1) show that there is evidence of a wage curve for the countries analysed, the flexibility of wages being close to 10% in most of them. However, among the papers that analyse the existence of the Phillips curve, none argue in favour of its existence using this methodology because, as we have said, the lagged wage coefficient must be significantly equal to one to be able to conclude that a Phillips curve relation exists.

<sup>6</sup> This result is corroborated in Blanchflower and Oswald (2005).

**Table 1**  
**Studies on the wage curve and the Phillips curve**

<i>Author</i>	<i>Estimated value of the unemployment coefficient</i>	<i>Estimated value of the lagged wages coefficient</i>
Blanchflower and Oswald (1994)	(-0.08 , -0.11)	(0.25 , 0.75)
Card (1995)	-0.10	-----
Bell (1996)	(-0.04 , -0.11)	(0.48 , 0.80)
Blanchard and Katz (1997)	(-0.02 , -0.06)	(0.25 , 0.97)
Canziani (1997)	-0.13	-----
Pannenberg and Schwarze (1998)	-0.03	0.18
Sanromá and Ramos (1998)	-0.12	-----
Buettner (1999)	-0.02	(0.90 , 1)
Montuenga (2002)	(-0.07 , -0.12)	-----
Bell <i>et al.</i> (2002)	-0.13	(0.64 , 0.73)
Berg and Contreras (2004)	-0,08	-----
Farés (2002)	(-0.12 , -0.34)	(-0.28 , -0.38)
Montuenga <i>et al.</i> (2003)	Various depending on the country	-----
García and Montuenga (2003)	(-0.08 , -0.11)	-----
Iara and Traistaru (2004)	(-0.04 , -0.12)	(0.25 , 0.65)
Ilkcaracan and Selim (2003)	(-0.06 , -0.08)	-----
Longhi <i>et al.</i> (2006)	(-0.05 , -0.17)	-----
García and Granados (2005)	(-0.04 , -0.13)	-----
Blanchflower and Oswald (2005)	-0.10	0.5
Nijkamp and Poot (2005)	(-0.05 , -0.07)	-----
Geraint (2007)	(-0.02 , -0.05)	-----
Buettner (2007)	Various depending on the country	(-0.15 , -0.54)
Baltagi <i>et al.</i> (2007)	(-0.01 , -0.03)	(0.3 , 0.5)

## 2. The functional form of the wage curve and the Phillips curve tests

Blanchflower and Oswald (1994) argue that the relation shown by the wage curve can be approached through a function like the following:

$$\log w_{irt} = a \log U_{rt} + bX_{irt} + d_r + f_t + e_{irt} \quad (1)$$

Where;

$w_{irt}$  = level of individual wages  $i$  observed in the local labor market  $r$  in period  $t$ ,

$U_{rt}$  = unemployment rate in the labor market  $r$  in period  $t$ ;

$X_{irt}$  = set of characteristics of individual  $i$  (sex, age, education, etc.);

$d_r, f_t$  are defined for different labor markets and different periods of time, respectively; and

$e_{irt}$  = error term.

As we have said, most of the research about the wage curve has tried to test for a Phillips curve relation with microeconomic data by incorporating the lagged wage variable into the equation and applying diverse tests. Blanchflower and Oswald (1994) estimate a new version of equation (1) represented as follows:

$$\log w_{rt} = a \log U_{rt} + bX_{rt} + \lambda \log w_{rt-1} + d_r + f_t + e_{rt} \quad (2)$$

According to these authors, the test of the wage curve versus the Phillips curve consists in testing  $\lambda = 0$  against the alternative  $\lambda = 1$ . So, if the coefficient of the lagged variable is approximately zero, then there is no evidence of a Phillips curve.

Blanchard and Katz (1997), on the basis of the following dynamic wage curve:

$$w_{it} = a_{wi} + (1 - \lambda) w_{i,t-1} - \beta u_{it} + d_t + \varepsilon_{wit} \quad (3)$$

Argue that, if the coefficient of the lagged dependent variable is one, it is accepted that the data predict a Phillips curve relation between wages and unemployment. Alternatively, a value other than one allows us to argue that there is a long-term equilibrium between the levels of wages and unemployment.

Taking equation (3) as a reference, Pannenberg and Schwarze (1998) propose a dynamic wage curve represented by:

$$w_{rt} = \alpha_0 - \alpha_2 \ln(u_{rt}) + (1 - \lambda) w_{r,t-1} + x_{rt}^{*'} \alpha_3 + \mu_r + \eta_t + \varepsilon_{rt} \quad (4)$$

Where;

- $x_{rt}^{*'}$  = vector of exogenous control variables to observe the regional characteristics over time;
- $\mu_r$  = specific effect for each region;
- $\eta_t$  = time effect common to all the regions; and
- $\varepsilon_{rt}$  = random term.

An estimation of equations (3) and (4) allows us to test the hypotheses of the wage curve and the Phillips curve. If  $(1 - \lambda) = 0$  and  $\alpha_2 > 0$  or  $\beta > 0$ , a static wage curve will be obtained. For  $(1 - \lambda) = 1$  and  $\alpha_2 > 0$  or  $\beta > 0$ , there will be evidence of a Phillips curve.

