Article

Urban Studies

Urban Studies
1–17

DOI: 10.1177/00420980211019613
journals.sagepub.com/home/usj
SAGE

Quality of local government and social trust in European cities

Conrad Ziller
University of Duisburg-Essen, Germany

Hans-Jürgen Andreß
University of Cologne, Germany

Abstract

Communities are responsible for a range of public services and represent critical experiential contexts for social interactions between residents. However, the role of local governance and public service provision for creating social trust has received limited attention so far. This study examines how quality, efficiency and fairness of local public service provision relates to social trust. Using multilevel models on repeated cross-sectional survey data from the Quality of Life in European Cities project, we test the relationship between time-varying city-level indicators of quality of local government and social trust. The empirical results show that an increase in the dimension of local public service quality is substantially associated with an increase in social trust. We find improvements in sport and leisure facilities as well as the state of public spaces, streets and buildings to be particularly relevant.

Keywords

immigration, infrastructure, local government, public administration, social trust

摘要

社区负责一系列公共服务，是居民之间社会互动的重要体验环境。然而，迄今为止，我们对地方治理和公共服务提供对于建立社会信任的作用的关注较少。本研究考察了地方公共服务提供的质量、效率和公平与社会信任之间的关系。利用欧洲城市生活质量项目重复横截面调查数据的多水平模型，我们检验了地方政府质量的时变城市级指标与社会信任之间的关系。实证研究结果表明，地方公共服务质量维度的提高与社会信任度的提高有很大关联。我们发现体育和休闲设施的改善以及公共空间、街道和建筑的状况尤为重要。

关键词

移民、基础设施、地方政府、公共管理、社会信任

Received November 2019; accepted April 2021

Corresponding author:
Conrad Ziller, Working Group of Empirical Political Science, Department of Political Science, University of Duisburg-Essen, Lotharstr. 63, 47057 Duisburg, Germany.
Email: conrad.ziller@uni-due.de

Introduction

The share of the world's population living in cities rather than rural areas is growing. This development confronts cities with substantial challenges related to the integration of newcomers (Ray and Borer, 2018; Saunders, 2011). Additional houses must be built and required public services and infrastructure must be provided (Andrews et al., 2013). While the increase in heterogeneity that follows demographic change potentially puts a strain on the social cohesion of communities (van der Meer and Tolsma, 2014; Ziller, 2015), local governments as major providers of public services represent a critical – yet understudied – actor in maintaining functioning communities and social relations.

This study examines how quality of local government – here defined as the operating principle of local administrations that involves quality, efficiency and fairness in providing public services to citizens – relates to social trust. Social trust refers to the general expectation that (unknown) fellow citizens will act in a reliable and just manner, rather than behaving against one's interests (Delhey and Newton, 2005). Individual resources (e.g. income) and informal social interactions represent influential factors facilitating social trust (Brandt et al., 2015; Glanville et al., 2013). The reason for this is that individuals' resourcefulness mitigates negative externalities of non-reciprocal or trust-breaching behaviours, and social interactions with others facilitate inclusive social identities and make the social world more 'predictable' (Braithwaite, 1998; Hardin, 2002).

Building on research on the link between institutional performance and social trust (Andrews, 2012; Rothstein and Stolle, 2008), we argue that the public service provision of local governments shapes opportunities for social contact between residents and determines how reliable local institutions are perceived to be. This in turn is expected to yield an impact on social trust. Previous research on contextual determinants of social trust, and social cohesion or social capital as more broadly defined concepts (cf. Forrest and Kearns, 2001), have focused on economic and demographic factors (Abascal and Baldassarri, 2015; Portes, 1998; Putnam, 2007; Sampson, 2012). This study's focus on quality of local government adds a new perspective to this line of research by shifting its attention to the role of local institutions and public service provision – factors that have largely been overlooked so far. Moreover, we distinguish different dimensions of quality of local government, which enables us to study their relative importance for the creation of social trust.

To assess the relationship between quality of local government and social trust empirically, we use repeated cross-sectional survey waves from the Quality of Life in European Cities project. This dataset entails indicators of perceived public service quality, the efficiency of local administrations, as well as trust in local administrations. A large number of observations per city and wave enables us to aggregate city-level indicators that – in a multilevel regression framework – represent contextual differences across cities beyond the individual-level relationship. Moreover, the panel structure at the level of cities allows for examining how changes in aggregated perceptions of quality of local government over time relate to social trust. Our results show that an increase in public service quality is positively related to an increase in social trust. We particularly find improvements in sport and leisure facilities as well as the state of public spaces, streets and buildings to be relevant, which points to the role of physical (dis)order and informal social contacts as underlying mechanisms.

Theoretical framework

Contextual foundations of social trust

Previous research on social trust using comparative survey data has largely focused on economic and institutional factors (Alesina and La Ferrara, 2002; Delhey and Newton, 2005). For economic factors, the underlying rationale is that in contexts of economic wealth, people are, on average, equipped with sufficient economic resources, which makes them less vulnerable to non-reciprocal or trust-breaching behaviours. Another reason for assuming a positive link between wealth and social trust is that economic development alters long-term value priorities where people increasingly prioritise values related to individualism and self-direction over security and conformity (Inglehart, 1997). Individualists are more likely than collectivists to pursue collective group interests out of intrinsic motivation (Yamagishi, 1988) and to trust others beyond ingroup boundaries (Berigan and Irwin, 2011). Besides wealth, negative consequences of income inequality have been discussed with reference to social trust (Blake et al., 2015; Uslaner and Brown, 2005). In unequal societies, people increasingly engage in self-interested behaviour, compete for social status, develop anxieties about moving down the social ladder and interact less with people from other social classes (Buttrick and Oishi, 2017; Newman et al., 2015).

In a similar vein, studies on neighbourhood effects have found that economic deprivation of neighbourhoods or communities is a critical factor hampering social trust, and that group-based inequalities and residential segregation represent further trust-inhibiting factors (Abascal and Baldassarri, 2015; Letki, 2008; Sampson, 2012; Ziller and Spörlein, 2020). Moreover, residential instability is substantially related to lower levels of local social ties and friendship, and of social trust (Sampson, 1988, 2012).

