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Community Heterogeneity: A Burden for the Creation of Social Capital?*

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Objective. This study examines the relationship between community heterogeneity and social capital on the local government level. *Method.* We apply both OLS and interval regression techniques to objective macro data of 307 Flemish municipalities for the year 2000. *Results.* Our results show that, after controlling for various socioeconomic characteristics of the municipality, income inequality is not significantly correlated with the municipality's level of social capital. We do find a significant negative relation between social capital and the number of nationalities within a municipality. Yet, contrary to the prevailing argument in the literature, it is not the presence of people with a clearly different ethnic-cultural background that drives this negative relation. *Conclusions.* In accordance with previous international findings, municipalities with large groups of differing nationalities among its citizenry are confronted with a lower level of social capital. Importantly, however, our findings emphasize the need to distinguish between different groups of nationalities and argue for explanations beyond "simple" ethnic-cultural disparities.

Judging by the amount of scholarly attention (and journal space) devoted to the concept in recent years, social capital is the "talk of the town." Though the idea dates back much further, a great deal of this attention is due to Robert Putnam's *Making Democracy Work* (1993). In this influential work, Putnam argues that the higher level of social capital in the northern and central parts of Italy (compared to the south) allows people in these regions to more easily overcome collective action problems. This then improves the performance of the northern regional governments. The relation between social capital and collective, societal outcomes ignited social sci-

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entists' (though also politicians') fascination. Indeed, a rapidly growing body of research reports on the constructive influence of social capital for a vast array of political, social, and economic performance measures (for a review, see Halpern, 2005).

The positive externalities associated with the presence of social capital naturally provoke the question of what factors promote (or block) the emergence of this constructive force. In (partial) answer to this question, social capital scholars recently repeatedly and forcefully—though also quite controversially—point to the negative relation between community heterogeneity and social capital (e.g., Putnam, 2005; Hallberg and Lund, 2005). This controversy mainly centers on the argument that ethnic-cultural diversity is obstructive to the creation of social capital and is obviously kindled by the fact that this relation appears to fit in nicely with the anti-immigrant discourse of extreme right parties.¹ As such, it might easily be (ab)used by such parties to more forcefully demand the strengthening of immigration laws and/or the reduction of immigrant rights (e.g., with respect to the freedom of religion).

In the present article, we extend previous work on the link between social capital and community heterogeneity in two directions. First, we analyze the determinants of aggregate-level social capital in 307 Flemish municipalities. This local government level has been largely overlooked in social capital research thus far (exceptions are Rice, 2001; Coffé and Geys, 2005). Second, we test the prevailing argument that ethnic-cultural diversity is a (central) impediment to social capital formation in heterogeneous communities by distinguishing between groups of foreigners based on their ethnic-cultural backgrounds.

The remainder of the article is structured as follows. A brief description of the social capital concept and the correlation between community heterogeneity and social capital are given in the first part. This section also reviews prior empirical results. The next section examines whether social capital in Flemish municipalities is related to the level of heterogeneity within its population. The last section concludes.

Social Capital and Community Heterogeneity

The Community Heterogeneity Thesis

Despite growing academic interest, one of the prime weaknesses of the social capital concept is the absence of consensus on how to measure it. Still,

¹Moreover, as social capital reduces sympathy for and the electoral success of extreme right parties (Billiet and De Witte, 2001; Coffé, 2002a; Coffé, Heyndels, and Vermeir, forthcoming), a negative spiral may arise when ethnic-cultural diversity indeed reduces social capital.

most scholars recognize three core components: generalized trust, norms of reciprocity, and networks. Social capital is therefore understood as both a *structural* phenomenon (social networks) and a *cultural* or *attitudinal* phenomenon (social norms and trust) (Hooghe and Stolle, 2003). Moreover, social capital is also understood as an aggregate concept (e.g., Putnam, 1993; Newton, 2001). It is a societal resource that links citizens to each other and enables them to pursue their common objectives more effectively. As such, it is argued to have a beneficial influence on various social, economic, and political phenomena (for an overview, see Halpern, 2005). Naturally, the next step then is to inquire into what factors promote (or block) the emergence of this constructive force. Or, in other words: Which factors are conducive for the development of social capital?

In answer to this question, the influence of community heterogeneity has been repeatedly discussed, based on the idea that different societal environments imply varying limitations or possibilities with respect to the development of associations, bonds of solidarity, and generalized trust (de Hart and Dekker, 2003). Indeed, it is generally argued that the genesis of social capital is more difficult in heterogeneous communities. This relation has been particularly studied in terms of ethnic and income heterogeneity and has been found both on the social and the individual level (see below).