To sum up, most of the research about the wage curve incorporates the analysis of the existence of a Phillips curve relation, using diverse tests that allow us

to conclude, with disaggregated data whether there is evidence of an inverse relation between levels of wages and the unemployment rate or between unemployment rates and rates of wage variation.

### 3. Estimation of a wage curve and a Phillips curve for the Spanish economy

In line with the theoretical framework outlined in the previous section, and following the proposal of Blanchflower and Oswald (1994), we have estimated a wage curve for the Spanish economy on the basis of equation (1).

The data used for wages and for the individual characteristics of the workers come from a sample of 2,461 individuals in the European Community Household Panel (ECHP), for three waves: 1994, 1995, 1996. The ECHP presents the information by regions classified in the first of the three levels of the Nomenclature of Territorial Units for Statistics (NUTS1), which, for Spain, is divided into seven large NUT areas or regions. The figures for the unemployment rates come from the Spanish Labor Force Survey. The variables included in the estimation are: the logarithm of the hourly wage as the dependent variable and, as independent variables, the logarithm of the unemployment rate, and the dummies of sex, marital status, overeducation, experience and weekly working hours, among others.

The unemployment variable combines with the characteristics of the workers,<sup>7</sup> defining four unemployment rates: the unemployment rate per region, region and sex, region and age, and region, sex and age. Below, we specify different models, one for each of the unemployment rates defined above. The estimation is carried out, as we have said, applying the panel data technique, first for the fixed effects model (FEM), using the ordinary least squares (OLS) method and, second, for the random effects model (REM) using generalized least squares (GLS). Furthermore, it must be remembered that the wages and unemployment variables could be determined simultaneously so, to avoid the endogeneity bias, we carried out a new estimation using two stage least squares, employing the lagged unemployment rates as instrumental variables (IV). The interpretation of the results obtained from the estimation of the model focuses on the value of the coefficient of the unemployment rate variable according to its different definitions. This coefficient can be interpreted as a measure of the flexibility of wages.

<sup>7</sup> In this way, when the independent variable (unemployment) has a higher level of aggregation than the dependent variable (wages), we avoid the possible predisposition of common effects in different groups of workers belonging to the same region that are not due to the individual characteristics or to the unemployment rate (Moulton, 1986).

The estimation of the fixed effects model using OLS (equations 1 to 4 of Table 2) presents significant coefficients that lose their significance in all cases when instrumental variables are incorporated to solve the problem of endogeneity (models 5 to 8 in Table 2). The random effects model applying the GLS estimator (models 1 to 4 of Table 3) gives negative and significant coefficients for all the unemployment rates, with an elasticity of around 10%. When instrumental variables are introduced into this model (models 5 to 8 of Table 3), the elasticities of wages with respect to the unemployment rates is around 8% for all the models estimated with the unemployment rate per region and age and the unemployment rate per region, age and sex, the coefficients being negative and significant. The  $R^2$  is 0.46 in all the specifications. So, according to these results, we can affirm that there is a negative and significant relation between the level of wages and the different unemployment rates defined by NUT region and age and by NUT region, age and sex. Therefore, we have evidence of a wage curve for the Spanish economy in the period considered, which would be explained by the low mobility of the labor factor between Spanish regions.

**Table 2**  
**Wage curve for Spain (1994-1996), FEM**

	1	2	3	4	5	6	7	8
	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
<i>Ln(U<sub>t</sub>)region</i>	-0.206 (-1.194)				-0.065 (-0.326)			
<i>Ln(U<sub>t</sub>)region and sex</i>		-0.129 (-1.733)				0.055 (0.422)		
<i>Ln(U<sub>t</sub>)region and age</i>			-0.087 (-3.672)				-0.018 (-0.494)	
<i>Ln(U<sub>t</sub>) region, sex and age</i>				-0.098 (-4.491)				-0.004 (-0.115)
<i>F-test</i>	232.15	232.25	232.92	233.34	224.50	224.66	225.49	226.08
<i>R-squared</i>	0.458	0.458	0.459	0.459	0.458	0.458	0.459	0.460

Note: The dependent variable is Ln(wage). The instrumental variable introduced into models 5 to 8 is the unemployment rate corresponding to each model lagged one period. The t-ratios are in brackets; the critical value at 5% is 1.96. The critical value of the F-test at 5% is 1.46.

**Table 3**  
**Wage curve for Spain (1994-1996), REM**

	1	2	3	4	5	6	7	8
	GLS	GLS	GLS	GLS	IV	IV	IV	IV
$\ln(U_t)$ region	-0.235 (-1.846)				-0.087 (-0.597)			
$\ln(U_t)$ region and sex		-0.163 (-2.135)				0.007 (0.072)		
$\ln(U_t)$ region and age			-0.113 (-4.318)				-0.079 (-2.538)	
$\ln(U_t)$ region, sex and age				-0.126 (-5.058)				-0.078 (-2.419)
$LM(1df)$	1793.42	1792.96	1795.99	1796.42	1795.66	1795.12	1791.41	1789.48
$R$ -squared	0.458	0.458	0.458	0.459	0.458	0.458	0.459	0.459

Note: The dependent variable is  $\ln(\text{wage})$ . The instrumental variable introduced into models 5 to 8 is the unemployment rate corresponding to each model lagged one period. The t-ratios are in brackets; the critical value at 5% is 1.96. LM refers to the Lagrange multipliers test; the critical value of the  $\chi^2$  with 1 degree of freedom is 3.84.