With reference to institutional foundations, explanatory approaches have emphasised fairness or impartiality as a main feature of an institutional setup that facilitates social trust (Rothstein and Stolle, 2008; Rothstein and Teorell, 2008). The idea is that if public officials apply regulations equally to all citizens alike, which means that they operate in an unbiased and non-corrupt fashion, this signals the reliability of the institutional and moral fabric of a society. In turn, the reputation of institutions operating impartially reassures people not only when dealing with public authorities, but also in social interactions with other citizens. If citizens share the expectation that dishonest and exploitative behaviour will be sanctioned, then they will have a higher incentive to comply and will be less inclined to commit trust-breaching behaviours. Iteratively, this should lead to less social conflict, more cooperation and higher rates of social trust in the long run (Sønderskov and Dinesen, 2016).

Theorising about institutional quality making the social world more predictable and thus facilitating social trust rests on the assumption that people recognise the institutional framework they live in. Since citizens often have limited political sophistication, it is unrealistic to expect them to accurately observe and evaluate national policies and institutional regulations (Campbell, 2012; Soss and Schram, 2007). Instead, several authors have argued that people learn about the institutional conditions they live in by having contact with intermediary agents such as police officers, teachers and public officials, as well as by experiencing (and assessing) specific welfare services such as childcare and health services (Kumlin, 2004; Sønderskov and Dinesen, 2016). By focusing

on the local context of municipalities' public service provision, our study provides a more direct test (compared to cross-national designs) of how variations in the performance of local institutions affect people's perceptions of co-residents being trustworthy.

The role of quality of local government

Local governments are responsible for a range of services, including water and energy supply, waste collection, child and elderly care, education, public transport, maintenance of roads and public buildings and spaces, youth service and cultural offerings (Narbón Perpiñá and De Witte, 2018). Local governments differ in the way they provide such services both with regard to their quality and in terms of efficiency, that is, the administrative performance through which a municipality creates relevant output given available resources (Borge et al., 2008). Providing high-quality services represents a desirable goal of citizens and public officials as the quality of public services is positively linked to residents' intention to stay in the city or neighbourhood instead of moving out (Shinohara, 2018), levels of civic participation (Chatzoglou et al., 2013) and collective efforts to reach common goals (Mugion et al., 2018; Sampson, 2012).

In terms of efficiency, administrations typically lack incentives to be cost-effective in providing services. However, political competition, financial constraints and the implementation of new management tools can improve the cost-efficient allocation of service provision (Boyne and Walker, 2004). In addition, social, demographic, economic, spatial and historical factors have been found to shape variation in local government efficiency (see Narbón Perpiñá and De Witte, 2018, for a review). From the perspective of 'institutional reflexivity' (Lampe, 2017), efficiency in providing public services reflects administrative skills and capabilities that are relevant for addressing challenges such as changes in administrative tasks, territorial reform, demographic change including immigration, budget cuts, the provision of additional housing, pollution control, and renewals or upgrades of infrastructure.

Apart from public service quality and local government efficiency, impartiality or fairness of bureaucracies is typically considered as a central dimension of quality of government (Charron et al., 2014; Rothstein and Teorell, 2008). At the national level, impartiality becomes apparent in an absence of corruption, which is substantially related to mass education and economic development (Uslaner, 2017). Local variations in institutional fairness can be attributed to historical development, economic characteristics (e.g. inequality) and political factors (e.g. anti-corruption regulations, incentives for public officials) (Charron et al., 2014; Olsen et al., 2019). Although public service quality, local government efficiency and institutional fairness represent different dimensions of the overall quality of local government, we expect substantial interrelations due to common origins. Ultimately, all three aspects are expected to positively relate to social trust, assuming the following underlying mechanisms.

In order to link public service quality and efficiency in public service provision and social trust, we draw on the literature on (contextual) determinants of social trust and employ two arguments. First, public service quality, efficiency and fairness of local governments should shape how reliable they are perceived to be by citizens, which in turn reduces uncertainty in social interactions and facilitates residents' social trust. This argument draws from the literature on the institutional foundations of social trust

according to which shared perceptions of reliable local institutions strengthen people's beliefs that exploitative behaviour will be sanctioned, which, in turn, facilitates social trust and readiness for collective action (Brehm and Rahn, 1997; Rothstein and Stolle, 2008). People learn about the quality and efficiency of service provision by 'consuming' or using these services and infrastructures in everyday life. Community residents may also notice the problem-solving capacity of their local government, particularly while having contact with public officials, and by relying on second-hand experiences of co-residents. This noticing can be related to the administrative output as well as the perceived procedural justice, which may result in a rather symbolic satisfaction with the administrative process (Yang and Holzer, 2006). The expectation that the perceived reliability of local governments strengthens social trust refers to a rational notion of social trust (Hardin, 2002), according to which, information and regulations make the social world more predictable and thus facilitate social trust.

Second, an intact local infrastructure provides better opportunities for people to meet and interact with each other (and thus improves social trust) compared to places characterised by poor public service provision. For example, people are more likely to stop and talk to neighbours where cues of physical and social disorder are absent (Ross et al., 2001), and people are more likely to use playgrounds (and have contact with others there) if the playgrounds are intact (Miles, 2008). In contrast, there are many examples of how a lack of infrastructure may inhibit social contact and connectedness. People will avoid public places and parks that are not well maintained; a lack of public transport will lead to higher rates of people commuting by cars; and a poor educational infrastructure will cause more resourceful parents to transfer their children to better schools, which increases segregation (and thus lack of contact) along socioeconomic lines (Cass et al., 2005; Douglas et al., 2017). In a related vein, Sampson (2012: 158) notes that 'the civic infrastructure of local organizations and voluntary associations helps sustain a capacity for social action in a way that transcends traditional personal ties'. The expectation that public service provision may enhance social contacts and thus social trust between residents refers to both a rational and a communitarian notion of trust formation that heightens the role of repeated social interactions and common social identity (Braithwaite, 1998; Glanville et al., 2013).

