Decentralization and Living Conditions in the EU
Michiel S. de Vries

Abstract:
This paper investigates the effects of decentralization on living conditions in core cities in the European Union. It uses data from the Urban Audit to investigate whether the level of local expenditures relative to central government expenditures has an impact on the subjective appreciation of local living conditions as measured in the Urban Audit Survey in 75 cities as well as the actual quality of local living conditions as measured by comparative crime, traffic, urban space and health statistics as measured in 560 cities. It investigates the impact of decentralization on these living conditions controlling for background factors such as population density, median income of households and unemployment in the cities.

The analyses show that decentralization does have an added value in explaining citizens’ satisfaction with regard to public and green space, public transport, health care, reduces actual crime and increases feelings of safety.

Introduction
This paper aims to contribute to the discussion of the merits of decentralization by presenting a comparative empirical analysis of the effects of decentralization on living conditions in core cities in the European Union. This is relevant as living conditions are of utmost importance for any city’s inhabitants, and the impact of decentralization remains a contested subject. Whereas almost everyone in the 1950s pleaded in favor of centralization, the cons of centralization were emphasized in the 1960s. In the 1990s, decentralization even became a crucial
aspect of what was called “good governance.” The supposed merits of decentralization are well-known and amply described in the literature of that time. After 2000, the supposed merits of decentralization are disputed again in conference papers and books (see among others De Vries 2000; Treisman 2007).

The problems faced by decentralization processes and decentralized states are also well-known. One major problem involves the supposedly lacking capacity of local governments in being unable to take full advantage of the tasks and responsibilities transferred by the central government in decentralization processes or those that are unable to make adequate policies to resolve problems in decentralized states. This is seen as a major problem, especially in developing countries and small municipalities (Cohen & Peterson 1999; Griffin 1981; Heller 2001). At the same time, the lacking capabilities and capacities are sometimes used as an argument in favor for decentralization even if any impact thereof is hardly visible. The argument follows that decentralization is to be preferred because of this and that or even as an end in itself; if it does not deliver on its promises, it is not because decentralization is ineffective, but instead, the recommendation should be to enhance the capacities and capabilities of municipal governments in order to make decentralization work.

This kind of argumentation seems to make decentralization itself a concept above all reproach. Nonetheless, this paper tries to investigate whether the assumption underlying this argument is valid by turning the argument around. Based on the argument one would not only expect the effects of decentralization to be absent in poor municipalities lacking basic capacities, but one would also expect that decentralization of responsibilities and authorities is advantageous for municipalities possessing ample capacities and capabilities to take full benefit of such decentralization processes and that such municipalities in decentralized states have an advantage over similar cities in centralized states. This would in an extreme case apply especially to large cities in highly developed nation-states. If anywhere, the benefits of decentralization should at least be
visible in such municipalities having the means, capacity, and capability to adequately develop the local policies needed in case of decentralization.

The main question addressed in this paper is whether this claim can be substantiated and whether the supposed merits of decentralization are indeed visible in the extreme case of core cities in the European Union. This analysis provides an extreme case due to two reasons.

First of all, although there are differences, the capacity of local as well as central governments in the EU member-states is undisputed; the quality of the EU member-states’ governance is ranked among the highest in all kinds of international rankings. For instance, in the World Governance Index (see Kauffman et al 2006), in indicating their governments provide ample civil liberties, political and human rights, there is political stability, government effectiveness, regulatory quality, rule of law and control of corruption; the EU-member states belong to the few countries in the world that have not experienced any warfare on its soil during the last decades, which is indicative for its political stability; the economic growth within the EU has been tremendous resulting in the fact that EU member countries belong to the most wealthy and developed countries in the world. Important for this research is also that the EU consists of sovereign nation-states with varying levels of decentralization (Stegarescu 2005). This makes it possible to investigate whether variance therein does make any difference.

Secondly, this research involves an extreme case as it looks at the effects of decentralization for core cities within the EU, which -perhaps contrary to smaller municipalities- may be expected to possess even more of the capacity and capabilities needed to benefit from decentralization. If a municipal’s capacity and capability is sufficient anywhere, it should be at least in these core cities.

As will be explained in the methods section, the analyses in this research are based on data gathered within the so-called Urban Audit (Eurostat 2006, 2008). Both figures on living conditions
in 560 core cities and results from surveys conducted in 2006 about living conditions in 75 of these cities are used in order to test whether decentralization does make a difference for the living conditions in these cities.