One possible explanation for the correlation between heterogeneity and social capital is that people have more trust and feel more comfortable interacting with people who are similar in terms of income, race, and ethnicity (Knack and Keefer, 1997; Alesina and La Ferrara, 2000). This argument refers to the *threat hypothesis*, which states that in communities with a high presence of immigrants, autochthons have more prejudices (Blalock, 1967). Additionally, members of minority groups may prefer to interact with other minority members if they fear discrimination (Costa and Kahn, 2003). This may result in an increase of social capital *within* the group, but renders the creation of mutual trust and the interaction *between* different groups more difficult as a consequence of an “us versus them” way of thinking (Bowles and Gintis, 2002; Knack and Keefer, 1997).

Decreasing intergroup trust may also result from a struggle over governmental resources or (cultural) dominance in regions with strong, adversarial (ethnic) relations (Stolle, 2000; Münster, forthcoming). This argument can clearly be applied to various types of differences among groups in the population (e.g., with respect to race, ethnicity, income, religion, language, local identity, etc.). For instance, the frequent struggles between the Flemish and Walloon regions within Belgium is illustrative of the fact that similar “struggle” arguments may also apply to people using different languages and/or residing in various parts of one country.

Boix and Posner (1998) furthermore suggest that income inequality stimulates the competition over public goods. Those who have financial resources are afraid to lose them, while envy exists among those who do not have resources. In addition, the negative stereotypes of other groups are

enforced by feelings of injustice in economically unequal communities, which interferes with the creation of social capital. Another argument states that optimism for the future makes less sense when there is more economic inequality (Rothstein and Uslaner, 2004). People at the bottom of the income distribution will be less sanguine that they, too, share in society's bounty. The distribution of resources also plays a key role in establishing the belief that people share a common destiny and share similar fundamental values (Rothstein and Uslaner, 2004). When resources are distributed more equally, people are more likely to perceive a common stake with others. If there is a strong skew in wealth, people at each end may feel that they have little in common with others.

Finally, individuals from different socioeconomic groups are less likely to share common values and norms. This makes it harder for citizens to "predict" the behavior of others (Hardin, 1993; Misztal, 1995). This uncertainty might create an unfavorable environment for the development of generalized trust and self-enforcing agreements.

Exploring the Empirical Literature

The association between community heterogeneity and the level of social capital has been analyzed both at the individual (micro) and social (macro) level. Studies on the *individual* level mostly use a multi-level analysis, thus focusing both on individual and social elements to explain the individual's investment in social capital. Sampson, Raudenbush, and Earls (1997), Alesina and La Ferrara (2000), and Leigh (forthcoming a) conclude that, after controlling for individual characteristics like age and education, social capital formation is significantly lower in heterogeneous communities. Leigh (forthcoming b), however, concludes that when different measurements for fractionalization (income, ethnicity, religion, and language) are included in one model, only income inequality is significantly negatively associated with trust. Alesina and La Ferrara (2000) find that the age fragmentation is not significantly, though generally negatively, correlated with the level of social capital. Interestingly, an analysis based on 1991 British census data by McCulloch (2003) finds that (ethnic) heterogeneity is significantly negatively related to social capital formation for women only (the coefficient for men is also negative, though statistically insignificant).

Costa and Kahn (2003) do not use a multi-level analysis, but restrict their model to contextual variables. They conclude that volunteering, membership, and trust among 25- to 54-year-olds are lower in heterogeneous communities, particularly those in which wage inequality is high.

Experimental research by Glaeser et al. (2000) confirms the above-mentioned conclusions. Specifically, they look at the importance of ethnic diversity in the formation of social capital through two-person trust games. They find that participants from different races or nationalities behave in a

less trustworthy manner toward one another and conclude that the degree of social connection predicts the level of trust and trustworthiness between two individuals. This implies that racial diversity within groups restricts trust in others and the reliability of someone's behavior toward others.

Studies on the *aggregate* level have focused strongly on analyses at the country level. Two of these regard only the effect of income inequality. Rothstein and Stolle (2001) and Rothstein and Uslaner (2004) both show that income inequality is strongly negatively correlated with generalized trust. The higher the income inequality, the lower the level of trust. Three other studies have a slightly broader aim. Knack and Keefer's (1997) comparative analysis of 29 countries based on the World Values Study points out that income inequality and ethnic heterogeneity are strongly correlated with less trust and less social involvement. A study of 40 countries by La Porta et al. (1997) finds a similar negative relation between ethnolinguistic heterogeneity and social capital. Delhey and Newton (2005), in a comparative study on social trust in 60 countries, confirm these results. Interesting in their results is that ethnic homogeneity seems to have a direct effect on trust as well as an indirect effect via the consequences of ethnic homogeneity on good governance, welfare, and income equality.