Institutional performance and social trust: Issues related to causality and measurement

The theoretical arguments presented presume that institutional performance causally determines social trust, which is in line with several prior studies (Freitag and Bühlmann, 2009; Kumlin and Rothstein, 2005; Rothstein and Stolle, 2008; Sønderskov and Dinesen, 2016). Nevertheless, others have argued that high levels of aggregated social capital and social trust (e.g. within subnational regions) determine well-functioning political institutions. In a seminal study, Putnam (1993) argues (and finds empirical evidence) that the civic culture of Italian communities positively relates to the performance of regional governments. Similarly, studies find that high levels of aggregated social capital indicators, which include trust, predict lower levels of government corruption and higher institutional quality (Bjørnskov, 2010; Coffé and Geys, 2005; La Porta et al., 1997).

While a reciprocal causal relationship – where institutional performance and social

trust determine each other – is plausible in terms of theory, such endogenous loops hamper inference from statistical models that typically assume exogenous predictor variables. Studies addressing endogeneity that employ models on longitudinal data or instrumental variables are scarce (but see Coffé and Geys, 2005; Sønderskov and Dinesen, 2016). The present study makes use of three-wave panel data at the level of European cities. This enables us to tackle issues related to endogeneity by modelling reciprocal empirical relationships using cross-lagged panel models (Allison et al., 2017).

With reference to the measurement of public service provision, we argue that aggregated survey responses represent the quality of public service provision and local government efficiency in a more reliable way than accounts that use structural indicators on municipality characteristics. The assessment of service quality using structural indicators remains problematic, as the definition of quality criteria is necessarily a subjective decision. Attempts in this regard include approximations using technical efficiency measures (Zafra-Gómez et al., 2010; Ziller and Goodman, 2020) or indicators of collective behaviour such as electoral turnout (Balaguer-Coll and Prior, 2009). While structural indicators of local governments are typically comparable within the same country, indicators from different countries are often hardly comparable or too unspecific to map local public service provision (Borge et al., 2008).

A more direct measure of quality refers to perceptional indicators looking at citizens' satisfaction with local services (Balaguer-Coll and Prior, 2009), expert ratings (Kaufmann et al., 2009), crowd ratings of service users (Hendrikx et al., 2018) or a combination of expert ratings and aggregated public opinion data (Charron et al., 2014). Given inconsistencies in structural local government indicators, perception-based indicators appear to be better comparable when taking data from more than one country context into account. From a conceptual point of view, taking people's perceptions into account addresses an oft-cited issue in community research, and research on contextual effects more generally; namely that context characteristics will for the most part influence behaviours and attitudes to the extent that they are perceived (e.g. Koopmans and Schaeffer, 2016; Sampson et al., 2002). In technical terms, it is reasonable to assume that a municipality's actual quality of local government shapes residents' perceptions thereof, which in turn possibly impacts social trust. It is important to note that such a perception-based indicator (as we intend to use) necessarily refers to (aggregated) municipality-level differences and not individual differences.[1] In addition, a large number of observations for building aggregated perception indicators increases their reliability and validity (Schunck, 2016).

Data and methods

Data and variables

To test the stated hypotheses, we use repeated cross-sectional survey data from the project Quality of Life in European Cities (European Commission, 2016), which collects survey data on European cities with an urban centre of at least 50,000 inhabitants, containing probability samples of about 500 residents per city and wave. For the main analyses, we use the two most recent waves from 2012 and 2015, as the included indicators are comparable. For additional tests focused on causal identification of the key variables, we additionally use the 2009 wave. To maintain comparability in terms of institutional and historical trajectories, we exclude cities of post-communist

countries.[2] Although the survey represents no panel at the level of individual respondents, repeated observations at the city level enable us to test longitudinal relationships of city-level indicators (Fairbrother, 2014).

The outcome variable *social trust* refers to the perceived trustworthiness of fellow city residents ('Generally speaking, most people in [CITY NAME] can be trusted') and is measured with a 4-point answer scale which was recoded to range between 1 (strongly disagree) and 4 (strongly agree).

We operationalise quality of local government in three ways. First, we measure the *general perceived efficiency of local governments* using the item 'The administrative services of [CITY NAME] help people efficiently' (recoded 4-point scale, ranging from 1 'strongly disagree' to 4 'strongly agree'). Second, we gauge institutional fairness using an item on the *perceived trustworthiness of local administrations* ('Generally speaking, the public administration of [CITY NAME] can be trusted', recoded 4-point scale, ranging from 1 'strongly disagree' to 4 'strongly agree'). Third, we measure public service output quality as *satisfaction with public services* using indicators on how satisfied respondents are in general with public transport, sports, facilities, healthcare provision, cultural offers (e.g. concert halls, theatres, museums, libraries), the state of streets and buildings in the neighbourhood and public spaces (e.g. markets, squares, pedestrian areas). Answer scales (4-point) range from 1 'not at all satisfied' to 4 'very satisfied' (recoded), and factor scores from a confirmatory factor analysis (standardised coefficients are all >0.45, CFI = 0.984, RMSEA = 0.044, SRMR = 0.021) serve as an index.[3]

In addition to individual perceptions, we built city–year-level variables of the three perceptual indices by aggregating the individual-level variables, which in the empirical analysis reflect the contextual effect – that is, a city-level characteristic for the given survey year net of compositional differences across cities. Given a sufficiently high number of respondents (in this case about 500 per city and wave), these aggregated indicators are assumed to represent a valid measure of the actual quality of local government of a given municipality in a given year. We assess the convergent validity of the perception-based indicators by assessing correspondence to expert ratings (see Results section).

As control variables, we include indicators of respondents' socio-demographic status: *age*, *sex* and *education in years*. *Economic status* is measured with a dichotomous measure indicating whether or not respondents have encountered problems in paying bills at the end of the month during the past 12 months (0 = never, 1 = from time to time, or most of the time). *Time living in the city* of residence is measured with five dummy variables (have lived in city entire life, more than 10 years, between 5 and 10 years, between 1 and 5 years, less than 1 year). As time-varying city-level variables, we use *unemployment rates* and *proportion of immigrants* obtained from the Eurostat database (Eurostat, 2019), as well as *GDP per capita* and *population density* (2012 and 2015) obtained from the OECD city database.[4]

A list of included cities, descriptives of the used variables and zero-order correlations between individual-level as well as macro-level variables is presented in the online appendix (Tables A1–A3).

