Can decentralisation help address poverty and social exclusion in Europe?

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Abstract

Poverty reduction and the tackling of social exclusion are overarching goals of development and welfare policies. This paper explores the extent to which decentralisation contributes to poverty and social exclusion alleviation in European countries and regions. We find evidence that increases in central government transfers of political, administrative, and fiscal authority to subnational tiers of government reduce poverty and address social exclusion at an aggregate level. This, however, mainly happens in countries with a high degree of governance quality and, fundamentally, in urban areas. The link between decentralisation and poverty and social exclusion alleviation is more uniform at the regional level, as greater regional autonomy is connected to lower poverty and social exclusion, regardless of the quality of regional government. Hence, when regional governments have the capacity to design their own independent policies, a reduction of poverty and social exclusion and improvements in well-being generally ensue.

Keywords: decentralisation; poverty; social exclusion; quality of governance; urban areas; Europe

JEL codes: H11, H53, I32, R11

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1. Introduction

In 2018, 21.8 percent of the European Union (EU) population were at-risk-of poverty or social exclusion. Having more than a fifth of the EU population at or below the poverty line has made tackling poverty and social exclusion top policy priorities (European Commission 2010). Across the EU, numerous policies and programmes have been targeted at reducing poverty. However, the results of such intervention have been mixed. Whoever is responsible for implementing policies aimed at tackling poverty and social exclusion may influence policy outcomes. But the entities responsible for such policies vary from country to country, and, in some countries, from one region to another. Some European countries have transferred the powers, responsibilities, and resources to address poverty and social exclusion from the national to subnational governments. But does the government tier handling poverty reduction and social exclusion matter for the effectiveness of the policy? Are national or subnational governments more effective at addressing poverty concerns? The European Commission (2013) has indicated the importance of decentralised local governance for inclusive growth in a way that recognises decentralisation as an effective policy tool for poverty alleviation and social exclusion reduction. But is this truly the case?

This paper examines whether variations in levels of decentralisation across Europe determine differences in the effectiveness of the fight against poverty and social exclusion, especially after controlling for some regional, national, and international characteristics that may play a role for poverty and social exclusion reduction. We posit that the decentralisation/poverty relationship is affected by variations in government quality. How well central and local institutions function and how effective a government is can affect the success of poverty reduction and social inclusion policies. We also argue that the link between decentralisation and poverty may be linked to the degree of urbanisation of the country, as the incidence of poverty and social exclusion varies considerably between cities and suburbs, on the one hand, and towns and rural areas, on the other.

Our contribution involves the following aspects. First, the paper contributes to improving the existing understanding of the role of decentralisation in poverty reduction and addressing social exclusion in Europe. This is a timely topic, as, despite a lengthy trend towards decentralisation across Europe, our knowledge of how the greater powers and resources

awarded to subnational tiers of government contribute to the reduction of poverty and social exclusion remains limited. This is all the more surprising in view of the importance of the socioeconomic policy implications of decentralisation. There is certainly no shortage of country-level research on the relationship between decentralisation and poverty and exclusion (Bird and Rodríguez 1999; Steiner 2007; Yankson 2008; Bekele and Kjosavik 2016; Canare and Francisco 2019; Tillin 2022). However, as each country has its own history, traditions and specific institutional, political, and economic context (Bird and Rodríguez 1999), and has followed its own path in tackling poverty, generalising from these studies remains difficult. Less than a handful of articles have used cross-country analysis. Sepúlveda and Martínez-Vázquez (2011), for example, using panel data for a large number of countries, find that fiscal decentralisation increases poverty. Second, this paper goes beyond existing research, introducing factors such as the role of governance quality and urbanisation in the relationship between decentralisation and poverty and exclusion. The pros and cons of (de)centralisation as a way to reduce poverty and social exclusion greatly depend on both the capacity of subnational tiers of government to deliver adequately on this front, as well as on variations in poverty and social exclusion incidence between urban and rural areas. Third, we factor in the analysis variations in decentralisation, considering different regional types: from processes of symmetric decentralisation, in which all regions within a country have, in theory, the same powers and financial resources, to processes of asymmetric decentralisation, with regions with a far greater capacity to implement their own autonomous policies than others in the same country. This is important, because differences in decentralisation affect the capacity to tailor policies to the specific needs of different regions and also how likely they are to deliver on their policy objectives (Crook 2003). Fourth, we explore possible differences of the effectiveness of decentralisation in the national and regional poverty and social exclusion reduction, as the degree of political, administrative, and fiscal authority differs between regions in most countries, and there are strong regional disparities in level of poverty and social exclusion within virtually all European countries.