Of course, we acknowledge that living conditions do not only depend on the powers and authorities given to local governments, i.e. decentralization. There are numerous background factors determining living conditions. In this paper we control the impact of decentralization on living conditions for such background factors and investigate whether there is a (relevant and significant) added value of decentralization on these living conditions. This results in the operational research question whether or not decentralization has added value for living conditions in major cities. In order to be able to answer this question we need to answer the following sub-questions:

1. What might be expected on the basis of previous research about the impact of decentralization on living conditions at the local level?
2. What might be expected on the basis of previous research about the background factors determining the quality of living conditions in municipalities, possibly interacting with the impact of decentralization?
3. What are the features of the data used - and what is the quality thereof - to test whether these expectations are valid for the extreme case of core cities in the well-developed countries in the EU?
4. What does an analysis on these data show about the impact of the background factors and added value of decentralization on local living conditions?
5. What conclusions can be drawn on the basis of the analyses?

The next sections will successively address these five questions. Hence, this paper proceeds in the next section with a concise overview of the literature addressing the expectations found in previous research on the impact of decentralization.
Expectations about the impact of decentralization on living conditions

Decentralization has in the past been judged to be either a panacea (Kochen & Deutsch 1980, Jun, & Wright 1996, Landy 1993; Ingram & Smith 1993; Robinson & White 1998), an orthodoxy (Osborne & Gaebler 1992; Fine 2001; Harriss 2002); as an end in itself (World Bank 1984, 1988, 2000; UNDP); as an aspect of good governance (Gilbert 1996; Huther and Anwar Shah, Dahal 1996; Huther 2005, Botchway 2001, Nanda 2008), but also as a heavily overrated concept with ambiguous impacts (Prud’homme 1994, Hadiz 2004; Andrews & de Vries 2008) or even a fashion (De Vries 2000; Treisman 2007, 1). Therefore, decentralization is still a heavily disputed concept.

Partly this dispute could be due to the multitude of meanings of decentralization. Some scholars define decentralization very broadly, including such different phenomena as devolution, deconcentration, privatization, delegation and even philanthropy (Philips 1982; Cohen & Peterson 1999, 21). In order to avoid confusion, decentralization is defined here rather narrowly, congruent to what has been called functional decentralization, local autonomy, political decentralization as well as administrative decentralization, that is, the transfer of centrally produced goods and services to local level units of government. A decentralized system is defined here as one in which decision-making powers, authority, and the management of budgets and expenditures are concentrated in the hands of local government rather than central government. Hence, decentralization is perceived in terms of inter-governmental relations which vary to the extent that either the central (national) government has the power and authority and takes care of the bulk of the public revenues and expenditures or the regional and local (sub-national) governments are dominant in all these aspects of policy making.
Partly the different appraisals of decentralization are also due to the multitude of supposed but hardly tested merits of decentralization. The expected consequences can be found in numerous publications, and have been summarized, among others, by De Vries (2000) and Treisman (2007). They point to expectations about the possibilities to satisfy citizens’ demands, the increased honesty, efficiency and responsiveness, better performance, increased possibilities for citizen participation, improved checks and balances, cooperation and policy stability, more policy experimentation and innovation as a consequence of decentralization (Treisman 2007, 13-15). Decentralization would also increase the possibilities of tailor-made policies, to cut through red tape, to increase officials’ knowledge of and sensitivity to local problems; it may result in better penetration of national policies to remote local communities, greater representation for various religious, ethnic and tribal groups in the policy process, and greater administrative capability at the local level. It can provide a structure in which local projects can be coordinated; it may result in a flexible, innovative and creative administration meaning it is more effective in its implementation due to simplified monitoring and evaluation; it can increase political stability and national unity and it reduces diseconomies of scale: it is more efficient (De Vries 2000; see also Rondinelli & Cheema 1983, 14–16). However, at the same time both De Vries and Treisman questioned all these assumed advantages of decentralization (De Vries 2000, 199 ff; Treisman 2007, 11-15) resulting in what seems to be huge ambiguity about the actual merits of decentralization. De Vries concludes that regarding wicked problems too much is expected of changing institutional arrangements in practice (De Vries 2000, 220). “The tendency to try to solve problems only by changing the division of responsibilities and powers, without looking at the real causes of such problems or at the substantive merits of existing policies, may well be another example of a symbolic policy.” Treisman and De Vries conclude that the dissatisfaction with existing arrangements may well be causing institutional changes such as decentralization but also centralization. In the conclusion of his well-argued book entitled The Architecture of Government, Treisman compares decentralization to the fish that jumps out of the frying pan into the fire by stating “This fish deserves sympathy rather than criticism. The outcomes may be disastrous, but the other option is not appealing either” (Treisman 2007, 294).
One of the problems frequently mentioned in the scholarly literature on the subject is that the success of decentralization depends on the circumstances (Griffin 1981; Deakin & Walsh 1996). However, at the same time Von Braun (2003) argued, “There is a lack of empirical evidence to analyze the conditions and types of rural public goods provision and public spending that should be decentralized.” Theoretically the boundary conditions are identified. Cohen & Peterson argue that a system that promotes accountability is a necessary condition (1999, 75). Musgrave points to the need of stabilization and high maintenance of employment and output; the achievement of high levels of wealth and income, and efficient allocation of resources (Musgrave 1959, 181-182). Other scholars have pointed to the weak administrative capacity at the local level in especially developing countries and criticize the decentralization concept for being based on the favorable situation in developed countries while applied and promoted in the administrative weak developing countries, especially problematic in its weak managerial and technical capacity (cf. Leonard 1982, 2006). Effective political competition and a reasonable level of asset equality and literacy are also seen as necessary preconditions for decentralization to achieve improved accountability (Dreze and Sen 1989, 107).