Method

To test the stated hypotheses, we employ multilevel models using survey data of the 2012 and 2015 waves. The central predictor variables are city–year aggregates of quality of local government indicators. We include

in all models individual-level control variables and a wave dummy variable to account for general shifts in the outcome over time. The models include a random intercept at the city–year level as well as city fixed effects which control for potential confounding from unobserved time-constant heterogeneity at the city level. This longitudinal analysis provides a test on how a change in city-level institutional quality relates to a change in social trust, and is more credible than results obtained from models without unit fixed effects. In additional models, we include city–year variables as control variables that are available only for a subset of cities. The functional form of the employed multilevel model is given as:

$$Y_{itjk} = \alpha_0 + \beta X_{itjk} + \gamma Z_{tjk} + \delta Cit_{jk} + \theta T_t + u_{tjk} + e_{itjk}$$

Index i indicates individuals, index j relates to cities and index k indicates countries. Index t refers to the survey year. X_{itjk} is a vector of individual-level variables, and β is the corresponding vector of coefficients. Z_{tjk} refers to time-varying city-level variables, including indicators of quality of local government. Models include city dummies Cit_{jk} (or city fixed effects). They absorb at the same time the entire variance belonging to countries, and leave time-variant information only for estimation of the coefficients (Allison, 2009; Fairbrother, 2014). The time variable denotes as T_t. u_{tjk} is the random intercept of the city level, and e_{itjk} is the idiosyncratic error term. We use an identity link function for estimating the main models. Since the outcome variable has only four categories, we also present models using an ordered logit link function as a robustness test. To facilitate the interpretation of the results in terms of standard deviations, we z-standardised all continuous variables.

To assess causal ordering of the hypotheses-relevant variables, we employ cross-lagged panel models with unit fixed effects. Previous methods using cross-lagged models have been criticised for not sufficiently taking unit-specific unobserved heterogeneity into account, which has been solved by recent methodological developments (Allison et al., 2017; Hamaker et al., 2015). With regard to our model specification, we employ maximum likelihood structural equation models using aggregate survey responses of the key variables from three available waves. We include as predictors a lag-1 variable of the predictor and outcome and a contemporary variable of the predictor, as recommended by recent approaches (Leszczensky and Wolbring, 2019).

Empirical results

In order to test for the convergent validity of the aggregated quality of local government indicators, we correlate the obtained scores from the 2015 wave with figures from the Global Liveability Ranking 2015 (*Economist*, 2015). This ranking is largely based on expert ratings, and the city scores refer to domains of stability, healthcare, culture and the environment, education and infrastructure. Figure 1 depicts the relationship between city-specific indicators of quality of local government and overall expert rating scores. We find substantial and statistically significant correlations for rated local government efficiency (Pearson's $r = 0.53$, $p = 0.011$), trust in local administration (Pearson's $r = 0.65$, $p = 0.001$), as well as public service satisfaction (Pearson's $r = 0.74$, $p < 0.001$), although Athens represents an outlier in terms of its expert rating score. These results show that the aggregated survey response indicators correspond to a performance indicator from another source, which strengthens our confidence in the validity of the measurement we use.

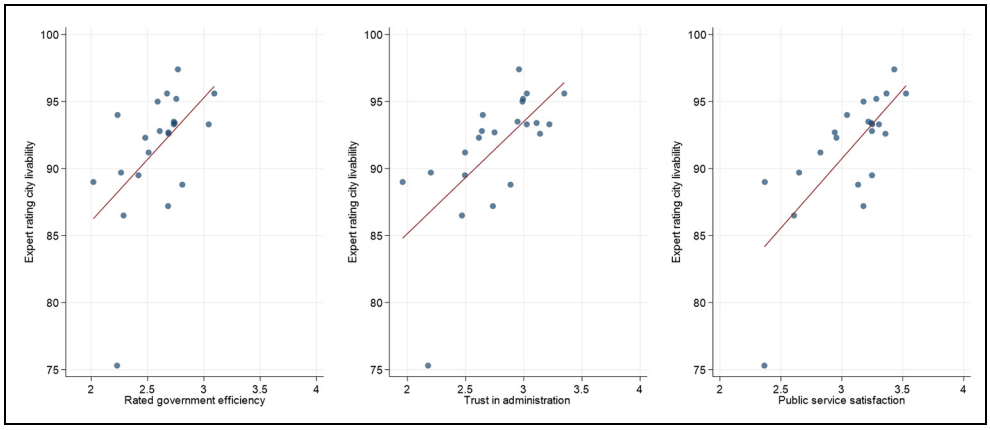

Figure 1. Correspondence between city-level indicators and expert ratings (2015).

In a next step, we estimate multilevel models with social trust as the outcome variable. Table 1 presents the results. Models 1 and 2 test the role of the city-level rated efficiency of the local government. In Model 1, the coefficient estimate of city-level rated efficiency is positive and statistically significant, which suggests that an increase in aggregated perceptions of local government efficiency positively relates to an increase in social trust over time. This association is beyond compositional differences in residents' perceived efficiency, socio-demographic characteristics or socio-economic factors. Variations due to city- or country-level differences are accounted for by the included unit fixed effects. The size of the standardised effect is about 0.09, so rather small. Model 2 introduces unemployment, GDP per capita, population density and immigration as time-varying covariates using a subset of city–years. The relationship between city-level efficiency and social trust becomes statistically non-significant under this specification. An increase in unemployment rates or immigration is negatively associated with social trust, while an increase in GDP per capita or population density is positively related to social trust. However, the precision of the estimated associations in terms of statistical significance differs (in Model 2 only the relationship between GDP per capita and social trust is statistically significant), and varies across model specifications.

Models 3 and 4 examine the role of trust in public administration as an indicator of institutional fairness and unbiasedness. In Model 3, the coefficient for the city-level variable is positive and statistically significant. The effect size is rather small, and using a subset of cities and the inclusion of additional control variables (Model 4) leads to a non-significant coefficient estimate for institutional fairness.