Finally, at a lower level of aggregation, Hero (1998, 2003a, 2003b) regards the relation between Putnam's (1993) index of social capital and racial inequality in 48 American states. The results indicate that there is a strong and negative association between racial heterogeneity and the level of social capital in the state. Rice and Steele (2001) find that Iowa towns with high levels of *white* ethnic diversity tend to have a lower level of community attachment and that the populations of these towns view their communities with more suspicion and tend to be less involved in community activities.

Analysis

Measuring Social Capital²

In line with, among others, Putnam (1993, 2000) and Newton (2001), we understand social capital as an aggregate concept and thus operationalize it as a characteristic of communities rather than individuals. We thereby rely exclusively on aggregate-level data. The alternative strategy, that is, using individual-level survey data that are aggregated to the municipality level, cannot be used given the absence of survey-based data at the municipal level in Flanders. Specifically, we include three different (aggregate-level) indicators to measure the level of social capital in the Flemish municipalities.

²This section draws heavily on Coffé and Geys (2005).

Our first indicator of social capital measures *associational life*. Voluntary associations are seen as creators of social capital because of their socialization effects on democratic and cooperative values and norms. Moreover, the trust and norms of reciprocity that people generate in associations are spread over the whole community, encompassing citizens who are not equally active in associational life (Stolle, 2000). We use the number of a wide variety of organizations (per capita) in each municipality to measure the density of associational activity (Lauwerysen and Colpaert, 2004; Bloso, 2004). Along with sports clubs, this measure also includes the number of *sociocultural associations* within a municipality. These sociocultural associations are primarily local branches of (inter)national associations for, among others, women, retired people, and civil rights movements.³ Our measurement of sociocultural associations includes both *bonding* and *bridging* associations (Putnam, 2000). Some organizations are inward looking and encompass people with the same (e.g., ethnic or religious) background.⁴ Other networks are outward looking and bring citizens into contact with people from a cross-section of society. A dense network of sports and sociocultural organizations refers to a high level of social capital.

In correspondence with Putnam (2000), Costa and Kahn (2003), and Casey (2004), we use *electoral turnout* in the 2000 municipal elections as a second indicator of social capital. This is measured as the number of votes cast on Election Day (valid as well as invalid) divided by the number of registered voters. It refers to civic involvement and participation in public affairs. Importantly, voting is compulsory in Belgium. Still, this compulsory character is to a large extent “symbolic” as penalization is virtually nonexistent in practise.⁵ Moreover, turn-out rates ranged from 87.95 percent to 98.46 percent in the election under study and thus show significant variation between the Flemish municipalities. This lack of prosecution and the significant variation in actual turn-out rates allows us to interpret high turn-out levels as signaling an engagement toward the “common good” (and thus a

³We lack data on informal contacts people may have. Still, though loose and amorphous networks of individuals might also facilitate civic attitudes and behaviors, the broadening of the social capital concept to include various types of social interaction might constitute a conceptual problem as it becomes fuzzier and its relationship to performance less obvious (Stolle, 2003). Besides, Stolle (1998) argues that informal socializing is not particularly conducive to social capital.

⁴Some voluntary associations are explicitly related to religious or political groups. Such *verzuijing* (pillarization) involves that these organizations will particularly attract people with certain religious and political characteristics. As such, they might be more important for *bonding* than for *bridging*. Still, their explicit link with a particular confessional group does not imply that these associations do not appeal to people with different socioeconomic backgrounds (implying they would allow for *bridging* across social groups). In fact, research has indicated that traditional pillar associations are more successful in attracting lower-educated people than the new social movements whose members are predominantly highly educated (Coffé, 2002b). Besides, they have been particularly active in trying to attract ethnic minority groups within their organizations (Billiet, 1993).

⁵Following the 2000 municipal elections, nonvoters were sued in two of the 27 Belgian judicial areas. In all, 391 of the 628,957 nonvoters were prosecuted (Geys, 2004).

high level of social capital).⁶ The extent of associational life and electoral turnout are indicators that cover the structural component of social capital.