According to Heller (2001) there are three necessary, but not sufficient, preconditions for decentralization. The first is a high degree of central state capacity. Because any effective effort to decentralize requires coordination between levels of government and calls for more, not less regulation to guarantee basic transparency, accountability and representativity, weak states cannot successfully pursue decentralization. Indeed, when a weak state devolves power, it is more often than not simply making accommodations with local strongmen - creating what Mamdani (1996) has labeled decentralized despotism - rather than expanding democratic spaces. The second requirement is a well-developed civil society. This is true not only because it enables the participatory dimension of decentralization, but also because it can potentially provide new sources of information and feedback, as well as the constructive tension that theorists have argued is an essential ingredient of democratic governance. The third is a political project in which an organized political force - and specifically
non-Leninist left of center political parties that have strong social movement characteristics - champions decentralization (Heller 2001,7-8). Shah (1998) also pointed to the operational capacity and constraints. As he argues the answers to some key questions will give a better understanding of operational capacity, including:

“Do the agencies with responsibility for various tasks have the capacity to undertake them? Do they have the right skills mix as well as the incentive to do the right things and to do them correctly? Is the bureaucratic culture consistent with the attainment of societal objectives? Are there binding contracts on public managers for output performance? Does participation by civil society help alleviate some of these constraints? To what extent can these constraints be overcome by government reorganization and reform? Whereas, in industrial countries, answers to most of the above questions are expected to be in the affirmative, this is not true in the case of a developing country” (Shah 1998, 7).

Enikolopov and Zhuravskaya (2007) pointed to quality of government and public goods provision, including the strength of the party system, and the election as opposed to the appointment of local- and province-level executives. These remarks result in the expectation that decentralization will fail to fulfill on its promises when the conditions under which decentralization emerges are unfavorable.

Simultaneously the implication is that the expected merits of decentralization will be visible in favorable contexts. This is the hypothesis tested in the remainder of this paper by using data on core cities in member states of the European Union. In these cities the preconditions of ample institutional, managerial, and technical capacity in city hall and contextual factors in the municipality are largely fulfilled. In these countries and cities there is wealth, a very high level of literacy, and certain equity. There is political competition, election of local councils, accountability, transparency and representativeness. Hence, the basic conditions exist under which decentralization could flourish. The question is whether or not decentralization deliver on its promises under such favorable conditions.
Background factors having a possible impact on living conditions

The previous section has at least created doubt about the effects of decentralization. This doubt also exists concerning the research question posed in this paper, namely the impact of decentralization on living conditions in core cities in the European Union. This is even more so the case as one cannot expect that the quality of living conditions are solely dependent on decentralization. In the literature on living conditions, many other factors are mentioned. For instance, as Sagan et al (2004, 32) argue, factors frequently studied as determining living conditions include working conditions, leisure time activities, health indicators, welfare, availability of different leisure time options and access to various services. Young (1972, 54) added that minority status also takes on major importance. The European Information Centre for Nature Conservation (1999) suggested to take housing conditions, employment and public infrastructures such as cultural and sports into account. The task of selecting a particular set of factors to study living conditions is far from straightforward given the number of determinants (Meyer & Pontheire 2009, 12).

