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The internal migration of foreigners in Spain*

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1. Introduction

In the last twenty years, Spain has become a country of immigration. The number of foreigners has grown particularly fast since the late 1990s, to reach 3.5 million, or over 8 per cent of the population of Spain, in 2005. The number of foreigners registered has multiplied by six in less than a decade (Arango, 2003). According to the 2001 population census, a majority of immigrants reside in urban, services-based regions such as Madrid (which hosts 22 per cent of all immigrants) and Catalonia (18 per cent), which have traditionally been regions of destination for internal migrants as well as international migrants. However, less dynamic regions that had been areas of net emigration until the 1970s, such as Andalusia and Galicia, have also received a significant number of immigrants. Moroccan and other African immigrants cluster mainly along the Eastern Mediterranean coast (Catalonia, Valencia and Andalusia), where more than one third of them worked in the agricultural sector in 2001. The proportion of Latin American residents is highest in urban areas, mainly Madrid and to a lesser extent Catalonia. Although the Northern regions of Spain have not been important destinations for international migrants, a substantial number of individuals born in Latin America, most probably descendants of former emigrants, live in Galicia. Individuals from the European Union and other OECD countries are more evenly distributed across the country, with highly-skilled workers going mainly to Madrid and Catalonia –Barcelona- and retirees as well as more recent arrivals being more attracted to the Eastern Mediterranean coast (Valencia, Balear Islands).

At this early stage of the migration process, the internal dynamics of the phenomenon are largely unkown. Among other, little is known about the residential mobility of the foreign population. More research exists in Western countries with a longer immigration history. Most existing studies try to answer the following questions: Do foreigners stay in the entry regions? Are their internal migration patterns similar to those of natives? Do these patterns differ by origin? What influences them? In Spain, the few existing studies of the geographical mobility of foreigners, by population geographers (Recaño, 2002 and 2004b; García Coll, 2005; Pumares, 2005; Recaño and Domingo, 2006), highlight the importance of their mobility as the driving force behind structural changes to the general internal migration patterns (Recaño, 2006). These studies indicate that foreigners are far more mobile than Spanish nationals (three times

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as mobile, on average). Such high mobility is clearly influenced by the duration of residence (negative exponential association) and their (younger) age structure. The weight of their moves over all internal moves has gradually increased (25 per cent of all changes of residence in Spain in 2004 were by foreigners) and their internal migration patterns are significantly different from those of the native population (Recaño, 2002 and 2004b).

This paper builds on this research, as it aims at answering the following question: What contextual socio-demographic and economic factors influence the recent geographical mobility of the foreign population in Spain and how does their influence differ by origin and/or nationality? That is, we aim at studying the contextual variables that determine the internal mobility of foreigners and at comparing their mobility to that of the Spanish population.

Studies conducted in Canada, the United States and several European countries show that the internal migration propensities and patterns of immigrants and natives differ significantly (Long, 1988; Frey, 1995 and 1996; Newbold, 1996 and 1999; Grimmeau, 1989; Bélanger, 1993). Due to their demographic and social characteristics (age structure and life-cycle stage, duration of residence, labour market situation and education) immigrants tend to be more mobile than natives (Bartel and Koch, 1991; Nogle, 1994). A majority of studies conducted in Canada and the United States find that immigrants are more influenced by social networks and are thus less responsive than natives to regional economic factors (unemployment, income, employment growth) and to the location of other amenities[1] (Long, 1998; Liaw and Frey, 1998, Kritz and Nogle, 1994; Nogle, 1994). The presence and location of already existing communities of their same origin diminishes the costs of migration by, among other, becoming the main source of information for immigrants (Martin and Midgley, 1994; Frey 1995, Gurak and Kritz, 1998). Immigrants move more, but do so among ethnic enclaves rather than towards economic poles (Bartel and Koch, 1991). Gurak and Kritz (1998) show that immigrants emigrate less from regions where there are high concentrations of immigrants of the same national origin. Newbold (1996) stresses, in his work on

[1] In contrast, Schündeln (2002) finds that immigrants in Germany are more responsive than natives to regional labour market differentials. Gurak and Kritz (1998) also point out that immigrants have a lesser propensity to emigrate from regions with high economic growth. Emigration and immigration patterns should therefore be studied separately (Bélanger and Rogers, 1992).

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Canada, the capacity for some regions to attract and retain foreign immigrants from other regions.