Models 5 and 6 test how public service satisfaction as a city-level indicator of quality of local government relates to social trust. In Model 5, an increase in city-level service satisfaction is positively and statistically significantly related to social trust. A change by one standard deviation is associated with an increase in social trust by 0.15 standard deviations. Moreover, an inclusion of unemployment and immigration rates as additional covariates leaves the systematic association between city-level service satisfaction and social trust intact (Model 6).

Model 7 includes all three indicators of quality of local government at the same time and finds that only an increase in city-level

Table 1. Results from multilevel regression models.

DV: Social trust	(M1)	(M2)	(M3)	(M4)	(M5)	(M6)	(M7)
Rated efficiency	0.219** (0.005)	0.228** (0.007)					0.108** (0.008)
Rated efficiency (city)	0.087** (0.028)	−0.008 (0.048)					−0.065 (0.057)
Trust in administration			0.264** (0.005)	0.267** (0.007)			0.181** (0.008)
Trust in administration (city)			0.066** (0.025)	0.064 (0.052)			0.047 (0.063)
Service satisfaction					0.220** (0.006)	0.222** (0.008)	0.121** (0.008)
Service satisfaction (city)					0.148** (0.051)	0.209** (0.078)	0.220** (0.081)
Age	0.055** (0.005)	0.052** (0.007)	0.061** (0.005)	0.059** (0.007)	0.062** (0.005)	0.059** (0.007)	0.048** (0.006)
Female	−0.047** (0.009)	−0.060** (0.012)	−0.054** (0.009)	−0.067** (0.012)	−0.057** (0.010)	−0.070** (0.012)	−0.065** (0.012)
Education in years	0.067** (0.005)	0.085** (0.007)	0.064** (0.005)	0.082** (0.006)	0.069** (0.005)	0.086** (0.007)	0.083** (0.006)
Economic deprivation	−0.097** (0.005)	−0.091** (0.006)	−0.088** (0.005)	−0.083** (0.006)	−0.096** (0.005)	−0.092** (0.006)	−0.063** (0.006)
Living in city (ref. less than 1 year)							
Between 1 and 5 years	0.005 (0.060)	0.047 (0.078)	−0.009 (0.060)	0.033 (0.077)	−0.007 (0.061)	0.032 (0.078)	0.056 (0.076)
Between 5 and 10 years	0.034 (0.059)	0.092 (0.076)	0.021 (0.058)	0.077 (0.075)	0.020 (0.059)	0.068 (0.076)	0.104 (0.074)
More than 10 years	−0.029 (0.057)	0.013 (0.073)	−0.044 (0.056)	−0.005 (0.073)	−0.039 (0.057)	−0.005 (0.074)	0.042 (0.072)
Living in city entire life	−0.030 (0.057)	0.013 (0.073)	−0.038 (0.056)	0.003 (0.072)	−0.047 (0.057)	−0.011 (0.074)	0.055 (0.072)
Unemployment rate (city)		−0.051 (0.032)		−0.057 (0.031)		−0.078* (0.032)	−0.080* (0.032)
GDP per capita (city)		0.272* (0.130)		0.246 (0.127)		0.280* (0.130)	0.267* (0.128)
Population density (city)		0.654 (0.488)		0.595 (0.486)		0.404 (0.496)	0.375 (0.483)
Proportion immigrants (city)		−0.222 (0.152)		−0.038 (0.165)		−0.156 (0.151)	−0.036 (0.163)
Constant	0.041 (0.068)	0.689 (0.459)	0.045 (0.067)	0.419 (0.471)	−0.176* (0.088)	0.121 (0.485)	−0.079 (0.481)
Random effects							
City–year intercept	0.008* (0.019)	0.000** (0.000)	0.000** (0.000)	0.000** (0.000)	0.000** (0.000)	0.000** (0.000)	0.000** (0.000)
Residual	0.886** (0.003)	0.905** (0.004)	0.876** (0.003)	0.897** (0.004)	0.891** (0.003)	0.911** (0.004)	0.886** (0.004)
$N_{city–years}$	116	70	116	70	116	70	70
$N_{respondents}$	35,571	22,111	35,571	22,111	35,571	22,111	22,111

Notes: Standard errors in parentheses. *$p < 0.05$; **$p < 0.01$.

Table 2. Results from cross-lagged panel models with fixed effects.

DV	(M8) Social trust$_{T_0}$	(M9) Social trust$_{T_0}$	(M10) Rated efficiency$_{T_0}$	(M11) Service satisfaction$_{T_0}$
Social trust$_{T_0}$			−0.569 (0.953)	0.431 (0.368)
Social trust$_{T\text{-}1}$	1.065 (0.611)	0.379 (0.344)	−0.248 (0.281)	−0.085 (0.068)
Rated efficiency$_{T_0}$	−0.468 (0.274)			
Rated efficiency$_{T\text{-}1}$	−0.166 (0.124)		0.159 (0.202)	
Service satisfaction$_{T_0}$		1.650* (0.806)		
Service satisfaction$_{T\text{-}1}$		−0.208 (0.197)		0.166 (0.239)
N_{units}	46	46	46	46
N_{time}	3	3	3	3

Notes: Standard errors in parentheses. *$p < 0.05$.

service satisfaction is substantially and statistically significantly related to an increase in social trust. However, other dimensions of quality of local government are only unsystematically related to social trust.

In order to assess causal ordering of the key variables under study, we estimate cross-lagged panel models with fixed effects and present the results in Table 2. Note that only indicators of efficiency and service satisfaction (but not trust in administration) are available for three time points, which is a necessary condition for estimating these models. In general, we see mostly statistically non-significant effects, which is a typical feature of this restrictive type of model (Hamaker et al., 2015).[5] In Model 9, we find a positive and statistically significant coefficient estimate for contemporary service satisfaction. This supports the contention that an increase in service satisfaction is causally related to an increase in social trust, while we find no indication for reciprocal causal paths running from trust to indicators of quality of local government.

In additional analyses, we test the role of satisfaction with services, distinguishing between the various services that constitute the used indicator. The findings are presented in Table B2 in the online appendix. We find that an increase in city-level variables of satisfaction with the quality of public spaces, the quality of sports facilities and leisure activities and the state of streets and buildings predicts higher levels of social trust. Moreover, we re-estimated the main models using a multilevel ordered logit link function and present the results in the online appendix in Table B3. The results are substantially similar to those obtained from linear multilevel regression shown in Table 1.