This paper starts with an overview of research on decentralisation as a policy tool to tackle poverty and social exclusion. Section 3 presents the data and the models of the empirical analysis. Section 4 is devoted to the results that arise from the different regression analysis. Section 5 presents the main conclusions and policy implications of the paper.

2. Does decentralisation reduce poverty and social exclusion?

2.1 (De)centralisation as a policy tool for lower poverty and social exclusion

Decentralisation —defined as the transfer of powers and financial resources to subnational tiers of government— has been gaining ground across the world over the last three decades (Rodríguez-Pose and Gill 2003). There are different types of decentralisation "which vary in their degree of autonomy in fiscal and functional terms, balance of reserved and decentralised powers and responsibilities, and administrative and/or democratic accountability" (Pike et al. 2012: 13).[1] The normative principle of subsidiarity is incorporated into the political, economic, and public administration understandings of decentralisation, as both subsidiarity and decentralisation aim to produce a better allocation of resources and, consequently, maximise welfare (Kim 2008; Ryan and Woods 2015). Central governments transfer powers, responsibilities, and resources to subnational administrations for many reasons. The first aim is to achieve a more efficient delivery of public policies (Tiebout 1956; Oates 1993). The transfer of powers to lower tiers of government varies from country to country, but, depending on the country, may involve a variety of policy realms, increasingly comprising social policy. This implies that, in a growing number of countries, social welfare is conducted at the regional or local level (Becker, Macpherson, and Falkingham 1987). However, whether decentralising social policy, in general, and policies seeking to combat poverty and social exclusion, in particular, is delivering remains an open question (Canare and Francisco 2019; Sanogo 2019; Keating 2021).

One strand of literature argues that decentralisation is an effective policy instrument for poverty and social exclusion reduction. Decentralisation can increase the efficiency in the provision of local public services, due to the information advantage that regional governments have, in theory, over the central government (Oates 1993; Steiner 2007). From this perspective, decentralisation enhances the accountability of local governments in the delivery of public goods and services (Bardhan and Mookherjee 2006; Sanogo 2019). A higher efficiency of public policies —i.e., lower monetary costs and higher economic benefits— may also improve the delivery of measures for poverty and social exclusion reduction, especially

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[1] There is also some blurring and overlap between the concepts of fiscal, political, and administrative decentralisation, deconcentration, delegation, and devolution (see Pike et al. 2012).

as local authorities are awarded greater resources to address these problems.[2] Decentralised forms of government can improve the delivery, allocation, and equitable provision of public services, because the needs and wants of citizens living in a given region tend to be more homogeneous than those of the population of a whole country (Canare and Francisco 2019). Moreover, decentralisation reinforces inter-jurisdictional competition, which can result in a higher responsiveness to local needs (Tiebout 1956). Such competition can induce innovation in service provision (Oates 1999; Lobao and Kraybill 2009). Hence, local governments have more incentives than the central government to conceive, design, and implement social and welfare policies that respond to local needs and preferences when fighting poverty and social exclusion (Steiner 2007). The greater proximity of local decision-makers to their citizens should, in principle, matter for responding in a quicker and more effective and efficient manner to the needs of local citizens (Su, Li, and Tao 2019). Taking the benefits of decentralisation into account, there are several reasons why decentralised governments may be better at responding to the needs of poor and socially-excluded (Crook 2003). First, when regional and local governments have tax-varying capacities, subnational authorities may adopt tax policies that do not harm local vulnerable citizens (Nursini and Tawakkal 2019). Second, because of their greater proximity to citizens, local governments are in a better position than the central government to respond to the heterogeneity of local household needs (Tiebout 1956; Lobao and Kraybill 2009). Third, by tailoring policies to local needs, local governments can create a more inclusive local ecosystem in which local policies are more likely to be sustainable, not just from an economic and environmental perspective but also from a social one (Sanogo 2019). Because decentralisation is intended to bring government closer to those governed —both from a geographical and institutional perspectives— its policies will, in theory, be more responsive to the needs of local citizens, including those in poverty and/or at risk of poverty and those socially excluded (Crook 2003; Canare and Francisco 2019). Local governments may also be more responsive to the demands of individuals that are often invisible to society, in general, and the public sector, in particular,