In sum, international research indicates that internal migration patterns differ significantly by origin, as groups, especially nationals versus non-nationals, are affected differently by a series of economic, social and migratory variables.

2. Data and methods

The data on internal migration used in this study come from the *Estadística de Variaciones Residenciales* (Statistics of Residential Variation - EVR). The data correspond to 2003 and 2004[2]. This source registers all the changes of municipality linked to the management of the municipal register of inhabitants and provides information on the citizenship of those moving, as well as about other demographic and geographic characteristics (origin and destination of move, among other). Of the total of 2,995,349 internal moves registered by the EVR for the 2003-2004 period, 651,328 moves were by foreigners, and such moves were spread around Spain.

Information on the number of foreigners, used to calculate migration rates for the 2003-2004 period, comes from the *Padrón Continuo* (Continuous Register) of January 2004[3].

The aggregate data used as independent or predictive variables in the regression models that follow include income per capita, employment growth, the distribution of the labour force by sector, the proportion of undocumented migrants and the increase in the number of residence permits granted, among other. Previous analyses suggest that the proportion of undocumented migrants among all migrants and the growth in the number of residence permits may be indicators of the province's flexibility towards regularizing the situation of migrants –granting residence permits. A higher proportion of undocumented migrants may therefore be a push factor for those aiming at legalizing their situation. These data were taken from the 2001 Census, the Spanish Labour Force Surveys (Encuesta de Población Activa, EPA), *Contabilidad Nacional* (National Accounts) and the *Padrón Continuo*. The number of residency permits was obtained from the Ministry of Employment and Social Affairs. For the estimates of the number of

[2] The significant increase in the foreign population and therefore the number of moves by foreigners since 2003 makes the analysis by provinces possible.

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undocumented migrants see Recaño and Domingo, 2005. Another independent variable considered was the Euclidean distance between provinces (established on the basis of provincial centroids).

We have classified foreigners in five different groups[4]: those from other OECD countries, those from Eastern European countries, including the former Soviet republics, those from African countries, Latin American countries and Asian countries.

In order to test whether the internal migration patterns of nationals and those various foreign groups differ, we have used OLS regression models. The data in our study fulfill the statistic conditions required (variables are distributed normally, no autocorrelation between variables, no multicolineality, etc.). The regressions are based on observations for each of the 50 Spanish provinces for the years 2003 and 2004.

The models have been built and tested using *stepwise regression*. This method is used to estimate a model using the minimum number of non-superfluous and, at the same time, significant variables (Guillen, 1992). The best models include 10 explicative variables (Table 1), which are those highlighted in the international literature.

Three regression models have been tested:

a) A general model of gross emigration rates towards other provinces and gross intraprovincial migration rates, in which the dependent variable is the emigration rate towards other provinces (first set of regressions) and the intraprovincial emigration rate within the province (second set), and the independent variables are the characteristics of the provinces of origin. Therefore, this model aims at assessing which variables make emigration more intense. The model does not take distance or destination into consideration. It merely measures intraprovincial changes of residence and movements towards other provinces.
b) Model A (push-type origin/destination), in which the dependent variable is the gross emigration rate towards province j from other provinces (m.j) and the independent variables are the characteristics of the provinces of origin (push factors from i); for example: What variables in the provinces of origin increase the likelihood of moving to Alicante?

[3] The EVR is part of the *Padrón Continuo*, which ensures statistical consistency between the registered flows (numerators) and the population at risk (denominators).

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c) Model B (pull-type origin/destination), where the dependent variable is the gross emigration rate from province i to the other provinces ($m_{i.}$) and the independent variables are the characteristics of the provinces of destination (attraction towards j); What factors stimulate migration from Alicante to a certain destination?

Models A and B introduce an origin and destination matrix, and therefore equate to the traditional push-pull model[5]**.** An important variable in these models is the log of distance between provinces.

