

The Impact of Local Government Investment on Corporate Decisions²²

Part 2

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This work aims to provide evidence on the impact of public investment on local business decisions. In particular we want to see the effect of public investment on the development of local area - measured by GDP and employment - and therefore the effect that the development of the area determines the location decisions of businesses.

The paper continues from Part 1 (EJournal of Corporate Finance №1 (17) 2011). In this Part, is empirically tested the research hypothesis, through an econometric analysis, describing the models and variables used in the application of panel techniques, and presents the results of the estimates, while last section concludes with summary of some considerations.

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1. Econometric analysis on the impact of local public expenditure for investments in the areas of economic growth

Econometrics is the science and art of using economic theory and statistical techniques to analyze the data (Stock and Watson, 2009), in particular, through the econometric analysis we can study the causal effects between variables, to ascertain whether one or more variables (called independent variables or regressors or explanatory variables) cause another variable (dependent variable).

Here, the econometric analysis aims to determine whether, in the entity local “municipality”, the levels of development of the territory are linked by a cause-effect relationship with positive expenditure on investment.

In theory, the framework under which it is believed that local public investment influence the development of the territories is to be found in economic theory and empirical analysis at both national and international level. Several studies have shown that public investment can trigger mechanisms of self-propelled economic development: they have, in other words, the effects on GDP, employment, average per capita income. That is to say that economic development is “affected”, “determined” by the implementation of public investment.

Based on this however, it is interesting to estimate empirically the causal effect that is supposed to determine to what extent the level of development of territories is affected by capital expenditure. Such as development indicators will be used GDP per capita and the employment rate and therefore there will be empirically whether the investments are determinants of GDP and employment.

However, simply compare the levels of development with levels of investment spending means using the so-called naive procedure that is based on the assumption that the only factor that influences the level of development of territories (the dependent variable) is the investment expenditure. Therefore, in order to avoid producing biased estimates of the effect of interest is

²² This paper is the result of shared thoughts of the authors. However, when drafting, the paragraph 1 is to be attributed to Pina Puntillo and the paragraph 2 is to be attributed to Paolo Tenuta.

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preferable to include in the regression model as explanatory variables (regressors) other factors that influence the level of economic development planning. In other words, it is necessary to provide adequate econometric model is a list of explanatory variables to avoid the problem of omission of relevant explanatory factors.

For this reason we apply a multivariate analysis, using, specifically, the multiple linear regression model, which is a linear regression model that includes multiple regressors, X_1, X_2, \dots, X_k . Each regressor is associated with a regression coefficient, $\beta_1, \beta_2, \dots, \beta_k$, estimated with OLS. The coefficient β_1 represents the expected change of the dependent variable Y associated with a unit change in X_1 , keeping constant the other regressors, the other regressors have a similar interpretation (Stock and Watson, 2009).

The multiple linear regression model is, in general terms, the following:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_k X_{ki} + u_i \quad i = 1, \dots, n \quad (1)$$

where:

Y_i is the i th observation of the dependent variable;

$X_{1i}, X_{2i}, \dots, X_{ki}$ are the i th observations of each of the k regressors;

β_0 is the expected value of Y when all X are zero;

β_1 is the slope of X_1 , β_2 is the slope of X_2 , etc. β_1 coefficient represents the expected change of the dependent variable Y that results from a unit change in X_1 , holding constant (controlling) X_2, \dots, X_k ; the coefficients of the other X are interpreted in a similar way;

u_i is the statistical error.

In the notation just described have been used the words "holding constant", "controlling": is imperative to give an explanation. We already mentioned the problem of omitted variable bias in that it is explained that if you want to study the causal effect between a dependent variable and the variable of interest (explanatory), by inserting only two variables in the regression model, we could produce biased estimates.

If you want to correctly estimate the causal effect exerted by the variable on the dependent variable of interest is necessary to keep under control (ie, neutralize) the action exerted by distorting one or more additional variables, which is why they are defined control variables.

In essence, the control variables are variables that are not directly relevant, principally for the econometric analysis, but for which two conditions occur simultaneously: 1) are correlated with at least one of the regressors included in the model, 2) influence the dependent variable; these variables will be considered in the model because it can not produce biased estimates and therefore correctly estimate the causal effect of interest. In interpreting the regression model, the coefficients represent the change in each regressor, the effect that this regressor has on the dependent variable, "holding constant", "controlling" the other variables (such precisely control variables).