Explanatory factors determining living conditions are, according to Mayer (1993), especially financial and to be found in combination with income, expenditures, family size, health, and work related expenditures (Mayer 1993; Beverly 2001). This is indicated below by median disposable household income and the unemployment rate.

Another important explanatory factor seems to be population density, i.e. the number of people living in a km². Research shows that this is determinative for the scarcity of green space, health, crime, and traffic jams. There is extensive research that people perform worse in overcrowded spaces, and there is an increase in aggression and discomfort (Rodin 1976, Ostberg et al 2006)
**Methods**

The data used in this paper are derived from the EU Urban Audit project. The goal of this project is to “contribute towards the improvement of the quality of urban life: it supports the exchange of experience among European cities; it helps to identify best practices; it facilitates benchmarking at the European level and provides information on the dynamics within the cities and with their surroundings” (http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/en/urb_esms.htm).


![Cities in the Urban Audit](source)

Figure 1. (Source: Urban Audit Methodological handbook, Eurostat 2004, 16)

The data were collected by the national statistical offices, by the town or city, or from another source. In most cases, data have been obtained from censuses, different administrative and statistical registers, national and local databases in the individual cities and sample basis. In some cases, data have
been obtained from a sample survey. Although some variables have been estimated, most indicators have been calculated by Eurostat (Urban Audit Reference Guide - Data 2003-2004). In January 2004, a perception survey parallel to the Urban Audit data collection was conducted in 31 cities in the EU-15. In random telephone interviews, 300 citizens in each city were asked about their perception of various aspects of the quality of life in “their” city. In December 2006, the survey was repeated with a larger sample of 75 cities in the EU-27, Turkey and Croatia (Ibid). In this paper, we use the latter data from 2006.

The factual data comprise information about the population in the core cities and larger urban zone (total, age structure, density, nationality, fertility, number and structure of households, number of houses and features thereof i.e. living area and income levels) and several policy areas (economy, income, education, environment, transport, culture and recreation, tourism, green space, unemployment, health care, crime, as well as municipal expenditures).

The data used from the perception data in the core cities comprise information on satisfaction in several areas. In this paper, we use the questions of the survey as given in Table 1.

| Table 1. Survey questions from Urban Audit |
| Q1. Generally speaking, please tell me if you are very satisfied, rather satisfied, rather unsatisfied or not at all satisfied with each of the following services in your city: |
| a. Public transport in the city, for example the bus, tram or metro |
| b. Schools |
| c. Health care services offered by hospitals |
| d. Health care services offered by doctors |
| e. Green spaces such as public parks and gardens |
| f. Sports facilities such as sport fields and indoor sport halls |
| g. Cinemas |
| h. Cultural facilities such as concert halls, theatres, museums and libraries |
| i. Public Internet access such as internet cafes or libraries |
| j. Internet access at home |
| Q2. I will read you a few statements. Please tell me whether you strongly agree, somewhat agree, somewhat disagree or strongly disagree with each of these statements? |
| a. In your city, it is easy to find a good job |
| b. Foreigners who live in your city are well integrated |
| c. In your city, it is easy to find good housing at a reasonable price |
| d. When you contact the administrative services of your city, do they help you efficiently |
| e. In your city, air pollution is a big problem |
| f. In your city, noise is a big problem |
| g. Your city is a clean city |
| h. Your city spends its resources in a responsible way |
| i. You are satisfied to live in your city |
| j. In the next five years, it will be more pleasant to live in your city |
| Q3. For each of the following statements, please tell me, if this always, sometimes, rarely or never happens to you? |
| a. You have difficulty paying your bills at the end of the month |
| b. You feel safe in the neighborhood you live in |
| c. You feel safe in your city |
This survey was first held in 2004 over 35 cities and repeated in 2006 in 75 cities with a number of respondents per city between 297 and 308. As Eurostat mentions in its publications, the National Urban Audit Coordinators have checked all data before they were sent to Eurostat, who executed a project on the Quality Check of the Urban Audit between 2004-2005 and in 2008-2009 to detect potential errors in Urban Audit. Database applying systematic control procedures, and to provide Eurostat with an updated data set, that has been validated by the National Urban Audit Coordinators.