Table 1
Variables included in the models

Variables	Description
	GENERAL MODEL
POIR2003	Proportion of undocumented migrants (Recaño and Domingo, 2005)
CPR00_04	Increase in the number of residence permits from 31/12/2000 to 31/12/2004 (Migration Yearbook)
AGRI2003	% of workers in agriculture (II trimester of 2003) (EPA)
SERV2003	% of workers in services (II trimester of 2003) (EPA)
CROC0103	Employment growth (II trimester 2001- II trimester 2003) (EPA)
PARO2003	Total unemployment rate (II trimester 2003) (EPA)
RENT2002	Per capital income 2002 (National Accounts)
TALOCTON	% of Spaniards born in other provinces (t) Continuous Register
LTOT2003	Ln of total population in each group (t) Continuous Register
LEXT2003	Ln of foreign population (t) Continuous Register
	MODELS A/B
LN_DISTP_IJ	Ln of distance
PNAC_I	% of Spaniards born in i living in j
LN_NAC_2003	Ln of nationals from a certain region of origin in province i (fo foreigners only)

Table 1 shows the independent variables included in the models. Variable $LTOT2003_i$ measures the demographic dimension; variables $POIR2003_i$ and $CPR00\_04_i$ measure the proportion of undocumented migrants and the increase in the number of permits granted; variables $AGRI2003_i$, $SERV2003_i$, $CROC0103_i$, $PARO2003_i$, $RENT2002_i$ deal with economic factors; variables $TALOCTON_i$, $LEXTk2003_i$ and $PNAC_i$ are indicators of social networks and migration processes; and variable LN_DIST_{IJ} measures the geographic distance between provinces.

The mathematical formulation of the three models is as follows[6]:

[4] This grouping has been used in previous studies, which also show that each of these groups has different socioeconomic characteristics (Recaño and Roig, 2004; Roig and Recaño, 2005).

[5] In the statistical model by origin/destination, we selected 11 provinces that correspond to different typologies of activity and immigration: Alicante, Almeria, Balearic Islands, Barcelona, Cáceres, Gerona, Madrid, Malaga, Murcia, Valencia and Zaragoza.

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General model

Rate of emigration to other provinces ($m_{i.}$) = *f*(POIR2003$_i$, CPR00_04$_i$, AGRI2003$_i$, SERV2003$_i$, CROC0103$_i$, PARO2003$_i$, RENT2002$_i$, TALOCTON$_i$, LTOT2003$_i$, LEXT2003$_i$)

Model A

Rate of emigration to province j ($m_{.jk}$) = *f*(LN_DIST$_{IJ}$, POIR2003$_i$, CPR00_04$_i$, AGRI2003$_i$, SERV2003$_i$, CROC0103$_i$, PARO2003$_i$, RENT2002$_i$, TALOCTON$_i$, LTOT2003$_i$, LEXTk2003$_i$)

Model B

Rate of emigration from province i ($m_{i.k}$) = *f*(LN_DIST$_{IJ}$, POIR2003$_j$, CPR00_04$_j$, AGRI2003$_j$, SERV2003$_j$, CROC0103$_j$, PARO2003$_j$, RENT2002$_j$, TALOCTON$_j$, LTOT2003$_j$, LEXTk2003$_j$)

3. Research results.

As shown in Table 2, among Spaniards, only two variables have a significantly positive effect on emigration towards other provinces: the proportion of labour force in agriculture and the percentage of those born in other provinces. This result seems to confirm the existence of two migratory patterns, a traditional flow from more rural and agricultural provinces, prevalent among young people, and the other one derived from the migration flows that Spain experienced in the 1960s and 1970s, which has resulted in return (Recaño and Cabré, 2003). However, the explanatory power of the model is low (corrected R^2 = 0.194). Other factors, including distance, are obviously at play when it comes to the geographic mobility of nationals.

Table 2
Rate of emigration to other provinces. Regressions by nationality. Spain, 2003-2004

	Nationals	Foreigners	Other OECD	Eastern Europe	Africa	Latinamerica	Asia
poir2003		-0,23	0,33	-0,27			-0,22
		(-4,2)***	(2,44)**	(-3,41)***			(-1,81)*
cpr00_04		0,17	0,32		0,27		0,37
		(3,15)***	(2,56)**		(2,77)***		(2,97)***
agri2003	0,45	0,17		0,40	0,20	0,25	
	(2,92)***	(2,81)***		(4,41)***	(1,73)*	(2,32)**	
serv2003			-0,25				
			(-1,97)*				
croc0103							-0,29
							(-2,53)**
paro2003		0,18			0,19		0,27
		(3,38)***			(1,94)*		(2,15)**
Rent2002						-0,17	
						(-1,99)*	
Talocton	0,54						
	(3,52)***						
Ln_nac_2003		-0,82	-0,53	-0,48	-0,60	-0,60	-0,44
		(-13,57)***	(-3,68)***	(-5,31)***	(-5,2)***	(-5,94)***	(-3,62)***
R^2	0,227	0,894	0,449	0,705	0,619	0,727	0,473
R^2- corrected	0,194	0,882	0,401	0,686	0,585	0,709	0,413

*** signif ≤ 0,01
** signif≤ 0.05 but ≥0.01
* signif ≤0,10 but ≥ 0,05
In parenthesis, value of t statistic.

[6] Sub-index k corresponds to the different nationalities.