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[2] Generally, the "effectiveness of public policies can be defined as the extent to which the policies are achieving the benefits they are supposed to achieve plus any unanticipated side effects [and] efficiency of public policies can be defined as the extent to which they are keeping costs down, especially monetary costs, as indicated by either total costs or a ratio that involves both benefits and costs" (Nagel 1986: 99) Despite the differences between the efficiency and the effectiveness of public policies, the two dimensions can also be strongly connected (Nagel 1986; Commission 2013).

such as the homeless (Becker, Macpherson, and Falkingham 1987). Hence, local authorities can be at the forefront in terms of contact with the poor and the socially excluded (Becker, Macpherson, and Falkingham 1987). Therefore, decentralisation may open up opportunities for addressing the needs of those socially excluded in a more efficient way than hitherto (Steiner 2007). Finally, decentralisation offers the opportunity to implement place-based policies that, according to Partridge and Rickman (2006), have an important role in poverty alleviation. Regional and local governments are deemed more capable of engaging in economic development and service activities that reduce poverty and social exclusion, thereby improving community well-being (Lobao and Kraybill 2009).

However, a second strand of literature considers that the supposed greater effectiveness of subnational tiers of government in combating poverty and social exclusion may be too good to be true. This strand postulates that centralisation, and not decentralisation, is a more effective policy instrument for poverty and social exclusion reduction. From this point of view, central governments have more experience and are more adept at providing efficient public services. They benefit from economies of scale and economies of scope and have a greater access to resources and technologies than regional governments (Canare and Francisco 2019). This contrasts with the limited capacity of many subnational governments —in terms of resources, skills, and institutional quality— to confront unresolved public problems in an efficient way (Prud'homme 1995; Rodríguez-Pose and Ezcurra 2011). Many subnational governments, because of continued problems of unfunded mandates, often have lower resources at their disposal (Bardhan and Mookherjee 2006). Decentralisation also frequently shifts the policy emphasis from a combination of efficiency and equality to a greater focus on economic efficiency (Rodríguez-Pose and Ezcurra 2010). The need to compete in order to prevent citizens and firms from voting with their feet (Tiebout 1956) means that subnational tiers of government tend to look for policies that emphasise efficiency at the expense of equity. The stress on local efficiency may also lead to sacrifice pro-poor policies and programmes (Peterson 1995; Lobao and Kraybill 2009). It is also frequently the case that subnational governments, with an eye on re-election, splash resources for other types of current expenditures, such as public employment and salaries (Rodríguez-Pose, Tijmstra, and Bwire 2009). A key element in favour of centralising redistributive policies and poverty relief is the inter-jurisdictional mobility of the population and productive factors (Hernández-Trillo

2016). Moreover, central authorities have a broader tax base and can consequently often tax without burdening the poor and without compromising their tax intakes to a greater extent than local governments. Decentralisation may also increase the risk of resource capture by local elites and special interest groups and can reinforce clientelism and the proliferation of patronage-based rent-seeking organisations centred around local political clans (Faguet and Sánchez 2008; Teehankee 2012; Canare and Francisco 2019). Local authorities may be more likely to be under pressure from local elites and prone to corruption (Prud'homme 1995; Bird and Rodríguez 1999; Sanogo 2019). In general, the higher the regional autonomy, the higher the risk of full control by local elites holding economic and political power in the region (Guritno, Samudro, and Soesilo 2019). All these factors are deemed less likely to happen at the central government level. Consequently, local governments may be more prone to bad spending decisions and the misuse of public resources at the subnational level (Agyemang-Duah et al. 2018).