In the econometric model specified here, for the reasons stated above, were included control variables, the interpretation of the coefficient of each explanatory variable (or regressor or independent variable) then the others are control variables.

We now make explicit the independent variables included in the model.

The empirical research conducted in this paper is to explain the development of the region through a series of independent variables in particular are a total of four explanatory variables introduced in the model.

Considering these variables, the model estimated in this paper is therefore:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + u_i \quad i = 1, \dots, n \quad (2)$$

where:

Y_i is the level of development of the territory of a generic common (statistical unit); will be used two indicators of development: GDP per capita and the employment rate will therefore be carried out two regressions:

1. Regression with $Y_i =$ per capita GDP
2. Regression with $Y_i =$ employment rate

β_0 is a constant that indicates a level playing field, keeping the other parameters fixed, the

initial level of development;

$\beta_1, \beta_2, \dots, \beta_4$ are the coefficients associated with the regressors and indicate that the impact of the independent variables X_1, X_2, \dots, X_4 ;

X_1, X_2, \dots, X_4 represent the explanatory variables of the model (regressors) unspecified below in Table 1;

u is the stochastic component of the model, the margin of error, which includes everything that can not be explained by the deterministic model.

Table 1

The explanatory variables of the model

<i>Explanatory variables</i>	<i>Description</i>
<i>Area (X_1)</i>	It measures the territorial scope of the institution in km ²
<i>Investment expenditure (X_2)</i>	They are the expenses incurred by the implementation of the investment.
<i>Staff costs (X_3)</i>	They are the costs incurred by the remuneration of staff.
<i>Center North (X_4)</i>	It's a dummy inserted to represent the geographical area of the local macro: takes the value 1 if the institution is located in Center North, 0 otherwise.

With regard to spatial variables, we assume that a municipality with a land area larger, more resources management and development of the territory, where it is assumed that an increase in surface area could lead to increased levels of development.

It is also believed that the macro geographical area of the municipality may determine the level of development, since there is a historical territorial dualism Center North - South in terms of economic and social growth, in particular it is argued that in the north are significantly higher levels of development in the South.

What economic and financial variables have been considered capital expenditures and personnel. It is assumed that the former have a positive causal relationship with the levels of development while the second is a negative cause-effect relationship.

It is based on economic theories that have been widely discussed in paragraph 6, which is believed to positively determine the investment levels of development; with regard to the reasons for the inclusion of the variable "staff costs", is necessary to recall briefly some considerations already made earlier.

The staff costs are "compulsory" as the local authority can not abstain by the honorable and this configuration makes it cost as much as the impact of these costs is marked within the current expenditure, the more budget appears stiff, reducing the ability to schedule and plan further investment and thus having negative effects on the development of the territory. It is expected, in fact, a negative correlation.

The following are a summary of the hypotheses that attempt to verify through empirical analysis.

Hypothesis H1: the increase of the surface, increases the level of regional development.

Hypothesis H2: the increase of investment spending, raise the level of regional development.

Hypothesis H3: the increase of personnel expenses, decreases the level of regional development.

Hypothesis H4: in Center North geographical macro-area shows a higher level of development, thus determining the location of the joint development of the territory.

Using these assumptions and considering the variables specified further in Table 1, supported by law and reviewed the literature on the subject, it aims to explain the definition and determinants of levels of territorial development in Italy.

In order to conduct the analysis were collected data relating to Italian municipalities considered for regional aggregation and was thus constructed a dataset, the time horizon of reference is 2004-2008.

The dataset thus includes the 20 Italian regions, each region and each year observations in the

dataset include the following:

- 1) spatial characteristics of the municipalities, such as the total area of the macro areas of expertise and geographical area²⁵;
- 2) financial information derived from the certificates of financial statements of municipal government site and compiled by Istat²⁶, in particular the accounting data derived from certificates of budget balances refer to:
 - investment expenditure: total expenditure of Title II of the "Capital expenditures", net of interventions 07 Capital transfers and 10 Concessions of credits and advances;
 - staff costs: total costs of the intervention 01del Title I;
- 3) the macroeconomic information: GDP per capita and employment rate, it is development indicators which will be considered in the regressions as dependent variables. Data were drawn from the Regional Economic Accounts retrieved from the site Istat²⁷.