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The emigration of foreigners is better explained by the model (corrected R^2 =0.882). That is, their migration patterns appear to be better explained by the social and economic factors included in the regression. The most influential variable in this model is the presence of individuals of the same citizenship. It has a negative, i.e. pulling effect on the mobility of foreigners, as described in international literature (Moore and Rosenberg, 1995; Nogle, 1994). All groups, but especially Africans and Latinamericans, are influenced by the presence of individuals from the same origin. The effects of the proportion of undocumented migrants are uneven. Those coefficients related to the labour force are more significant, as the provinces with the greatest proportion of workers in agriculture tend to 'expel' immigrants from Eastern Europe, Africa and Latin America. Certain groups of foreigners get their first job in agriculture, and then move elsewhere when they obtain an employment in another sector or get information about job opportunities in other sectors. Meanwhile, the impact of such economic stimuli as income levels, job creation and the unemployment rate in a given province is small.

The model of intraprovincial mobility gives different results (table 3). For Spaniards, migration within the province is higher in provinces with higher income levels and a higher proportion of workers in the services' sector (corrected R^2 = 0,307, higher than in the previous regression). Income also affects positively the migration of all groups of foreigners but that of Africans.

Among Latinamericans and Asians, there is a positive association between the provincial migration rate and the presence of individuals of the same origin. At the same time, these two collectives move far less in the provinces with a higher rate of urbanisation, which suggests a greater pull towards the most populated urban centres.

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Table 3
Rates of migration within the province by citizenship. Spain 2003-2004

	Spaniards	Foreigners	Other OCDE	Eastern Europe	Africans	Latinamericans	Asians
poir2003			-0,32 (-2,44)**				
urb2001						-0,35 (-2)*	-0,28 (-1,73)*
cpr00_04							
agri2003					-0,32 (-2,43)**		
serv2003	0,52 (4,33)***						
croc0103							
paro2003					-0,31 (-2,38)**		
rent2002	0,32 (2,67)**	0,47 (3,73)***	0,33 (2,68)**	0,43 (3,35)***		0,25 (1,97)*	0,36 (3,01)***
Talocton							
Ln_nac_2003			0,51 (3,78)***			0,57 (3,14)***	0,74 (4,5)***
R^2	0,335	0,225	0,386	0,189	0,208	0,269	0,390
R^2- corrected	0,307	0,209	0,346	0,172	0,174	0,221	0,350

*** signif ≤ 0,01
** signif≤ 0.05 but ≥0.01
* signif ≤0,10 but ≥ 0,05
In parenthesis, value of t statistic.

For the models that include origin and destination[7] (table 4, 5 as well as 6 and 6, in annex), the 11 provinces selected are important immigration provinces, and most have high proportions of the labour force in sectors that have absorbed significant numbers of migrants, either agriculture (Almería, Múrcia), services (Barcelona, Madrid) or both (Alicante, Valencia, Girona). The results of these models are more robust as they include distance and the proportion of nationals of the same country in both origin and destination provinces.

For the Spanish population, the most significant variables to explain emigration rates towards a certain destination province are the number of residents born in the destination province that reside in the province of origin (return), distance, which has a negative impact, and population, which also has a negative impact on emigration.

[7] The results shown in tables 4,5,6 and 7 will be commented on shortly.