Putnam (1993), Fukuyama (1995), and Inglehart (1997) suggest that social norms, but in particular trust among citizens, establish the cultural aspects of social capital. As Delhey and Newton (2005) show that distrust accompanies conflict, the crime rate can be conceived as an indicator for the level of generalized trust within a municipality and thus as an objective proxy for the attitudinal (or cultural) component of social capital. Hence, and thereby following Rice and Sumberg (1997), the *crime rate* per capita in each municipality is used as our third indicator of social capital. Clearly, as crime in societies will lower citizens' respect and trust in one another, low crime rates are expected to be indicative of a high level of social capital.

These three indicators are expected to measure a similar underlying concept (i.e., social capital). Hence, we combine them into a single index using principle component analysis (PCA).⁷ This mitigates the influence of idiosyncratic measurement error within each of the variables and maximizes the likelihood of measuring the underlying concept more precisely. Thus, even though the individual indicators are arguably less than ideal and their choice might be criticized, the component retrieved from the PCA analysis "probably measures social capital better than any single indicator" (Bjørnskov, 2003:7; see also Rice and Sumberg, 1997; Knack, 2002). The results of the PCA are summarized in Table 1.

It is clear from Table 1 that each element loads powerfully onto one underlying component extracted from the data. Note also that with the use of all three indicators into one principal component, our index of social capital comprises both structural aspects (i.e., associational life and political involvement) and a cultural aspect (i.e., the crime rate as a proxy for trust). Hence, our social capital index takes account of the dual nature of the concept.⁸

⁶Empirical evidence shows that competition is a core determinant of voter turnout in two-party settings such as the United States and the United Kingdom (see, e.g., Geys, forthcoming). However, in multi-party settings, such as the Flemish municipalities, the measurement of "competitiveness" or "closeness" is not straightforward. Nonetheless, Geys and Heyndels (forthcoming) recently used the "size inequalities" between the parties competing in Flemish municipal elections as a proxy for electoral competition. The results indicate that these size inequalities do not exert a statistically significant influence on voter participation. As such, the effect of competition on voter turnout in Flemish municipalities is likely to be insignificant and therefore does not affect the suitability of this variable for our analysis.

⁷A preliminary analysis indicates that our data are suitable for PCA. Specifically, the Kaiser-Meyer-Olkin measure of sampling adequacy is above the critical 0.50 level ($KMO = 0.55$) and the Bartlett test of sphericity significantly rejects the null hypothesis that the intercorrelation matrix comes from a population in which the variables are non-collinear ($\chi^2(3) = 100.89$). This implies that our three indicators are strongly correlated.

⁸By merging structural and cultural aspects of social capital into one index, we follow the main strand of the literature arguing that the different components of social capital have a systematic interrelationship with one another and are thus part of a joined-up concept. We should note, however, that some authors indicate a need for caution about constructing social capital indices that mix indicators of social connectedness with indicators of generalized trust and reciprocity (see Knack and Keefer, 1997; Newton, 1999; Knack, 2002). They argue that all the indicators should be kept apart and the relations between them treated as a matter of investigation.

TABLE 1
The Social Capital Component

Component Measure	Component Loading
Electoral turnout	0.84
Crime rate	-0.75
Associational life	0.60
Eigenvalue: 1.62	
Percentage variance: 54.08	

Measuring Community Heterogeneity

We measure community heterogeneity through income inequality and diversity in nationalities. Income inequality is measured by the fraction of the interquartile difference in income and the median income level in the municipality: $[(Q3 - Q1)/\text{Median}]$. This quantifies how strongly income levels are dispersed about the median level. Income inequality varies from about 70 to little over 130 (indicating that the difference between the income level at the first and third quartile equals 70–130 percent of the median income level in the municipality). Higher values for the index point to higher levels of income inequality.

The diversity in nationalities is measured by the “effective” number of nationalities in the population, which is the inverse of the *Herfindahl-Hirschmann concentration index*: $1/\sum_{i=1}^n p_i^2$ with p_i equal to the share of nationality i and n equal to 21 (indicative of the 21 most frequent nationalities in Belgium). We include only 21 nationalities due to data availability. Indeed, for the period relevant for this study (i.e., prior to 2001) the National Institute for Statistics (NIS) provides data “only” for these 21 nationalities. These are: Belgian, German, Danish, French, English, Luxemburg, Dutch, Irish, Italian, Greek, Spanish, Portuguese, Swiss, Polish, Turkish, Algerian, Moroccan, Tunisian, Zairean, American, and Japanese. Admittedly, most of these groups have at best a minor representation and their inclusion probably does not make a substantive difference for the “effective” number of nationalities. Still, for the sake of completeness, we included all 21 nationalities in our empirical analysis. In 2000, the largest groups of foreigners were Dutch (ca. 75,000), Moroccan (ca. 42,000), Turkish (ca. 35,000), Italian (ca. 25,000), and French (ca. 17,000). Higher values for the index point to higher levels of community heterogeneity in terms of nationalities. Note that the “effective” number of nationalities is fairly small in most municipalities due to the predominance of people with the Belgian nationality in Flemish municipalities. Yet, despite this dominance of Belgian inhabitants, there is a significant amount of variation across the municipalities, which can be used as an explanatory factor in the empirical analysis.