In this research part of the factual data, 250 cities are used on average and regarding the perception data based on the surveys, the aggregated data over the cities are used, resulting in an N of 75.

The data on decentralization were also derived from Eurostat. We use national data on the local expenditures per GDP and Central government expenditures per GDP. This results in an indicator on decentralization, namely the local expenditures divided by the central government expenditures. This variable is indicative for the question whether local government is able to deal with its problems autonomously.

**Analyses**

In this section correlation matrices are presented for the relation between the level of decentralization and the quality within four policy areas, namely public space, crime, public transport and health care. In the Urban Audit, there are indicators for the actual level of facilities in each of these areas as well as the perceived satisfaction of the city’s population. Below it is shown how decentralization at the national level is related to these four problems, controlling for three background factors, namely population density, median disposable income per household, and the unemployment rate. We control for these three factors, because they are indicative of the basic structure of the city and - as was argued above in Section 3 - are known
to be determinative for the problems of big cities. The partial correlations give the added value of decentralization for explaining the level of the problems in the four policy fields. We could have presented the results of a regression-analysis, but because of the number of missing values on the indicators for the actual problems and the limited number of cities in which the surveys were conducted (75), a regression-analysis is likely to result in unstable parameters. Although this also applies to the partial correlations we think that by presenting only the partial correlation-matrices we avoid pretending to get more out of the data than is justified on methodological grounds.

1.1. Green space

The first policy area investigated is that of green space in the city. Especially in big cities it increases the well-being of the inhabitants if next to houses, apartments and skyscrapers. A city also provides green space where its inhabitants can recreate, participate in sports, et cetera. As Santos argues, green space is needed to incorporate the historical and social nature of the way the space is occupied as an inherent component in the determinants of living conditions. “Space” becomes particularly important in large metropolises, which contain elements of diverse origins and ages with a multiplicity of capital, work, and cultural relations (quoted in Texeira 2002, 1193).

The Urban Audit measures the available publicly accessible green space per square kilometer. We divided this measurement by the total land area of the city. The second variable relevant in this respect is the question in the survey whether the respondent is satisfied with the green space in the city. Whether and how this is related to decentralization is given in Table 2. Seen in this table is first that contrary to expectations the actual green space area is hardly and not significantly related to the satisfaction with the amount of green space in the
city. However, both indicators are positively and statistically significantly associated with the level of decentralization in the country in which the city is situated. The larger the part of public expenditures by the local level compared to the expenditures at the central governments’ level, the more the municipalities in the core cities are able to provide accessible green space and to satisfy its citizens about such green space. One can conclude that in decentralized countries the core cities provide a more satisfactory amount of green space for its inhabitants than core cities in centralized countries do.

### Table 2. Decentralization and green space in the city

<table>
<thead>
<tr>
<th>Controlled for:</th>
<th>Decentralization: part of governmental expenditures by local government</th>
<th>Level of decentralization</th>
<th>Actual volume of green space in km²</th>
<th>Satisfaction with green space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment rate in Urban Audit cities * % &amp; Population density in Urban Audit cities &amp; Median disposable annual Household income</td>
<td>.233*</td>
<td>1,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual volume of green space per land area</td>
<td>.344*</td>
<td>.115</td>
<td>1,000</td>
<td></td>
</tr>
</tbody>
</table>

a. Given are PM correlations. An asterix indicates that the correlation is statistically significant at 95%

### 1.2. Public Transport

In large cities adequate public transport is often desperately needed to go to work, to go to the city’s facilities and to release traffic jams. The Urban Audit points out that the core cities in the EU are congested with on average 378 registered cars per 1000 inhabitants and an average 25-minute journey time to go from home to work fluctuating between 15 minutes and 71 minutes. In some cities it takes over an hour to go to work. One solution for this congestion problem is to expand public transport. The degree to which public transport covers the whole city is indicated in the Urban Audit by the number of stops of public transport per km². There is hardly any transport
in some cities, while in other cities there are up to 35 stops per km$^2$. Whether public transport is better in cities situated in countries where decentralization is high is seen in table 3.