Based upon such contrasting theoretical arguments, it should come as no surprise that the results of empirical studies on the topic —most of which are case-studies, focused on a variety of countries across the income spectrum— yield mixed results (Ezcurra and Rodríguez-Pose 2013). Some research (e.g., Steiner 2007; Bekele and Kjosavik 2016; Hernández-Trillo 2016) finds no evidence that decentralisation is effective in the fight against poverty and/or social exclusion. Using Uganda as a case study, Steiner (2007) argues that decentralisation did not reduce poverty and social exclusion, due to low levels of information about local government affairs, the limited availability of skills and financial resources at the local level, high levels of corruption, patronage and nepotism, and high administrative costs and low accountability. Bekele and Kjosavik (2016) report that the decentralised governments in Ethiopia lack the capacity and resources to address poverty needs. Hernández-Trillo (2016) indicates that the decentralisation of poverty relief in Mexico has failed, mostly due to a lack of adequate political accountability by subnational governments in the country. These case studies do not provide evidence that decentralisation reduces poverty, possibly because local government quality in these countries is low. Other studies advocate that decentralisation matters for poverty and social exclusion reduction. Nursini and Tawakkal (2019), for example, show that the acceleration of poverty reduction in Indonesia has been related to the active role regional governments have played on this matter after decentralisation.

2.2 The role of governance quality

'Good governance' is crucial for poverty reduction and the alleviation of social exclusion. Decentralisation can become an effective public policy tool when it is combined with 'good governance' (Kyriacou, Muinelo-Gallo, and Roca-Sagalés 2015; Muringani, Fitjar, and Rodríguez-Pose 2019; Fitjar 2021). If countries decentralise to efficient local governments, the outcomes may be better public policies and services. If, by contrast, the decentralisation is to less efficient and more ill-prepared governments than national ones, the outcome may be worse overall public policies. Decentralisation and 'good governance' can, therefore, become symbiotic and improve local services delivery increasing the well-being of the poor only in the presence of efficient subnational governments (Agyemang-Duah et al. 2018). It is often the case that decentralisation stands at the centre of a 'good governance' agenda aiming to reduce corruption and elitism and to increase political accountability, transparency and voice (Veron et al. 2006; Kyriacou and Morral-Palacín 2015). The argument is that if policy-makers are benevolent maximisers of the social welfare —which means a minimum threshold of governance quality at the local level—, decentralisation is likely to alleviate poverty and social exclusion through higher allocative efficiency, stronger voice, and more accountability and participation. But if local public decision-makers are mainly self-interested actors, working in a low governance quality environment, decentralisation may be far from an efficient tool to tackle poverty and social exclusion. Decentralisation may, in the circumstances, worsen the governance problems of subnational authorities (e.g., problems of corruption and administrative quality), because of the incompetence of local governments (Kyriacou, Muinelo-Gallo, and Roca-Sagalés 2015). In this vein, Crook (2003) finds that decentralisation is unlikely to lead to more pro-poor outcomes without 'good governance' and in conditions of poor accountability. Agyemang-Duah et al. (2018) recommend a more effective, efficient, and transparent institutional and legal framework to ensure poverty alleviation through decentralisation.

2.3 The role of cities

The balance between the pros and the cons of decentralising decision-making power to regional governments for poverty and social exclusion reduction may also depend on where citizens live. Decentralisation can increase efficiency in the provision of local public services, but public services in cities are different from those that need to be provided in rural areas.

Wu, Ye, and Li (2019) show that the dominance of large cities in China is associated with decentralisation. Local governments design and implement policies that respond to the local needs and preferences of the poor and socially excluded, but urban needs and preferences are different than rural ones. Since public goods are non-rival in consumption, the per-capita cost of a given level of public good provision is lower in more populous jurisdictions, such as in cities, than in less populous places, such as in rural areas (Buettner and Holm-Hadulla 2013). It is therefore often less costly to provide public goods and services at city level than at any other territorial level. Cities also benefit from higher agglomeration economies and tend to have better access to resources and technologies than rural areas, facilitating a more efficient delivery of public goods and services. Moreover, urban populations are usually more heterogeneous than rural ones, as urban areas are characterised by high agglomeration effects and high socioeconomic and spatial heterogeneity (Tselios 2014; Brelsford et al. 2017). Cities can attract both highly paid professional workers and many displaced workers who want to improve their life and work prospects. Hence, urban governments can respond better to the heterogeneity of urban households than central governments and do so in a more cost-effective way.

Urban place-based policies are important for poverty and social exclusion alleviation, because they can target specific urban areas of high poverty and special treatment (Partridge and Rickman 2006). However, it depends on the extent to which urban governments have discretion in carrying out their obligations. For example, autonomous urban governments are capable of responding to the needs of the poor and the socially excluded, as they have greater freedom to make decisions. In contrast, decentralisation and the degree of autonomy may also increase the risk of resource capture by local elites and special interest groups, especially in countries with low governance quality (Gerring and Thacker 2004; Kyriacou and Roca-Sagalés 2011; Rodríguez-Pose and Tselios 2019). This risk differs between urban and rural areas. Urban elites are also more likely to affect the distribution of public investment expenditures, including the allocation of funds for poverty and social exclusion reduction (Rodríguez-Pose, Psycharis, and Tselios 2016a, 2016b; Psycharis, Rodríguez-Pose, and Tselios 2021). Overall, the sign or magnitude of decentralisation on poverty and social exclusion alleviation will differ between cities and other areas.