Conclusion

The local contexts of neighbourhoods and cities represent critical experiential settings in which people socially interact with each other, and – depending on the nature of these contacts – may build trust in one another and work together for the common good. Local governments are immediate institutions which implement public policies, administer and distribute resources, provide public services and build and maintain the infrastructural setup of communities. This study sets out to assess the empirical relations between quality of local government and social trust in European cities. Emphasising the overall functioning of local administrations and public service provision

as core dimensions of quality of local government, we find empirical evidence that especially the quality of public service provision positively relates to social trust in fellow residents.

The findings of this study are relevant for several strands of literature. Works on the institutional foundations of social trust have placed much emphasis on cross-national differences and general institutional setups such as universal or means-tested welfare measures (e.g. Delhey and Newton, 2005; Rothstein and Stolle, 2008). Our study applies a municipality-centred focus which enables us to investigate how proximate political and administrative measures shape social trust. Moreover, prior studies presume perceptions of institutional reliability and fairness to operate as critical mechanisms connecting institutions and trust (Sønderskov and Dinesen, 2016). Instead of citizens' rating of the overall functioning of local administration, we find that output quality of specific local public services and infrastructure is particularly relevant in shaping social trust. While we are not able to trace the specific underlying mechanism, additional tests of service domains reveal that sport and leisure facilities as well as the state of public spaces, streets and buildings are relevant for social trust in European cities. In a related vein, the central role of physical environments has been highlighted in research on collective efficacy (Sampson, 2012). Physical disorder provides cues that deviant behaviour will not be sanctioned (Keizer et al., 2008), which in turn may have severe consequences for perceptions of safety and social trust, and for the social cohesion of communities more generally. Our results also underline the relevance of sports and leisure facilities, suggesting that informal social interactions in everyday settings foster the development of social trust (Glanville et al., 2013; Toepoel, 2013).

Our results also inform scholarly debates on the link between governmental performance and trust which have produced ambiguous empirical results (Kumlin and Haugsgjerd, 2017; van der Meer and Hakhverdian, 2017; Yang and Holzer, 2006). Apart from the fact that attitudes such as political and social trust have heterogeneous foundations (and thus require various explanatory approaches), scrutinising performance as an explanation requires that people attribute performance to the responsible political authorities. This is difficult given the limited political sophistication on the part of citizens and low policy proximity and visibility that potentially hamper accurate perceptions of political performance. Our focus on proximate and visible local services and infrastructure thus serves as a most likely test case on the implications of local government performance for (social) trust, for which we found empirical evidence.

With reference to the limitations of our study, we need to acknowledge that the indicators we use are based on observational data. The survey information we use at the individual level has been drawn from a different pool of respondents in each wave. This inhibits strong causal claims at the level of individuals. Moreover, we lack control variables for actual service uptake by citizens, which means that – apart from objective assessments of public services – personal expectations or halo effects (i.e. that specific services inform perceptions of the public sector as a whole) may also shape public service satisfaction (van de Walle, 2018). Future studies should thus extend our approach by collecting and analysing comparative (and time-varying) data that more specifically reflect public service provision, such as average distances to relevant infrastructure (e.g. schools, hospitals or public transport), as well as measures of direct experiences with specific public services. Such indicators would allow for computing comparative and

valid structural measures of local government performance, which would represent a valuable addition to perception-based measures (Zafra-Gómez et al., 2010). Register-based studies would also allow for studying individual environments and their characteristics such as egohoods in a fine-grained manner (Noah, 2015). Although they might be costly and challenging to implement, field experiments would enable further causally determining of the effects of local service provision. Moreover, while our study is based on a sample of large European cities, further studies should also focus on quality of local government in rural areas, as well as other world regions including developing countries.

In summary, our study provides insights into the linkage between local governance and social trust by showing that – in addition to the broader (national) institutional setup – local institutions and the quality of public service provision substantially matter for social trust. Municipalities that want to improve social trust and cohesion should focus on residents' satisfaction with services and infrastructure, especially the physical appearance of streets and buildings as well as sports and leisure facilities.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors disclosed receipt of the following financial support for research of this article: Conrad Ziller gratefully acknowledges funding from the German Research Foundation for the projects 'Interethnic Trust Asymmetries and Immigrant Integration' (Project No. 397233023) and 'Social Openness, Social Control and the Integration of Muslim Immigrants' (Project No. 439200663).

ORCID iD

Conrad Ziller https://orcid.org/0000-0002-2282-636X

Supplemental material

Supplemental material for this article is available online.

Notes

1. Preacher et al. (2010: 210) note in this regard: 'Any mediation of the effect of a Level-2 X must also occur at a between-group level, regardless of the level at which M and Y are assessed, because the only kind of effect that X can exert (whether direct or indirect) must be at the between-group level.'
2. Leaving these cities in the analytical sample leads to similar results, as reported below.
3. A sum index of these six items is sufficiently consistent (Cronbach's Alpha = 0.75), and using this index instead of factor scores leads to results that are substantially similar to those reported below. We also test the predictive role of single items in supplementary analyses (see Results section).
4. It is important to note that other relevant explanatory approaches exist for which time-varying city-level data is unavailable (e.g. economic inequality). Nonetheless, time-constant differences across cities are entirely captured by the included city fixed effects (see Methods section). Remaining time-varying differences (e.g. economic inequality) are expected to be captured by compositional differences from the included individual-level covariates (e.g. the economic deprivation variable).
5. Cross-lagged panel models without fixed effects find positive and significant autoregressive path coefficients, positive and significant reciprocal effects between rated efficiency and social trust and a positive and significant contemporary effect for service satisfaction on social trust (see Table B1 in the online appendix). Note that all variables are unstandardised in the cross-lagged models as this circumvents estimation problems related to non-convergence.

References

Abascal M and Baldassarri D (2015) Love thy neighbor? Ethnoracial diversity and trust reexamined. *American Journal of Sociology* 121(3): 722–782.

Alesina A and La Ferrara E (2002) Who trusts others? *Journal of Public Economics* 85(2): 207–234.