The second objective of this paper is to analyze whether, with the sample used, there is evidence of a Phillips curve relation. To do so, we introduce the lagged dependent variable into the specification of equation (1) and check the value of its coefficient by applying the tests of the Phillips curve proposed by different authors, as we saw in the literature review. Following this reasoning, we have estimated the model for each of the previously defined unemployment rates, first using the OLS method and then using instrumental variables through two stage least squares.

The results obtained show a  $R^2$  0.6 for all the models (1 to 8 of Table 4), higher than that obtained in the specification of the wage curve, which indicates that the explanatory power improves when we include the lagged dependent variable. The coefficient of this variable in each of the models is significant and has a value of about 0.5. This value does not permit us to affirm that there is evidence of a Phillips curve type relation. Furthermore, when we introduce the lagged dependent variable, the coefficients of the unemployment rates lack significance. Thus, it can be affirmed that wages are more affected by lagged wages than by the local unemployment rate, evidencing a nominal inertia of wages derived from the bargaining process in force in Spain, characterized by an intermediate level of centralization at the sectorial level on a provincial scale.

**Table 4**  
**Phillips curve for Spain (1994-1996)**

	1	2	3	4	5	6	7	8
	OLS	OLS	OLS	OLS	IV	IV	IV	IV
<i>Ln(wage<sub>t-1</sub>)</i>	0.479 (44.462)	0.478 (44.433)	0.478 (44.416)	0.478 (44.389)	0.479 (44.476)	0.479 (44.432)	0.479 (44.389)	0.479 (44.353)
<i>Ln(U)<sub>t</sub>region</i>	-0.289 (-1.266)				-0.297 (-1.299)			
<i>Ln(U)<sub>t</sub>region and sex</i>		-0.049 (-0.588)				-0.152 (-0.896)		
<i>Ln(U)<sub>t</sub>region and age</i>			-0.007 (-0.297)				-0.030 (-0.800)	
<i>Ln(U)<sub>t</sub>region, sex and age</i>				-0.003 (-0.119)				-0.013 (-0.345)
<i>F-test</i>	274.12	274.01	273.98	273.98	265.04	264.86	264.85	264.80
<i>R-squared</i>	0.599	0.599	0.599	0.599	0.599	0.599	0.599	0.599

Note: The dependent variable is  $\ln(\text{wage})$ . The instrumental variable introduced into models 5 to 8 is the unemployment rate corresponding to each model lagged one period. The t-ratios are in brackets; the critical value at 5% is 1.96. The critical value of the F-test at 5% is 1.46.

The implications of the economic policy derived from these results are that the employees' training and mobility should be favoured. Hence, unemployed workers from regions with higher unemployment rates would more likely be able to take vacant jobs on in other regions with lower unemployment rates. This would contribute to reducing the global unemployment rate of the economy.

## Conclusions

In this paper, we analyzed the relation between wages and unemployment in local labor markets, following the literature produced since the second half of the nineties on the wage curve. Most of these papers find that the elasticity of wages with respect to the unemployment rate in local labor markets is negative and with a value of about 10%. This value of the flexibility of wages is considered extendible to most countries and, therefore, can be interpreted as a "general law".

Furthermore, in most of this research on the wage curve, the existence of a Phillips curve relation is analyzed by introducing the lagged dependent variable into the wage equation. The results obtained in these studies for different countries are not conclusive with respect to the existence of a Phillips curve relation with microeconomic data.

Following the proposal of Blanchflower and Oswald (1994), in this paper, we have specified a wage curve for the Spanish economy between 1994 and 1996, a period characterized by high unemployment. We have also tested for the existence of a Phillips curve relation with microeconomic data. To do so, we have used data on hourly wages and unemployment rates for the different NUTS1 regions, as well as unemployment rates by age and sex. We have also considered variables that refer to individual characteristics such as age, sex and educational level, among others.

The coefficient of the lagged wages variable is significant and has a value of around 0.5 in all the estimations. This result, according to the tests proposed by different authors, does not allow us to confirm the existence of a Phillips curve with microeconomic data for the Spanish economy. This dynamic analysis reveals a nominal inertia in wages.

The results of the estimation indicate the existence of a wage curve for Spain in which an elasticity of wages with respect to local unemployment close to the standard value can be observed, in line with the results obtained by other authors for the Spanish economy and other countries like Canada, the USA, Norway and the United Kingdom, among others. Therefore, for microeconomic data, the inverse relation between the level of wages and the unemployment rate in local labor markets holds, evidencing the low labor mobility in Spain. The high unemployment rate in the Spanish economy within this period can be explained by the great disparity existing among regional unemployment rates, together with the aforementioned lack of work mobility. This situation could be solved by applying active labour market policies favouring training and mobility.

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