3. Methodology

3.1 Data and variables

The scholarly literature has devised many different dimensions of poverty and social exclusion. These range from economic or human exclusion to socio-cultural and political exclusion (Steiner 2007). We resort to Eurostat to extract data for poverty and social exclusion. Eurostat measures the 'percentage of people who are at-risk-of poverty and social exclusion' —that is the share of individuals who are at-risk-of poverty or severely materially deprived or living in households with very low work intensity[3]— across European regions and countries. Eurostat's indicator captures both 'poverty' and 'social exclusion'. These concepts interact with each other. Individuals tend to fall into poverty because of lack of work and income, but poverty can also be a consequence of the difficulties some households face when trying to meet their own needs and to gain access to collective provisions of services from which they are excluded (Baud, Sridharan, and Pfeffer 2008).

The share of people at-risk-of poverty and social exclusion within a country is also available by degree of urbanisation, i.e., for people living in cities, those living in towns and suburbs, and those living in rural areas. The percentage of people at-risk-of poverty and social exclusion varies from country to country. Turkey, Bulgaria, Romania, Latvia, and Lithuania have the highest share of individuals living in poverty and social exclusion. The incidence of this indicator is lowest in Norway, the Netherlands, Finland, and Switzerland. Poverty and social exclusion problems are particularly acute in some relatively wealthy countries, such as Austria, Belgium, Denmark, France, the Netherlands, Sweden, and the United Kingdom, but also in the rural areas of poorer countries, such as Bulgaria, Croatia, Czechia, Greece, Hungary, Lithuania, Poland, Portugal, Romania, Slovenia, and Spain. Nevertheless, there are exceptions. In Finland, Germany, and Switzerland poverty and social exclusion are relatively low across the board.

We proxy decentralisation using Hooghe's et al. (2016) and Shair-Rosenfield's et al. (2021) Regional Authority Index (RAI). Data for the RAI are compiled into two different datasets. The

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[3] This indicator is part of the EU Sustainable Development Goals (SDG) indicator and the EU 2020 strategy indicators.

first one contains annual scores for each regional meso-level government/tier[4] (i.e., each individual region). The second aggregates all regional scores at country level. The RAI comprises two sub-indexes: a) *self-rule*, which is the authority exercised by a regional government over those who live in the region; and b) *shared-rule*, or the influence of regional governments on decision-making at country level. The self-rule index measures the extent to which regional governments are independent from national governments. It includes dimensions such as institutional depth, policy scope, fiscal autonomy, borrowing autonomy and representation. The shared-rule index measures the extent to which regional governments co-determine national policies. It encompasses law making, executive control, fiscal control, borrowing control, and constitutional reform. There are considerable variations in regional autonomy across Europe. The German *Länder*, the Swiss *Cantons*, the Spanish *Autonomous communities*, and the Belgian *Regions* have the highest level of autonomy in Europe, while subnational tiers of government have very limited autonomy in the Baltics, Cyprus, Luxembourg, or Malta.

Governance quality across Europe is proxied by the sum of six dimensions of governance (voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption),[5] which refer to traditions and institutions by which political authority is exercised in every European country considered in the analysis (Kaufmann, Kraay, and Mastruzzi 2010). This multidimensional index is put together by the World Bank and summarises the views on the quality of governance provided by a large number of enterprise, citizen, and expert survey respondents. The quality of governance of a European region is proxied by an index based on a large citizen survey where respondents were asked about perceptions and experiences with public sector corruption, along with the extent to which citizens believe various public sector services are impartially allocated and of good quality (Charron, Lapuente, and Annoni 2019). Although both measures consider different scales, the regional quality of government index adopted

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[4] The choice of meso-level generally coincides with the territorial units with the greatest degree of autonomy in each country. It thus varies from one country to another — i.e., *Länder* in Germany, *Regioni* in Italy, *Comunidades Autónomas* in Spain, or *Cantons* in Switzerland.