Bivariate correlation coefficients indicate—in line with previous research (see above)—that there is a negative relation between community heterogeneity and social capital. Both income inequality and the number of nationalities are significantly negatively connected to social capital ($r = -0.16$ and $r = -0.30$, respectively).

Empirical Model

Though supportive of findings in the previous international literature, these bivariate results should be regarded as only a first examination of the data. When estimating the effect of community heterogeneity on social capital, it is imperative to control for the possible importance of rival explanations. Hence, in the present section, we estimate a multivariate regression model including, besides our two central variables of community heterogeneity, a number of socioeconomic control variables. More specifically, we estimate the following empirical model for 307 Flemish municipalities (where subscript i stands for the municipalities and Social capital _{i} refers to the level of social capital as described in Table 1):⁹

$$\begin{aligned} \text{Social capital}_i = & a + b_1 \text{Income}_i + b_2 \text{Education}_i + b_3 \text{Unemployment}_i \\ & + b_4 \text{Age}_i + b_5 \text{Population size}_i (\ln) \\ & + b_6 \text{Density of population}_i \\ & + b_7 \text{In- and outward migration}_i + b_8 \text{Homeownership}_i \\ & + b_9 \text{Income inequality}_i + b_{10} \text{Number of nationalities}_i \\ & + e_i. \end{aligned}$$

First, we control for four sociodemographic elements that have proven to be important determinants of social capital at the individual level. Though the theoretical foundation for a relation of these variables to social capital at the aggregate level is (at the very least) imperfect, we feel that not controlling for their effects in our analysis may yield inconsistent estimates due to omitted variable bias. As such, we include per-capita taxable income (in 1,000 Euro) and the level of education within a community. The latter is measured by the percentage of the population (older than 20 years) with a college or university degree. A third sociodemographic control variable is the unemployment rate. It is defined as the percentage of the total municipal population that is unemployed. The fourth and final sociodemographic variable included in the model is the share of elderly (over age 65) within a community.

Second, we control for the effects of four contextual variables. To control for the anonymity and alienation that are characteristic of large cities (Wirth, 1938; Weber, 1947) and the fact that a large population tends to weaken the force of ethical rules (Buchanan, 1965), we include population size and the

⁹Missing data prevent the inclusion of the small municipality Herstappe.

density of the population. Population size equals the number of inhabitants in the municipality (the natural logarithm controls for the highly skewed distribution of this variable). Population density is measured by the number of inhabitants per square kilometer. Additionally, we control for the residential stability of the population by means of the in- and outward migration in the municipality during one year as a percentage of the total population. We expect mobility to reduce social capital as “leaving a community tends to destroy established bonds, thus depriving family and children of a major source of social capital” (Portes, 1998:11; see also Bowles and Gintis, 2002). In line with this, we also add the extent of homeownership. Ownership of a house does not only imply that one is likely to stay longer in a region, but also entails a financial investment in a certain environment (Green and White, 1997; DiPasquale and Glaeser, 1999). As the quality of the (social) environment influences housing prices, homeownership creates an additional incentive to invest in social capital. Homeownership is measured by the percentage of houses with a known resident that are occupied by the owner.

Empirical Results

The results are given in Table 2. Before we discuss the findings, it is important to point out two methodological issues. First, we employ two different estimation techniques. Columns 1, 3, and 5 present the results using simple OLS. However, this technique does not control for the limited range of values that our dependent variable takes. This could lead to biased estimation results and incorrect inferences. To accommodate this issue, in Columns 2, 4, and 6, we report results using an “interval” regression technique where we impose that the dependent variable is limited to a given interval. Mathematically, this is equivalent to performing a Tobit estimation while imposing both a top and bottom boundary to the estimation. It is clear from Table 2 that the results from both estimations are very similar. The results of our basic model, as specified above, are presented in Columns 1 and 2, while Columns 3–6 show further elaborations (see below).