Allison PD (2009) *Fixed Effects Regression Models*. London: SAGE Publications.

Allison PD, Williams R and Moral-Benito E (2017) Maximum likelihood for cross-lagged panel models with fixed effects. *Socius* 3: 1–17.

Andrews R (2012) Social capital and public service performance: A review of the evidence. *Public Policy and Administration* 27(1): 49–67.

Andrews R, Boyne G, O'Toole L, et al. (2013) Managing migration? EU enlargement, local government capacity and performance in England. *Public Administration* 91(1): 174–194.

Balaguer-Coll TM and Prior D (2009) Short- and long-term evaluation of efficiency and quality. An application to Spanish municipalities. *Applied Economics* 41(23): 2991–3002.

Berigan N and Irwin K (2011) Culture, cooperation, and the general welfare. *Social Psychology Quarterly* 74(4): 341–360.

Bjørnskov C (2010) How does social trust lead to better governance? An attempt to separate electoral and bureaucratic mechanisms. *Public Choice* 144(1–2): 323–346.

Blake P, McAuliffe K, Corbit J, et al. (2015) The ontogeny of fairness in seven societies. *Nature* 528: 258–261.

Borge LE, Falch T and Tovmo P (2008) Public sector efficiency: The roles of political and budgetary institutions, fiscal capacity, and democratic participation. *Public Choice* 136(3–4): 475–495.

Boyne GA and Walker RM (2004) Strategy content and public service organizations. *Journal of Public Administration Research and Theory* 14(2): 231–252.

Braithwaite VA (1998) Communal and exchange trust norms: Their value base and relevance to institutional trust. In: Braithwaite VA and Levi M (eds) *Trust and Governance*. New York, NY: Russell Sage Foundation, pp. 46–74.

Brandt MJ, Wetherell G and Henry PJ (2015) Changes in income predict change in social trust: A longitudinal analysis. *Political Psychology* 36(6): 761–768.

Brehm J and Rahn W (1997) Individual-level evidence for the causes and consequences of social capital. *American Journal of Political Science* 41: 999–1023.

Buttrick NR and Oishi S (2017) The psychological consequences of income inequality. *Social and Personality Psychology Compass* 11(3): e12304.

Campbell AL (2012) Policy makes mass politics. *Annual Review of Political Science* 15: 333–351.

Cass N, Shove E and Urry J (2005) Social exclusion, mobility and access. *The Sociological Review* 53(3): 539–555.

Charron N, Dijkstra L and Lapuente V (2014) Regional governance matters: Quality of government within European Union member states. *Regional Studies* 48(1): 68–90.

Chatzoglou P, Chatzoudes D, Vraimaki E, et al. (2013) Service quality in the public sector: The case of the Citizen's Service Centers (CSCs) of Greece. *International Journal of Productivity and Performance Management* 62(6): 583–605.

Coffé H and Geys B (2005) Institutional performance and social capital: An application to the local government level. *Journal of Urban Affairs* 27: 485–502.

Delhey J and Newton K (2005) Predicting cross-national levels of social trust: Global pattern or Nordic exceptionalism? *European Sociological Review* 21(4): 311–327.

Douglas O, Lennon M and Scott M (2017) Green space benefits for health and well-being: A life-course approach for urban planning, design and management. *Cities* 66: 53–62.

Economist (2015) Global liveability ranking 2015. Available at: https://www.eiu.com/topic/liveability (accessed 19 September 2020).

European Commission (2016) *Quality of Life in European Cities 2015*. Brussels: European Commission. Available at: https://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/urban/survey2015_en.pdf (accessed 19 September 2020).

Eurostat (2019) Eurostat database. Available at: https://ec.europa.eu/eurostat/en/web/cities/data/database (accessed 19 September 2020).

Fairbrother M (2014) Two multilevel modeling techniques for analyzing comparative longitudinal survey datasets. *Political Science Research and Methods* 2(1): 119–140.

Forrest R and Kearns A (2001) Social cohesion, social capital and the neighbourhood. *Urban Studies* 38(12): 2125–2143.

Freitag M and Bühlmann M (2009) Crafting trust: The role of political institutions in a comparative perspective. *Comparative Political Studies* 42(12): 1537–1566.

Glanville JL, Andersson MA and Paxton P (2013) Do social connections create trust? An examination using new longitudinal data. *Social Forces* 92(2): 545–562.

Hamaker EL, Kuiper RM and Grasman RPPP (2015) A critique of the cross-lagged panel model. *Psychological Methods* 20(1): 102.

Hardin R (2002) *Trust and Trustworthiness*. New York, NY: Russell Sage Foundation.

Hendrikx RJ, Spreeuwenberg MD, Drewes HW, et al. (2018) Harvesting the wisdom of the crowd: Using online ratings to explore care experiences in regions. *BMC Health Services Research* 18(1): 801–810.

Inglehart R (1997) *Modernization and Postmodernization: Cultural, Economic, and Political Change in 43 Societies*. Princeton, NJ: Princeton University Press.

Kaufmann D, Kraay A and Mastruzzi M (2009) *Governance matters VIII: Aggregate and individual governance indicators for 1996–2008*. World Bank Policy Research Working Paper Number 4978, The World Bank, Washington, DC.

Keizer K, Lindenberg S and Steg L (2008) The spreading of disorder. *Science* 322(5908): 1681–1685.

Koopmans R and Schaeffer M (2016) Statistical and perceived diversity and their impacts on neighborhood social cohesion in Germany, France and the Netherlands. *Social Indicators Research* 125(3): 853–883.

Kumlin S (2004) *The Personal and the Political: How Personal Welfare State Experiences Affect Political Trust and Ideology*. New York, NY: Palgrave Macmillan.

Kumlin S and Haugsgjerd A (2017) The welfare state and political trust: Bringing performance back in. In: Zmerli S and van der Meer TWG (eds) *Handbook on Political Trust*. Cheltenham and Northampton, MA: Edward Elgar Publishing, pp. 285–301.

Kumlin S and Rothstein B (2005) Making and breaking social capital: The impact of welfare-state institutions. *Comparative Political Studies* 38(4): 339–365.