Table 6 in Appendix shows the datasets that are shown on the sample observations to help estimate the model.

The following tables summarize the other hand, the descriptive statistics relating to financial information. This is useful information for analysis, allowing a better understanding of the structural characteristics of municipal budgets.

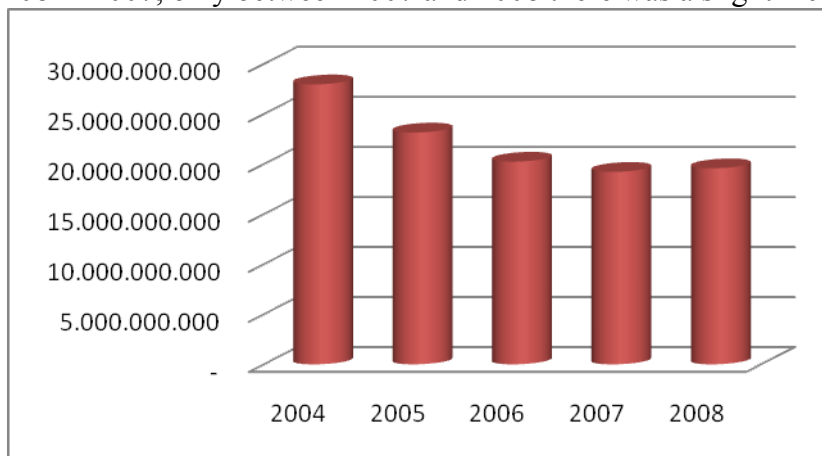
Table 2

Average characteristics of financial statements: investment expenditure

<i>Year</i>	<i>Observations</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
2004	20	1.40e+09	1.10e+09	1.63e+08	4.59e+09
2005	20	1.16e+09	7.79e+08	1.38e+08	3.25e+09
2006	20	1.01e+09	7.56e+08	1.46e+08	2.96e+09
2007	20	9.61e+08	7.41e+08	1.27e+08	2.74e+09
2008	20	9.79e+08	7.56e+08	1.53e+08	2.83e+09

Table 2 shows an important fact: the average level of investment expenditures made by municipalities in the Italian-year period.

An analysis of trends in investment expenditure is observed in the five years analyzed, a downward trend. We move, in fact, from an average of € 1.40e+09 in 2004 to an average of € 9.61e+08 in 2007, only between 2007 and 2008 there was a slight increase in investment.



Graph 1. Trend of investment expenditure

Source: www.istat.it/istituzioni/entilocali/

²⁵ Data were collected from the site www.comuni-italiani.it

²⁶ www.istat.it/istituzioni/entilocali/ "Financial statements of the municipalities", in *Tables of data*. In particular, for each year (2004 to 2008) the reference table for the cost of investment is the 3b - Analysis of investment, the board of reference for staff costs is the third - Analysis of current expenditure.

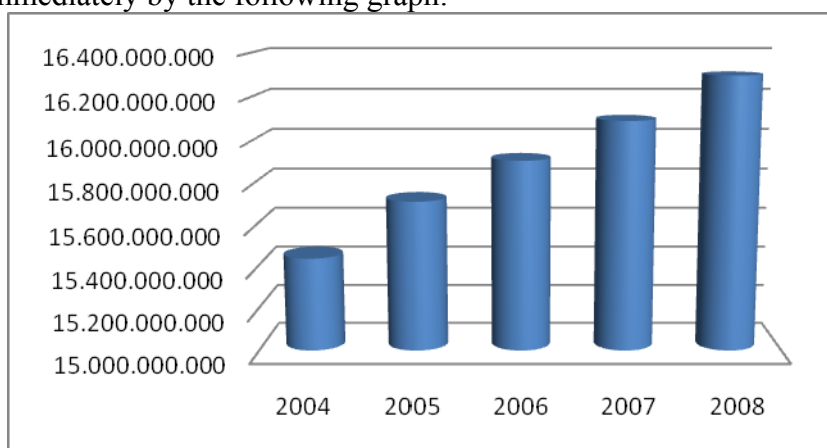
²⁷ www.istat.it/dati/dataset/20091111_00