Second, the direction of causality is ambiguous for most of the variables included in the model. For example, one could argue that higher education levels lead to higher investment in social capital (Verba, Lehman, and Brady, 1995), but it has also been shown that social capital has a positive effect on school results (La Porta et al., 1997). To minimize the problems associated with this reverse causality, we operationalize each of our explanatory variables one year prior to the measurement of social capital (i.e., using data from 1999).¹⁰ The reason is that historical municipal characteristics may

¹⁰The sole exceptions to this rule are the level of education and homeownership. For these variables, we use data from 2001 and 1991, respectively (due to availability).

TABLE 2
Explanations for the Level of Social Capital in Flemish Municipalities (2000)

Variables	1 OLS	2 INT	3 OLS	4 INT	5 OLS	6 INT
Intercept	8.723*** (7.08)	8.743*** (7.19)	8.705*** (7.11)	8.725*** (7.23)	8.355*** (7.15)	8.376*** (7.29)
Income	-0.213*** (-4.04)	-0.215*** (-4.13)	-0.212*** (-4.04)	-0.214*** (-4.13)	-0.207*** (-4.03)	-0.209*** (-4.14)
Education	0.016 (1.38)	0.016 (1.41)	0.012 (1.06)	0.013 (1.08)	0.015 (1.27)	0.015 (1.30)
Unemployment	-0.048 (-0.84)	-0.048 (-0.85)	-0.055 (-0.97)	-0.056 (-0.99)	-0.088 (-1.48)	-0.088 (-1.51)
Age	-8.929*** (-5.39)	-8.934*** (-5.46)	-9.064*** (-5.50)	-9.067*** (-5.58)	-9.057*** (-5.46)	-9.057*** (-5.55)
Population (ln)	-0.541*** (-8.05)	-0.543*** (-8.17)	-0.538*** (-8.05)	-0.540*** (-8.19)	-0.556*** (-8.28)	-0.558*** (-8.45)
Population concentration	-0.0002 (-1.46)	-0.0002 (-1.44)	-0.0002* (-1.83)	-0.0002* (-1.82)	-0.0002** (-2.08)	-0.0002** (-2.08)
Population migration	-9.919*** (-4.28)	-10.013*** (-4.37)	-9.961*** (-4.32)	-10.051** (-4.42)	-9.664*** (-4.09)	-9.747*** (-4.19)
Home ownership	0.024*** (3.74)	0.024*** (3.79)	0.022*** (3.47)	0.022*** (3.52)	0.023*** (3.43)	0.023*** (3.50)
Income inequality	0.001 (0.07)	0.001 (0.11)	0.0002 (0.03)	0.0005 (0.07)	-0.003 (-0.36)	-0.002 (-0.34)
Diversity in nationalities	-1.024*** (-2.98)	-1.022*** (-3.01)	-0.730** (-1.99)	-0.729** (-2.01)	—	—
Country border (dummy)	—	—	-0.243** (-2.16)	-0.243** (-2.18)	-0.135 (-1.10)	-0.135 (-1.12)

Continued

TABLE 2—continued

Variables	1 OLS	2 INT	3 OLS	4 INT	5 OLS	6 INT
% West European	—	—	—	—	-0.037*** (-3.03)	-0.037*** (-3.08)
% South European	—	—	—	—	0.025 (0.71)	0.025 (0.72)
% Turkey and the Maghreb countries	—	—	—	—	-0.013 (-0.33)	-0.013 (-0.32)
N	307	307	307	307	307	307
R ²	65.24	58.22	65.78	59.59	66.39	61.21
RESET ³ (chi ² (2))	1.16	2.47	1.30	2.79	1.37	2.90

NOTE: *t* values in parentheses; ***significant at 1%; **at 5%; *at 10%. R² values in the interval regression are McFadden (1974) pseudo-R². RESET³ is Ramsey's (1969) specification test. The results indicate the absence of functional form misspecification.

well be used to explain the current level of social capital, while that level of social capital is less appealing as an explanation for historical characteristics of the local population. Since the variation of our variables is relatively small in time, such a time lag obviously does not solve all problems of causality. Hence, we refrain from statements about the causality of the effects and talk instead about a (mutual) correlation.¹¹

The results of our multivariate analysis reveal that there is no effect of economic diversity on social capital. The significant bivariate finding thus appears to derive from the other socioeconomic determinants that are controlled for in the regression equation. This lack of correlation is in contrast to previous findings at the individual (Costa and Kahn, 2003; Leigh, forthcoming a, forthcoming b) and the aggregate level (Knack and Keefer, 1997). This could indicate that income diversity across the Flemish municipalities is too limited to generate (substantively and statistically) significant effects. Indeed, relative to income inequality across countries (Knack and Keefer, 1997), the differences among Flemish municipalities are rather low. Another possible explanation is that the Flemish population cares little about income differences within their community when deciding whether to invest in social capital.