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Table 4
Rate of emigration towards a certain province. Spanish population, 2003-2004.
(Characteristics of the provinces of origin as values of the independent variables)

Destination provinces: / Characteristics of the province of origin	Alicante	Almería	Baleares	Barcelona	Cáceres	Girona	Madrid	Málaga	Murcia	Valencia	Zaragoza
Ln_distp_ij		-0,19 (-4,27)***		-0,93 (-9,95)***		-0,30 (-5,93)***	-0,48 (-3,42)***		-0,31 (-2,94)***		0,20 (3,32)***
ltot2003	-0,47 (-5,63)***	-0,16 (-3,28)***	-0,26 (-2,33)**		-0,51 (-5,67)***	-0,11 (-1,78)*	-0,32 (-2,85)***	-0,28 (-3,71)***	-0,31 (-2,9)***	-0,27 (-3)***	-0,25 (-5,62)***
agri2003	-0,25 (-3,24)***			0,33 (3,09)***	-0,17 (-2,06)**						
serv2003		0,13 (2,69)***	0,17 (1,87)*	0,39 (3,55)***		0,16 (2,63)**	0,33 (3,2)***	0,14 (1,8)*	0,23 (2,72)***		
croc0103						-0,13 (-2,72)***		0,12 (1,83)*			
paro2003			0,36 (4,28)***		0,19 (2,57)**			0,25 (3,47)***	-0,24 (-2,23)**		-0,11 (-2,07)**
rent2002									-0,20 (-1,97)*	0,25 (2,61)**	
Pnac	1,02 (14,39)***	0,86 (18,59)***	0,72 (7,08)***		0,94 (13,58)***	0,82 (15,15)***	0,37 (3,38)***	0,79 (10)***	0,67 (5,4)***	0,80 (8,54)***	0,95 (19,26)***
R^2	0,822	0,937	0,764	0,690	0,813	0,923	0,696	0,859	0,815	0,636	0,928
R^2- corrected	0,811	0,932	0,742	0,669	0,796	0,914	0,669	0,842	0,789	0,611	0,922

*** signif ≤ 0,01
** signif≤ 0.05 but ≥0.01
* signif ≤0,10 but ≥ 0,05
In parenthesis, value of t statistic.

Spaniards moving to the province of Almeria, for example, do so in more intensity from provinces where there are a high number of Almerians, and people born in Almeria that leave the province of Almeria move in greater intensity to provinces where there is a numerous colony of Almerians (table 6). Similarly, foreigners move more from those provinces in which there are fewer individuals of their group (negative coefficient).

In sum, the most significant variables to explain migration of foreigners between provinces are the number of individuals of the same origin and distance, both having a negative effect on emigration from/to certain provinces (Tables 6,7).

Table 5
Rate of migration to a certain province. Foreign population, Spain, 2003-2004 (Characteristics of the province of origin)

Destination province: / Characteristics of the province of origin	Alicante	Almería	Baleares	Barcelona	Cáceres	Girona	Madrid	Málaga	Murcia	Valencia	Zaragoza
Ln_distp_ij	-0,44	-0,71		-0,86	-0,59	-0,96	-0,72	-0,80	-0,55	-0,54	-0,56
	(-3,81)***	(-6,59)***		(-8,87)***	(-4,95)***	(-7,73)***	(-7,14)***	(-10,98)***	(-5,04)***	(-6,03)***	(-4,81)***
poir2003		-0,43	-0,52	-0,34	-0,28	-0,36		-0,22	-0,42		
		(-4,28)***	(-4,94)***	(-3,73)***	(-2,34)**	(-3,67)***		(-2,81)***	(-3,71)***		
ltot2003		0,30	0,92				-0,28		0,38		
		(1,73)*	(5,29)***				(-2,72)***		(2,14)**		
cpr00_04	0,28							-0,19			
	(2,31)**							(-2,43)**			
agri2003		0,38	0,40	0,26		0,28				0,28	0,30
		(2,83)***	(3,36)***	(2,24)**		(2,06)**				(2,72)***	(2,58)**
serv2003	0,26			0,27		0,26	0,21				
	(1,98)*			(2,11)**		(1,84)*	(2,22)**				
croc0103	-0,21	0,29									
	(-2,03)**	(2,73)***									
paro2003											
rent2002	-0,40	0,40				-0,33	-0,29				
	(-4,22)***	(3,32)***				(-2,56)**	(-3,64)***				
lext2003	-0,39	-0,45	-0,89	-0,21		-0,22			-0,72	-0,35	
	(-3,1)***	(-2,65)**	(-5)***	(-1,82)*		(-1,77)*			(-3,98)***	(-3,35)***	
R^2	0,680	0,700	0,582	0,686	0,370	0,651	0,733	0,759	0,515	0,646	0,381
R^2- corrected	0,635	0,649	0,544	0,649	0,343	0,601	0,708	0,743	0,470	0,623	0,354