Table 3

Average characteristics of financial statements: staff costs

Year	Observations	Mean	Std. Dev.	Min	Max
2004	20	7.72e+08	6.18e+08	5.76e+07	2.27e+09
2005	20	7.86e+08	6.22e+08	5.89e+07	2.26e+09
2006	20	7.95e+08	6.30e+08	5.69e+07	2.27e+09
2007	20	8.05e+08	6.44e+08	5.58e+07	2.29e+09
2008	20	8.15e+08	6.47e+08	6.05e+07	2.37e+09

Referring instead to the average levels of staff costs, we can see how it increases over the next five years, from € 7.72e+08 in 2004 to € 8.15e+08 in 2008. The increased levels of staff costs can see immediately by the following graph:



Graph 2. Staff costs

Source: www.istat.it/istituzioni/entilocali/

After representing tabular descriptive statistics relating to balance sheet data of the dependent variables used in the model, let us therefore to examine the results of the econometric analysis for which, as explained above, using a multivariate linear regression model estimated with the OLS method.

You need to make another point: Panel data were used (also called longitudinal data), the data are panel data covering more entities each of which is observed in two or more periods. To conduct this research were in fact collected data relating to Italian municipalities aggregated to 20 regions, each of which has been observed for 5 years, for a total of 100 observations. Having full availability to data for multiple time horizons, we can grasp not only the differences between the different entities (which could catch even using the cross-sectional data) but also can analyze the evolution of investment costs over time.

Among other things, the panel data regression is a method that allows you to control the presence of some types of omitted variables without actually observe them, and produces essentially unbiased estimates taking into account the effects of omitted (Baltagi, 2001).

There are three types of regression model with panel data:

- 1) model with fixed effects,
- 2) model with time effects,
- 3) the model with mixed effects.

In case you have chosen to use the model with temporal effects, considering “the best” for the case, since it allows to take into account the variability between entities and not just the inner to each entity, as is the case in model with fixed effects: given that Italian regions differ not only in them but there are substantial differences between individual regions, we believe that it is more appropriate to consider the temporal effects.

So an econometric analysis was conducted to study the determinants of levels of development of the territories - with a focus on verification of cause-effect relationship between development and

investment costs - by using a multiple linear regression model with panel data and considering the so-called temporal effects. 2 regressions were performed:

1. Regression that considered as an indicator of development and therefore as the dependent variable, GDP per capita;
2. Regression which considers development as an indicator of the employment rate.

It exposes the following tables with the results of each regression, and then comment on them.

Table 4

The regression 1 results				
<i>GDP per capita</i>	<i>Coeff.</i>	<i>Robust Std. Err.</i>	<i>t</i>	<i>P > t </i>
<i>Area</i>	0.0306183	0.415335	0.74	0.463
<i>Investment expenditure</i>	1.22e-06	4.39e-07	2.77	0.007***
<i>Staff costs</i>	-1.26e-06	6.89e-07	-1.83	0.071*
<i>Center North</i>	10782.98	489.6632	22.02	0.000***

Table 5

The regression 2 results				
<i>Employment rate</i>	<i>Coeff.</i>	<i>Robust Std. Err.</i>	<i>t</i>	<i>P > t </i>
<i>Area</i>	1.37e-06	4.67e-07	2.92	0.004***
<i>Investment expenditure</i>	1.39e-11	5.59e-12	2.49	0.015**
<i>Staff costs</i>	-3.79e-11	8.40e-12	-4.51	0.000***
<i>Center North</i>	0.1295048	0.0052772	24.54	0.000***

Note: The asterisks placed next to the value of the regressors indicate the level of significance made by them, specifically:

* = Significance at 10%

** = Significance at 5%

*** = Significance at 1%

Reading the table 4 and 5 are very important results can be deduced.

For both regressions, all variables are statistically significant and confirm the hypotheses, except for the regressor surface which is not statistically significant for the regression which considers development as an indicator of GDP per capita. Apart from this isolated case, you can still argue that the model is interpreted as reliably able to fully explain the phenomenon that we wanted to prove.

We now analyze the results with reference to individual regressions.

Regression 1: $Y_i = \text{GDP per capita}$

As mentioned earlier, this regression to the area is not statistically significant, therefore, was not tested the hypothesis H1 according to which the increase of the surface increases the levels of development, measured by GDP per capita in this. So the area is not a determinant of GDP per capita: looking to the p-value (the last column of the table), in fact, the value is greater than 0.10, therefore the variable is not significant even at the level of 10%.