In contrast to the results for income inequality, ethnic heterogeneity has a significant depressing effect on social capital even after controlling for the influence of various socioeconomic control variables. When the effective number of nationalities within a municipality increases, the level of social capital, *ceteris paribus*, decreases.¹² This result is in line with findings from previous research at the macro level using data across countries or American states (Knack and Keefer, 1997; Hero, 1998, 2003a, 2003b). The creation of groups and the formation of bonds of trust and reciprocity thus appear to be less problematic in communities where people share a common nationality.¹³

However, the results may be influenced by the geographical position of the municipalities. After all, communities that lie close to a country border are characterized by a large presence of non-Belgians. Additionally, these

¹¹We repeated the analysis with data from two and three years prior to the determination of social capital and achieved similar results. Also, the use of historical data as instruments for the present values of the explanatory variables (through 2SLS) leaves the general tenor of the results unaffected (results available on request).

¹²Inclusion of dummy variables for four of the five Flemish provinces as a proxy for historical-geographical effects does not affect this result. These dummies indicate that—all else being equal—social capital is significantly lower in the Province of Antwerp, while none of the other provinces differ statistically significantly from one another.

¹³When the analysis is repeated for the different components of social capital separately, we find that the effective number of nationalities is significantly (on the 5 percent level) and negatively correlated with electoral turnout and the number of associations within a municipality. Income inequality is significantly (on the 10 percent level) and negatively related to electoral turnout. Heterogeneity in terms of income and nationalities is not significantly correlated with the level of crime.

border communities are often confronted with so-called border crime.¹⁴ The existence of both phenomena may lead to a bias in our results. Yet, the results presented in Columns 3 and 4 indicate that even after controlling for the location of the municipality at a country border (operationalized as a dummy with value 1 for the border municipalities and 0 for the other communities), the number of nationalities within a community is negatively correlated with the level of social capital. Even though the relation becomes slightly weaker, it remains significant at the 5 percent level of significance. Note that our analysis also indicates that the location of a municipality alongside a country border is negatively associated with the level of social capital.

The negative relation between heterogeneity and social capital has in the literature often been explained by ethnic prejudices and ethnic-cultural differences between various groups in the population (see above). To assess whether these ethnic-cultural explanations can be confirmed in our research, we distinguish the three most important groups of non-Belgians in Columns 5 and 6: west Europeans (the Netherlands, France, Germany, Denmark, the United Kingdom, Luxemburg, Ireland, and Switzerland), south Europeans (Italy, Spain, Greece, and Portugal), and people from Turkey and the Maghreb countries (Algeria, Morocco, and Tunisia). The distinction between these different groups is based on the finding that the autochthons perceive the presence of various groups of immigrants in a different way. Specifically, native Belgians consider the presence of south European immigrants as less conspicuous and less problematic than the presence of immigrants from Islamic countries (Meuleman and Billiet, 2003). Moroccans and Turks, for instance, are generally less accepted as neighbors or colleagues and this may thus preclude “bridging” social capital formation.

Interestingly, our analysis shows that only the percentage of inhabitants of west European origin is significantly negatively related to the level of social capital. The larger their proportion is in the population, the lower the level of social capital. The percentage of south Europeans is positively but not significantly associated with social capital, while the percentage of immigrants from the Maghreb countries and Turkey is negatively but also insignificantly related to the level of social capital.¹⁵ Hence, the negative link between diversity in terms of nationalities and social capital does not appear to derive from ethnic and cultural differences. Indeed, the ethnic and cultural differences with people from the Maghreb countries or Turkey are considerably larger than those with west or south Europeans. They differ

¹⁴Although such criminal acts are committed by inhabitants from a neighboring country, spill-over effects might exist through which the general level of trust of the municipality's inhabitants (and thus the level of social capital in that municipality) is influenced.

¹⁵These findings do not result from potential multicollinearity problems. In fact, the correlations between the shares of the various groups of nationalities in the municipal population are weak, with the exception of the relation between the share of south Europeans and the share of people from Turkey and the Maghreb countries ($r = 0.53$). Moreover, running the regressions using each of the groups separately does not affect our results.

most with regard to religion, habits, lifestyle, appearance, and costume. Relying on the phenomenon of *multiculturalism* to explain the negative relation between social capital and community diversity may thus be misguided. This corresponds with the analysis of Rice and Steele (2001), which shows that Iowa towns with high levels of *white* ethnic diversity tend to have a low level of community attachment. Moreover, the residents of these towns view their communities with more suspicion and tend to be less involved in community activities.