Table 3. Public transport and decentralization

<table>
<thead>
<tr>
<th>Control Variables</th>
<th>Level of decentralization</th>
<th>Satisfied with public transport (synthetic index 0-100)</th>
<th>Number of stops of public transport per km$^2$</th>
<th>Cost of a monthly ticket for public transport (for 5-10 km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment rate in Urban Audit cities %</td>
<td></td>
<td>.258</td>
<td>1,000</td>
<td>.325*</td>
</tr>
<tr>
<td>Population density in Urban Audit cities</td>
<td></td>
<td>.181</td>
<td>-.087</td>
<td>.366</td>
</tr>
<tr>
<td>Median disposable annual household income</td>
<td></td>
<td>.325*</td>
<td>-.013</td>
<td>1,000</td>
</tr>
</tbody>
</table>

Table 3 shows that in decentralized countries inhabitants of core cities are more satisfied about public transport, the coverage of public transport is higher, and the costs thereof are higher. Hence, decentralization seems to have a positive and significant effect on the inhabitants’ satisfaction with public transport in the city and a positive (although not statistically significant) effect on the spread of public transport, although this comes at the price of higher cost for monthly tickets in cities situated in countries with higher levels of decentralization. From the table one can conclude that core cities in decentralized countries have better public transport facilities than core cities in centralized countries.

1.3. Crime

One of the wicked problems large cities have to deal with is crime. Crime is often much more frequent in urban than in rural areas, although it even varies among core cities. In the Urban Audit, there were on average 3.95 burglaries per 1,000 inhabitants reported in cities with a maximum of 23 in Almere,
the Netherlands, and Nottingham UK. The number of car thefts is somewhat lower – on average 3.45 – with a maximum of 20 per 1,000 inhabitants in Manchester, UK. Is this variance also related to centralization and decentralization? In many countries fierce political discussions are seen among those who plead for centralized police and those who favor municipal police. Table 4 shows the association between the level of decentralization in the nation-state and the number of burglaries and car thefts and perceptions of safety in the core cities.

<table>
<thead>
<tr>
<th>Table 4. Crime and decentralization</th>
<th>Level of decentralization</th>
<th>Number of domestic burglary per 1000 population</th>
<th>Car thefts in Urban Audit cities - number per 1000 popul.</th>
<th>Feel safe in this city (synthetic index 0-100)</th>
<th>Feel safe in this neighborhood (synthetic index 0-100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median disposable annual household income &amp; Population density in Urban Audit cities &amp; Unemployment rate in Urban Audit cities - %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>part of governmental expenditures by local government (local divided by central)</td>
<td>.189*</td>
<td>1,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of domestic burglary per 1000 population</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Car thefts in Urban Audit cities - number per 1000 inhabitants</td>
<td>.127</td>
<td>.398*</td>
<td>1,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feel safe in this city (synthetic index 0-100)</td>
<td>.552*</td>
<td>-.100</td>
<td>.341*</td>
<td>.809*</td>
<td>1,000</td>
</tr>
<tr>
<td>Feel safe in this neighborhood (synthetic index 0-100)</td>
<td>.444*</td>
<td>-.023</td>
<td>.260</td>
<td>.809*</td>
<td>1,000</td>
</tr>
</tbody>
</table>

Presented are Pearson PM correlations
* indicates that the correlation is significant at 95%.

Table 4 shows that inhabitants of core cities in decentralized states do feel more safe in their neighborhood (R2=.44) and in their city (R2=.55) and that the municipality is more able to prevent burglaries in these cities (R2= -.19). All these relations are statistically significant and as before controlled for population density, unemployment and median household income. The only problem not significantly related to decentralization is the number of car thefts. However, overall one may conclude that also regarding crime the impact of decentralization is positive on perceptions as well as occurrences.
1.4. Health care

The last policy area with which decentralization could be related to is health care. We investigate the number of available hospital beds, the satisfaction among the inhabitants with hospitals and doctors, the actual pollution in the city, and the perception of pollution.