All other variables included in the model are determinants of the dependent variable in question: we can therefore say that if the hypothesis H1 has not been verified, all the other assumptions underlying the research (H2, H3 and H4) were demonstrated.

Looking to the p-value is arguable that are determinants of GDP per capita in the Italian towns: the investment expenditure (significant at 1%), costs for staff (significant at 10%) and geographical macro-area center north (significant at 1%).

Looking at the coefficients of these variables, we can see that they are positive for investment expenditures and the dummy center north while is negative the for staff costs. It is therefore confirmed that an increase in investment expenditure increases GDP per capita, which increased staff costs reduces the per capita GDP and, finally, that the center north is more "developed" of the

south. Please note that the variable central north is a dummy that is a binary regressor that takes only two values, 0 and 1: 1 if the municipality is located in the north, 0 otherwise; his interpretation is as follows: the municipalities of center north have a GDP per capita higher than in the south, this means that the geographical location of municipalities determines development.

In detail, we can say that if the investment expenditure increased by € 1, the GDP per capita increases by € 1.22e-06 for the same variables, ie checking, holding constant the other explanatory variables included in the model; if the staff costs increased by € 1, GDP per capita declined by € 1.26e-06 for the same variables and, finally, the municipalities located in the north have a level of per capita GDP higher than in the south of € 10.782,98.

Finally, it should be emphasized that the inclusion of a large number of independent variables gives the model a high explanatory power. In fact, the R^2 is 0.8461, which means that the model developed is able to "explain" 84,61% of the variance of the phenomenon.

Regression 2: $Y_i =$ employment rate

In the regression which considers development as an indicator of the employment rate, all assumptions have been proven. We can therefore say that all the variables included in the model are determinants of the employment rate.

Looking to the p-value, in fact, are statistically significant (and therefore are determinant of the employment rate): the area (significant at 1%), investment expenditure (significant at 5%), staff costs (significant 1%) and geographical macro-area center north (significant at 1%).

Even the signs of the coefficients are those expected: positive for investment expenditure and the dummy center north, negative for staff costs.

It is therefore confirmed that an increase in investment spending increases the rate of employment, which increased spending on staff, the employment rate decreases and finally, that the center north is substantially more "developed" of the south, as most records high levels of employment.

In detail, we can say that if the area increases by 1 km², the employment rate increases by 1.37e-06 for the same variables, ie checking, holding constant the other explanatory variables included in the model; if investment expenditure increased by € 1, the employment rate increases by 1.39e-11 for the same variables; if the staff costs increased by € 1, the employment rate decreased by € 3.79e-11 for the same variables and, finally, the municipalities located in the center north have an employment rate higher than the midday of 0.1295048.

Finally, it should be emphasized that the inclusion of a large number of independent variables gives the model a high explanatory power. In fact, the R^2 is 0.8672, which means that the model developed is able to "explain" 86,72% of the variance of the phenomenon.

2. Conclusions

The results obtained in the econometric analysis confirms substantially all of the expectations about the determinants of levels of development in the Italian local authorities.

With the exception of a regression 1 in which the area is not statistically significant (while it is in regression 2), it can be argued that in both regressions of investment expenditure, expenditure on staff and the dummy center north have the expected sign and coefficients are statistically significant, which confirm the hypotheses: the level of development of the territories depends on the level of these variables.

Important consideration should be given to investment expenditure which are not only statistically significant but, as even more important is the positive sign of the coefficient: was the hypothesis H2, "as more of the costs of investment, increases the level of development the territory". In fact, the hypothesis of a direct relationship between investment expenditure and levels of development is that for which it was carried out this research work and made this econometric analysis, the main purpose was precisely to show that the investment costs are a determinant of regional development.

Other considerations are then made for staff costs, which were introduced in the econometric

model to demonstrate that they have a negative effect on the development of the territory. This can be explained by the fact that the civil service has been used as a driving force in local government employment, without pondering the real effect that such action causes on the finances of the institution, budget balances, growth and macroeconomic indicators welfare and competitiveness of the territories.