Lampe HW (2017) Municipalities' willingness to adopt process innovations: Evidence for higher cost-efficiency. *Local Government Studies* 43(5): 707–730.

La Porta R, Lopez-De-Silanes F, Shleifer A, et al. (1997) Trust in large organizations. *American Economic Review* 87(2): 333–338.

Leszczensky L and Wolbring T (2019) How to deal with reverse causality using panel data? Recommendations for researchers based on a simulation study. *Sociological Methods & Research*. Epub ahead of print 14 November 2019. DOI: 10.1177/0049124119882473.

Letki N (2008) Does diversity erode social cohesion? Social capital and race in British neighbourhoods. *Political Studies* 56(1): 99–126.

Miles R (2008) Neighborhood disorder, perceived safety, and readiness to encourage use of local playgrounds. *American Journal of Preventive Medicine* 34(4): 275–281.

Mugion RG, Toni M, Raharjo H, et al. (2018) Does the service quality of urban public transport enhance sustainable mobility? *Journal of Cleaner Production* 174: 1566–1587.

Narbón-Perpiñá I and de Witte K (2018) Local governments' efficiency: A systematic literature review – Part I. *International Transactions in Operational Research* 25(2): 431–468.

Newman BJ, Johnston CD and Lown PL (2015) False consciousness or class awareness? Local income inequality, personal economic position, and belief in American meritocracy. *American Journal of Political Science* 59(2): 326–340.

Noah AJ (2015) Putting families into place: Using neighborhood-effects research and activity spaces to understand families. *Journal of Family Theory & Review* 7(4): 452–467.

Olsen AL, Hjorth F, Harmon N, et al. (2019) Behavioral dishonesty in the public sector. *Journal of Public Administration Research and Theory* 29(4): 572–590.

Portes A (1998) Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology* 24(1): 1–24.

Preacher KJ, Zyphur MJ and Zhang Z (2010) A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods* 15(3): 209–233.

Putnam RD (1993) *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton, NJ: Princeton University Press.

Putnam RD (2007) E pluribus unum: Diversity and community in the twenty-first century. The 2006 Johan Skytte Prize Lecture. *Scandinavian Political Studies* 30(2): 137–174.

Ray R and Borer MI (2018) Urbanism and urbanization. In: Treviño AJ (ed.) *The Cambridge Handbook of Social Problems*. Vol. 2. Cambridge: Cambridge University Press, pp. 475–488.

Ross CE, Mirowsky J and Pribesh S (2001) Powerlessness and the amplification of threat: Neighborhood disadvantage, disorder, and mistrust. *American Sociological Review* 66(4): 568–591.

Rothstein B and Stolle D (2008) The state and social capital: An institutional theory of generalized trust. *Comparative Politics* 40(4): 441–459.

Rothstein BO and Teorell JAN (2008) What is quality of government? A theory of impartial government institutions. *Governance* 21(2): 165–190.

Sampson RJ (1988) Local friendship ties and community attachment in mass society: A multilevel systemic model. *American Sociological Review* 53(5): 766–779.

Sampson RJ (2012) *Great American City: Chicago and the Enduring Neighborhood Effect*. Chicago, IL: University of Chicago Press.

Sampson RJ, Morenoff JD and Gannon-Rowley T (2002) Assessing 'neighborhood effects': Social processes and new directions in research. *Annual Review of Sociology* 28(1): 443–478.

Saunders D (2011) *Arrival City: How the Largest Migration in History is Reshaping Our World*. New York, NY: Vintage.

Schunck R (2016) Cluster size and aggregated level 2 variables in multilevel models. A cautionary note. *Methods, Data, Analyses* 10(1): 97–108.

Shinohara S (2018) Exit, voice, and loyalty under municipal decline: A difference-in-differences analysis in Japan. *Journal of Public Administration Research and Theory* 28(1): 50–66.

Sønderskov KM and Dinesen PT (2016) Trusting the state, trusting each other? The effect of institutional trust on social trust. *Political Behavior* 38(1): 179–202.

Soss J and Schram SF (2007) A public transformed? Welfare reform as policy feedback. *American Political Science Review* 101(1): 111–127.

Toepoel V (2013) Ageing, leisure, and social connectedness: How could leisure help reduce social isolation of older people? *Social Indicators Research* 113(1): 355–372.

Uslaner EM (2017) *The Historical Roots of Corruption: Mass Education, Economic Inequality, and State Capacity*. Cambridge and New York, NY: Cambridge University Press.

Uslaner EM and Brown M (2005) Inequality, trust, and civic engagement. *American Politics Research* 33(6): 868–894.

van de Walle S (2018) Explaining citizen satisfaction and dissatisfaction with public services. In: Ongaro E and Van Thiel S (eds) *The Palgrave Handbook of Public Administration and Management in Europe*. London: Palgrave Macmillan, pp. 227–241.

van der Meer T and Hakhverdian A (2017) Political trust as the evaluation of process and performance: A cross-national study of 42 European countries. *Political Studies* 65(1): 81–102.

van der Meer T and Tolsma J (2014) Ethnic diversity and its effects on social cohesion. *Annual Review of Sociology* 40: 459–478.

Yamagishi T (1988) Exit from the group as an individualistic solution to the free rider problem in the United States and Japan. *Journal of Experimental Social Psychology* 24(6): 530–542.

Yang K and Holzer M (2006) The performance–trust link: Implications for performance measurement. *Public Administration Review* 66(1): 114–126.

Zafra-Gómez JL, Antonio M and Muñiz P (2010) Overcoming cost-inefficiencies within small municipalities: Improve financial condition or reduce the quality of public services?

Environment and Planning C: Government and Policy 28(4): 609–629.

Ziller C (2015) Ethnic diversity, economic and cultural contexts, and social trust: Cross-sectional and longitudinal evidence from European regions, 2002–2010. *Social Forces* 93(3): 1211–1240.

Ziller C and Goodman SW (2020) Local government efficiency and anti-immigrant violence. *The Journal of Politics* 82(3): 895–907.

Ziller C and Spörlein C (2020) Residential segregation and social trust of immigrants and natives: Evidence from the Netherlands. *Frontiers in Sociology* 5: 45.