<table>
<thead>
<tr>
<th>Table 5. Health and decentralization</th>
<th>Level of decentralization</th>
<th>Available hospital beds in Urban Audit cities - per 1000 inhabitants</th>
<th>Number of days particulate matter concentrations (PM10) exceeds 50 μg/m³ in Urban Audit cities - days per year</th>
<th>Satisfied with hospitals (synthetic index 0-100)</th>
<th>Satisfied with doctors (synthetic index 0-100)</th>
<th>Air pollution is a big problem here (synthetic index 0-100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>part of expenditures by local government (local divided by central)</td>
<td>1,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Available hospital beds in Urban Audit cities per 1000 inhabitants</td>
<td>-.292*</td>
<td>1,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of days per year particulate matter concentrations (PM10) exceeds 50 μg/m³ in Urban Audit cities</td>
<td>-.262*</td>
<td>.223*</td>
<td>1,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfied with hospitals</td>
<td>.314*</td>
<td>-.175</td>
<td>-.340*</td>
<td>1,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfied with doctors</td>
<td>.268</td>
<td>-.116</td>
<td>-.312*</td>
<td>.925*</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Air pollution is a big problem here</td>
<td>-.199</td>
<td>-.027</td>
<td>.195</td>
<td>-.312*</td>
<td>-.286</td>
<td>1,000</td>
</tr>
<tr>
<td>Satisfied with health care</td>
<td>.310*</td>
<td>-.140</td>
<td>-.270</td>
<td>.938*</td>
<td>.866*</td>
<td>-.365*</td>
</tr>
</tbody>
</table>

Control Variables
Unemployment rate in Urban Audit cities %
Population density in Urban Audit cities
Median disposable annual Household income

Presented are Pearson PM correlations
* indicates that the correlation is significant at 95%

Table 5 shows that all indicators but the number of hospital beds are related to decentralization as expected. The satisfaction with hospitals, doctors, health care in general and air pollution is larger in cities situated in decentralized countries and the actual air pollution is less. Although not all relations are statistically significant, we can conclude that controlling for population
density, median household income and unemployment in cities, cities in decentralized countries are able to take care of health care better than cities in which most public expenditures are done by central government.

Hence, the outcomes of the analyses corroborate the claim that the degree to which core cities can autonomously decide about their policies and how much to spend on social problems does have a positive effect on each of the four aspects of the living conditions of their inhabitants, i.e. green space, public transport, crime and health.

Conclusions
This paper investigated whether the degree of decentralization in a nation-state has added explanatory value for four dimensions of living conditions in its core cities, i.e. green space, public transport, crime and health. Use was made of data from the Urban Audit. This is a research project conducted on behalf of Eurostat involving 560 cities on which indicators for the actual number of health-care facilities, public transport, green space and crimes were gathered. The Urban Audit also involves surveys among 75 core cities in order to measure whether the city’s inhabitants are satisfied with, for instance, the green space, public transport, crime and health care. We analyzed these data by relating them to the level of decentralization as indicated by the expenditures of local government relative to those by central government. These associations were controlled for population density, median household income and unemployment rate in the core cities.

The analyses in which these data were related to the level of decentralization at the national level led to the following conclusions:
1. As to perceptions, the inhabitants of cities situated in decentralized countries are more satisfied with the facilities with regard to green space, health care, and public transport and feel safer in their neighborhood as well as in the city as a whole.
2. As to the actual facilities and occurrences, cities in decentralized states have more green space per square kilometer, better public transport, and experience less crime.
Overall, the conclusion cannot but be that decentralization does have a positive and significant impact on the living conditions in core cities in the EU as indicated by its green space, public transport, crime and health care. This is a significant outcome, because according to us, it is one of the first examples of comparative statistical research in which the positive effects of decentralization are so clearly visible. Although decentralization is one of the most discussed themes in public administration, hard evidence of its positive impacts were until now only found in theoretical arguments, case studies, and rhetoric.

The findings presented here do not, however, present a final answer nor do they provide decentralization with the status of a panacea. As also shown some associations are not significant such as with the level of car thefts, the number of hospital beds, the perceived satisfaction with doctors and pollution. Furthermore, as mentioned in the introduction, the cities investigated here can be seen as extreme cases, because the cities are large municipalities in wealthy countries–EU member states - with administrative systems with sufficient capacity and capabilities. For instance, in answering the question on the Urban Audit survey as to whether administrative services help efficiently, on average 63% of each city’s inhabitants (totally) agreed, with a maximum of 89% in the administratively most capable city. This is unusually high and indicative of the relatively high quality of these cities’ administrative systems. These cities are therefore able to fully benefit from decentralization policies and apparently know how to spend the available resources efficiently in such a way that social problems diminish, and the satisfaction among its inhabitants increases.

The findings do therefore support the views of adherents to decentralization policies. They do have a point which is that the largest cities on the wealthiest part of this planet do indeed profit from decentralization.

The remaining question is whether that conclusion can be generalized to a statement that municipalities in general profit from decentralization. This does not necessarily have to be the
case in small municipalities and/or municipalities in relatively poor i.e. developing countries. In those cases it could well be much more difficult to take advantage of decentralization processes.

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