So the levels of development of territories were determined by specific budget choices in the sense that policy makers have chosen to increase the staffing of institutions (with obvious repercussions on the levels of expenditure on staff) rather than investment spending. But decisions had to be geared more towards making the investment, given that they have effects on economic development in the area.

But business decisions have not only had a significant impact on local growth in recent years, they will also have implications for the future: the shift from a centralized system of public finance to public finance system involves a significant effect on self-finance of local authorities. If one considers, in fact, that with the implementation of fiscal federalism will be completely "cut" the government transfers which formerly constituted a substantial source of financing local public investments, one can understand how local authorities are now and find even more in the future in a situation "critical" in terms of availability of financial resources.

Fiscal federalism thus determines the criticality in terms of coverage of financial needs generated by investment spending: if the revenues derived in capital account will be more sources of funding, the structure is changed completely.

Nor can "push" too much borrowing as the local authorities must respect the constraints dictated by the need to keep the net raised annually by the Finance Laws and the Stability Pact.

Remain, to meet the financial needs generated by the investments, the so-called self-financing but even as regards the sources of self-financing is no shortage of problems: the budget surplus and income from disposals, are the result of unique sources, therefore we can not "rely" on these items to finance investment institutions premises. As regards the surplus of administration, we can certainly argue that it represents, in a dry spell more consistent with regard to transfers from the State and the Regions, one of the few tools available to the local authority has to finance investment; it is expressly intended, inter alia, the costs of investment in d), paragraph 3, Art. 187, Tuel. However, its coverage investment is directly related to its size, whether or not an emergency or short-term such that it would target other essential (eg for debts off balance sheet), and also the nature of the advanced may witness a less than optimal management, to the extent they have been stolen from citizens over those resources that the institution has proven to be able to spend.

Finally, it is noteworthy that, in the areas of the country characterized by a lower ability to pay, the revenue will decrease more and more of the institution.

In conclusion, it can be assumed that investment spending will decline further over the next few years precisely because of the lack of adequate resources to cover the financial needs generated by the investments, with noticeable impact on economic growth in the territories and on business location.

Thus, where still possible, and especially in the areas of the country characterized by weakness, economic weakness, the choices of the political organs of government - especially at the local level - should be geared to promote the realization of investments since these are the voices of budget (and not the staff costs) to have "capacity" of development.

Appendix

Table 6

Dataset of observations on the Italian municipal administrations. Breakdown by region.
Observations for 5 years (2004-2008)