*** signif ≤ 0,01
** signif≤ 0.05 but ≥0.01
* signif ≤0,10 but ≥ 0,05
In parenthesis, value of t statistic.

4. Conclusions

This paper has analysed the effect of certain contextual variables on the internal migration of the foreign population in Spain for the 2003-2004 period. The most significant factor in the mobility of foreigners is the number of nationals from the same country, which has a negative impact on the mobility of foreign people: the greater the number of compatriots, the lower the emigration rate. The effect of distance is negative in most provincial models (although in some, such as the Balearic Islands, this is not significant due to the types of distance used). The bigger the distance, the lower the emigration rate to a certain province. Also, individuals move less from the more populated provinces. These results support those obtained in the studies conducted in

the United States and Canada mentioned in the introduction. To these we should add the effect of past internal migration in the intra-provincial migration of Spaniards.

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ANEX

Table 6
Rate of emigration from a certain province of origin. Spaniards. (Characteristics of the province of destination)

Origin province: / Characteristics of the province of destination	Alicante	Almería	Baleares	Barcelona	Cáceres	Girona	Madrid	Málaga	Murcia	Valencia	Zaragoza
Ln_distp_ij		-0,18 (-2,8)***		-0,86 (-7,25)***						-0,75 (-6,83)***	
Agri2003			-0,21 (-3,26)***			-0,08 (-2,43)**	-0,21 (-1,99)*		-0,17 (-2,22)**		
serv2003	0,22 (2,78)***	0,17 (3,13)***		0,32 (3,02)***	0,19 (2,64)**			0,23 (5,45)***		0,37 (3,4)***	0,31 (3,35)***
croc0103						-0,07 (-2,05)**	0,35 (3,37)***				
paro2003				0,30 (2,5)**		-0,15 (-4,69)***		-0,16 (-3,35)***			
rent2002	0,26 (3,29)***				0,17 (2,44)**						0,27 (2,81)***
Pnac	0,82 (10,38)***	0,79 (12,3)***	0,85 (12,98)***		0,80 (11,05)***	0,98 (30,65)***	0,67 (6,57)***	0,94 (18,87)***	0,82 (10,87)***		0,68 (6,96)***
R^2	0,744	0,876	0,808	0,557	0,782	0,958	0,551	0,933	0,739	0,511	0,625
R^2- corrected	0,727	0,868	0,799	0,528	0,768	0,954	0,521	0,928	0,727	0,490	0,600

*** signif ≤ 0,01
** signif≤ 0.05 but ≥0.01
* signif ≤0,10 but ≥ 0,05
In parenthesis, value of t statistic.

Table 7.
Rate of emigration from a certain province of origin. (Characteristics of the province of destination)

Origin province / Characteristics of the province of destination	Alicante	Almería	Baleares	Barcelona	Cáceres	Girona	Madrid	Málaga	Murcia	Valencia	Zaragoza
Ln_distp_i	-0,62 (-6,81)***	-0,47 (-4,26)***	-0,32 (-3,32)***	-0,66 (-7,63)***	-0,35 (-2,34)**	-0,87 (-6,64)***	-0,66 (-4,59)***	-0,49 (-4,15)***	-0,58 (-6,37)***	-0,55 (-6,35)***	-0,64 (-5,87)***
poir2003											
cpr00_04					0,33 (2,55)**	-0,24 (-2,27)**	0,18 (1,81)*				
Agri2003											
Serv2003				0,19 (1,74)*							
croc0103									-0,17 (-1,82)*		
paro2003		-0,33 (-2,98)***							-0,17 (-1,87)*		
Rent2002						-0,34 (-2,71)***		0,25 (2,08)**			
Lext2003	0,55 (6,04)***	0,64 (6,35)***	0,69 (7,21)***	0,46 (4,35)***	0,56 (3,73)***	0,35 (3,56)***	1,04 (7,52)***	0,73 (7,87)***	0,66 (7,05)***	0,66 (7,67)***	0,73 (6,62)***
R^2	0,622	0,546	0,585	0,694	0,281	0,581	0,584	0,624	0,659	0,661	0,546
R^2- corrected	0,605	0,515	0,567	0,673	0,233	0,543	0,557	0,599	0,628	0,646	0,526

*** signif ≤ 0,01
** signif≤ 0.05 but ≥0.01
* signif ≤0,10 but ≥ 0,05
In parenthesis, value of t statistic.