Switching to the socioeconomic control variables, we observe that lower levels of average income are associated with higher levels of social capital. This corresponds to Oliver's (1999) finding that relatively rich neighborhoods tend to have lower participation rates. However, research at the individual level has provided evidence that high-income individuals have higher levels of social capital (Delhey and Newton, 2005; Leigh, forthcoming a, forthcoming b). This illustrates once more that individual-level findings cannot just be translated to the aggregate level, or vice versa. A similar conclusion holds for the lack of effect from unemployment and education. Whereas individual-level research generally shows a strong relation with social capital (e.g., Hooghe, 2003), our analysis on the social level does not provide evidence of such a relationship.

The share of elderly (over age 65) in the population has a significant negative effect on a municipality's level of social capital. This contrasts with Putnam's (2000) conclusion that older people tend to have a higher level of social capital. He points to the change in generation to explain this effect and the effect of experiencing World War II at a relatively young age on the social sentiments of the "long civic generation." Our findings are more in line with the conclusions from individual-level research in Flanders by Breda, Schoenmaekers, and van Geel (2003). They find that the elderly in Flanders are more often subject to feelings of insecurity and social exclusion.

Population size as well as population concentration are negatively associated with the level of social capital in the municipality, indicating that trust and norms of reciprocity tend to be easier to maintain in smaller municipalities. Finally, we find that the residential stability of the population has an important effect on social capital. Both the negative effect of in- and outward migration in the municipality and the positive effect of homeownership indicate that residing in a community for longer periods of time increases involvement in the community (and thereby social capital). Also, given that both effects are statistically significant, the ownership of a house creates an additional incentive to invest in social capital (due to one's financial investment in the community).

Conclusion and Discussion

The concept of social capital has in recent years obtained considerable attention from both the scientific and political world. This is largely a

consequence of the rapidly increasing number of findings in the scientific literature that social capital has a supporting effect on various social phenomena such as economic and institutional performance. Such findings naturally trigger the question of what factors promote (or block) the emergence of this constructive force and in what social contexts it grows most expeditiously. Indeed, different societal environments imply varying limitations or possibilities with respect to the development of associations, bonds of solidarity, and generalized trust (de Hart and Dekker, 2003). In the present article, we concentrated on one aspect of this social context, namely, the heterogeneity of the population. Previous studies found that community heterogeneity has an important influence on the creation of social capital across countries (Stolle, 2000; Knack and Keefer, 1997) and American states (Hero, 1998, 2003a, 2003b). Studies of this effect at the local level have, however, been rare. This article takes a first step to bridge this gap.

Our results illustrate that, after controlling for various relevant socioeconomic contextual variables, social capital in Flemish municipalities is not significantly related to the level of income inequality. However, we do find—as suggested by previous analyses—that more extensive diversity in terms of nationalities within the community is significantly and negatively associated with social capital. Yet, this association, contrary to what has been suggested in the literature, cannot be directly attributed to ethnic-cultural differences. Indeed, our results show that the presence of people with a distinguishably different ethnic-cultural background (i.e., people from Turkey or the Maghreb countries) is not significantly negatively correlated with the level of social capital. Rather than the extent to which we differ from one another, it appears to be the presence of *a* difference (in nationality) that plays a crucial role (see also Rice and Steele, 2001).

This is a somewhat surprising result, especially given the fact that the presence of (west and) south European immigrants is often seen as less problematic than that of those from Islamic countries (Meuleman and Billiet, 2003). As a possible explanation, one could speculate that the (often presumed) higher investment in “bonding” social capital by people from Turkey or the Maghreb countries (or even southern Europe) compensates for their lack of “bridging” social capital, whereas this may not be the case for west European immigrants (whose lesser distance from “home” may thwart investments even in “bonding” social capital). This, however, is a very tentative explanation that calls for more extensive research. The observed pattern may also derive from the high number of European citizens that reside in Belgium to work at one of the EU institutions. Being mostly temporary residents, their lower incentive to invest in social bonds may reduce social capital, especially in those areas where EU staff is predominantly located (thereby also reducing social capital especially in areas with many European foreigners).¹⁶ Still, as the effects we find are not significantly

¹⁶We are grateful to an anonymous referee for pointing this out.

stronger in the province of Vlaams Brabant, which envelops the Brussels region (where most EU staff can be expected to live), this can at best be a partial explanation for our results. Finally, given the limited timeframe of the present analysis, it was impossible to assess any temporal developments that may influence the observed relation between social capital and socio-economic heterogeneity. In future research, it would clearly be of interest to incorporate these dynamic processes.

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