<i>Italian region</i>	<i>Geographical macro-area</i>	<i>Year</i>	<i>GDP per capita (in €)</i>	<i>Employment rate</i>	<i>Area (in Km²)</i>	<i>Investment expenditure (in €)</i>	<i>Staff costs (in €)</i>
Abruzzo	South	2004	19.304,2	0,38	10.798	432.358.384	291.091.513
Basilicata	South	2004	16.682,1	0,35	9.992	345.727.436	148.251.412
Calabria	South	2004	15.480,7	0,32	15.080	824.025.067	458.360.634
Campania	South	2004	15.531,7	0,32	13.595	2.887.924.032	1.324.466.200
Emilia Romagna	Center North	2004	29.314,5	0,49	22.124	1.480.414.662	1.145.445.047
Friuli Venezia Giulia	Center North	2004	26.147,2	0,46	7.855	562.915.947	356.091.976
Lazio	Center North	2004	28.768,9	0,46	17.207	2.787.950.023	1.625.897.371
Liguria	Center North	2004	24.393,1	0,40	5.421	671.948.633	539.610.442
Lombardia	Center North	2004	31.059,5	0,48	23.861	4.589.147.314	2.265.823.231
Marche	Center North	2004	23.918,0	0,47	9.694	557.610.623	379.553.139
Molise	South	2004	17.286,0	0,36	4.438	163.292.014	77.979.002
Piemonte	Center North	2004	26.351,7	0,45	25.399	2.138.485.704	1.265.560.341
Puglia	South	2004	15.712,1	0,32	19.362	2.069.385.685	740.145.866
Sardegna	South	2004	18.671,3	0,36	24.090	1.570.973.826	419.293.062
Sicilia	South	2004	15.465,6	0,29	25.708	1.595.912.432	1.675.943.920
Toscana	Center North	2004	26.204,7	0,46	22.997	1.443.789.029	1.113.830.988
Trentino Alto Adige	Center North	2004	29.915,7	0,49	13.607	1.163.797.411	392.924.512
Umbria	Center North	2004	22.583,0	0,43	8.456	920.000.950	241.638.213
Valle d'Aosta	Center North	2004	31.401,4	0,47	3.263	166.430.206	57.612.310
Veneto	Center North	2004	27.992,5	0,48	18.391	1.587.934.761	925.505.135
Abruzzo	South	2005	20.054,3	0,38	10.798	509.209.722	294.570.731
Basilicata	South	2005	16.898,6	0,35	9.992	295.692.249	140.548.313
Calabria	South	2005	15.784,5	0,32	15.080	930.806.962	461.959.204
Campania	South	2005	15.843,0	0,31	13.595	2.269.912.867	1.467.170.948
Emilia Romagna	Center North	2005	29.784,1	0,49	22.124	1.466.694.699	1.221.083.506
Friuli Venezia Giulia	Center North	2005	26.967,8	0,47	7.855	633.772.820	388.532.183
Lazio	Center North	2005	29.280,0	0,46	17.207	1.877.788.962	1.664.395.888
Liguria	Center North	2005	24.774,4	0,40	5.421	622.333.413	552.866.818
Lombardia	Center North	2005	31.545,2	0,48	23.861	3.249.410.814	2.255.119.900
Marche	Center North	2005	24.409,3	0,46	9.694	549.106.095	394.908.409
Molise	South	2005	17.771,7	0,36	4.438	225.110.944	73.230.640
Piemonte	Center North	2005	26.811,1	0,46	25.399	1.773.404.892	1.172.362.078
Puglia	South	2005	15.938,8	0,31	19.362	1.259.929.306	738.942.084
Sardegna	South	2005	19.015,7	0,36	24.090	1.067.408.601	414.457.515
Sicilia	South	2005	16.119,7	0,30	25.708	1.795.123.494	1.633.030.553
Toscana	Center North	2005	26.634,9	0,46	22.997	1.294.516.079	1.088.359.566
Trentino Alto Adige	Center North	2005	30.278,6	0,49	13.607	906.070.935	421.291.788
Umbria	Center North	2005	22.733,5	0,43	8.456	716.168.580	237.191.745
Valle d'Aosta	Center North	2005	31.700,6	0,47	3.263	137.871.618	58.874.554
Veneto	Center North	2005	28.432,8	0,47	18.391	1.572.778.022	1.036.582.716
Abruzzo	South	2006	20.903,9	0,39	10.798	468.620.817	301.437.985
Basilicata	South	2006	18.026,1	0,36	9.992	301.294.914	147.718.314
Calabria	South	2006	16.478,0	0,32	15.080	592.222.710	474.070.044
Campania	South	2006	16.374,3	0,32	13.595	2.481.917.415	1.556.919.541
Emilia Romagna	Center North	2006	31.021,1	0,50	22.124	1.276.522.042	1.237.698.419
Friuli Venezia Giulia	Center North	2006	28.068,1	0,48	7.855	479.274.681	392.997.894
Lazio	Center North	2006	29.591,4	0,46	17.207	1.879.974.527	1.643.092.535
Liguria	Center North	2006	25.471,5	0,41	5.421	487.358.415	563.826.474

Lombardia	Center North	2006	32.356,3	0,49	23.861	2.958.159.722	2.269.821.496
Marche	Center North	2006	25.645,6	0,47	9.694	459.127.324	396.076.663
Molise	South	2006	19.002,8	0,37	4.438	170.021.345	84.464.050
Piemonte	Center North	2006	27.718,9	0,46	25.399	1.426.131.812	1.173.888.327
Puglia	South	2006	16.702,7	0,32	19.362	1.471.325.358	762.236.911
Sardegna	South	2006	19.649,8	0,37	24.090	788.063.944	418.456.686
Sicilia	South	2006	16.723,0	0,31	25.708	1.004.575.046	1.674.588.185
Toscana	Center North	2006	27.599,8	0,46	22.997	1.009.668.817	1.086.499.503
Trentino Alto Adige	Center North	2006	31.266,7	0,49	13.607	913.583.246	390.245.776
Umbria	Center North	2006	23.724,9	0,44	8.456	549.390.097	239.858.385
Valle d'Aosta	Center North	2006	32.594,0	0,47	3.263	145.738.028	56.933.721
Veneto	Center North	2006	29.267,2	0,48	18.391	1.379.353.791	1.036.134.260
Abruzzo	South	2007	21.601,9	0,39	10.798	425.155.107	301.008.306
Basilicata	South	2007	18.698,5	0,36	9.992	252.865.711	143.490.709
Calabria	South	2007	16.937,9	0,32	15.080	615.723.312	470.873.161
Campania	South	2007	16.909,1	0,31	13.595	2.254.024.425	1.524.525.736
Emilia Romagna	Center North	2007	32.112,9	0,51	22.124	1.231.578.727	1.244.774.337
Friuli Venezia Giulia	Center North	2007	29.238,0	0,48	7.855	512.754.693	401.827.754
Lazio	Center North	2007	30.305,8	0,46	17.207	2.331.022.418	1.693.835.853
Liguria	Center North	2007	26.812,8	0,42	5.421	441.328.752	564.047.105
Lombardia	Center North	2007	33.442,5	0,49	23.861	2.740.867.895	2.294.408.650
Marche	Center North	2007	26.501,7	0,48	9.694	379.207.890	397.075.003
Molise	South	2007	19.950,6	0,38	4.438	181.297.014	80.503.637
Piemonte	Center North	2007	28.575,4	0,47	25.399	1.358.852.270	1.172.878.977
Puglia	South	2007	17.110,5	0,33	19.362	1.007.338.581	734.295.850
Sardegna	South	2007	20.405,3	0,37	24.090	740.283.060	427.086.766
Sicilia	South	2007	17.178,7	0,30	25.708	800.177.383	1.801.811.859
Toscana	Center North	2007	28.431,0	0,46	22.997	1.072.895.872	1.090.795.329
Trentino Alto Adige	Center North	2007	32.403,3	0,49	13.607	1.088.089.526	407.647.974
Umbria	Center North	2007	24.493,3	0,45	8.456	431.322.355	240.374.652
Valle d'Aosta	Center North	2007	33.556,0	0,48	3.263	126.575.316	55.828.810
Veneto	Center North	2007	30.243,7	0,48	18.391	1.233.136.871	1.044.549.579
Abruzzo	South	2008	21.786,7	0,39	10.798	353.473.010	309.943.622
Basilicata	South	2008	19.081,5	0,36	9.992	255.931.423	149.591.729
Calabria	South	2008	16.895,5	0,31	15.080	625.008.966	492.744.725
Campania	South	2008	16.886,0	0,31	13.595	2.152.736.956	1.596.354.915
Emilia Romagna	Center North	2008	32.062,1	0,51	22.124	1.164.629.769	1.259.832.678
Friuli Venezia Giulia	Center North	2008	29.341,1	0,48	7.855	485.241.214	413.392.314
Lazio	Center North	2008	30.641,4	0,45	17.207	2.489.436.005	1.403.327.185
Liguria	Center North	2008	27.348,4	0,42	5.421	503.630.006	571.649.048
Lombardia	Center North	2008	33.424,8	0,48	23.861	2.829.606.058	2.366.042.574
Marche	Center North	2008	26.655,9	0,47	9.694	403.795.865	405.807.000
Molise	South	2008	20.370,0	0,39	4.438	214.540.265	89.480.266
Piemonte	Center North	2008	28.665,7	0,46	25.399	1.327.329.800	1.222.389.489
Puglia	South	2008	17.309,0	0,33	19.362	901.723.456	779.458.879
Sardegna	South	2008	20.591,1	0,37	24.090	891.147.570	451.199.884
Sicilia	South	2008	17.338,2	0,30	25.708	839.659.712	1.896.250.870
Toscana	Center North	2008	28.746,8	0,47	22.997	1.173.034.608	1.108.529.849
Trentino Alto Adige	Center North	2008	33.238,8	0,49	13.607	1.171.372.449	403.020.294
Umbria	Center North	2008	24.590,4	0,44	8.456	392.681.669	245.618.169
Valle d'Aosta	Center North	2008	34.154,6	0,47	3.263	153.300.283	60.497.046
Veneto	Center North	2008	30.347,3	0,48	18.391	1.250.806.733	1.074.441.636

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