[5] A limitation of a simple aggregative index is that the components with a large value have greater influence on the index. The value of each component for the quality of governance index that we use ranges from -2.5 to 2.5.

the World Bank's index structure, making both indices comparable (Charron, Lapuente, and Annoni 2019).

Table 1: Descriptive statistics

	Obs	Mean	Std. Dev.	Min	Max
NATIONAL					
Poverty or social exclusion					
All areas	1,153	25.0223	8.5174	12.9	66.4
Cities	1,114	23.1555	4.7731	12.5	56.9
Towns and suburbs	1,107	22.8886	7.1495	11.3	64.4
Rural areas	1,114	26.4575	9.4350	6.5	67.2
Decentralisation					
RAI	1,153	12.4740	7.7195	1	27
• The self-rule index	1,153	9.5507	4.6698	1	18
• The shared-rule index	1,153	2.9206	3.7352	0	12
Governance quality	1,153	6.3064	2.9935	-2.7472	11.7607
REGIONAL					
Poverty or social exclusion					
All areas	1,204	25.0189	11.3257	7.5	59.5
Decentralisation					
RAI	1,204	15.5245	7.5212	1	27
• The self-rule index	1,204	11.7949	4.1353	1	18
• The shared-rule index	1,204	3.7297	4.1665	0	12
Governance quality	1,000	-0.1409	1.1395	-2.9723	1.7821

Merging the three national databases, we cover 28 European countries[6] for the period between 2003 and 2016. The merger yields a dataset of 153 NUTS II regions in 16 countries[7] for the same period. Table 1 presents the number of observations, the mean, the standard deviation, the minimum and the maximum of the 'poverty and social exclusion' variable, the decentralisation proxy, and the quality of governance proxy for both datasets. We observe that rural areas, in general, have the highest incidence of poverty and social exclusion across Europe. This incidence is lowest in towns and suburbs. Although the national analysis covers 28 countries and the regional analysis is limited to 16, the average national and regional poverty and social exclusion level is almost the same (25.0223 and 25.0189, respectively).[8] Table 1 also shows that *self-rule* has a higher contribution to RAI than *shared-rule*.[9] As for the governance quality, there are strong differences between the national and the regional

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[6] Austria, Belgium, Bulgaria, Croatia, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovenia, Spain, Sweden, Switzerland, Turkey, and United Kingdom.

[7] Austria, Bulgaria, Croatia, Czechia, Denmark, Finland, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Romania, Slovenia, Spain, and Sweden.

[8] A mapping of the regional poverty and social exclusion level is displayed in Appendix 1.

[9] A mapping of the regional RAI is displayed in Appendix 2.

level.[10] The mean value of the quality of national governance is positive, while that of the quality of regional governance is negative.

3.2 Econometric specifications

To assess the link between variations in decentralisation and poverty and social exclusion across Europe, we initially examine the linear association between both factors at a national and regional level. As, according to the theoretical discussion, we expect that this relationship is likely to be moderated by variations in governance quality across countries and regions, we subsequently introduce this variable in the analysis.

3.2.1. Poverty and social exclusion within countries

To measure the link between the level of decentralisation of a region and the aggregate poverty and social exclusion of the country where the region lies, we use the following econometric specifications:

$$PovSocEx_{it} = \alpha_0 + \alpha_1 Dec_{i(r)t} + Controls_{it}\alpha_2 + RegionNameDummy_{i(r)}\alpha_3 +$$
$$YearDummy_t\alpha_4 + \varepsilon_{i(r)t} \tag{1}$$

$$PovSocEx_{it} = \beta_0 + \beta_1 Dec_{i(r)t} + \beta_2 Gov_{it} + \beta_3 Dec_{i(r)t}Gov_{it} + Controls_{it}\beta_4 +$$
$$RegionNameDummy_{i(r)}\beta_5 + YearDummy_t\beta_6 + \theta_{i(r)t} \tag{2}$$

where $PovSocEx_{it}$ is the poverty and social exclusion in country *i* in year *t*; $Dec_{i(r)t}$ is the degree of decentralisation (RAI) of country *i* for the regional government/tier *r* in year *t*; Gov_{it} is the quality of governance of country *i* in year *t*; $Controls_{it}$ denote a vector of variables that may also affect poverty and social exclusion; $RegionNameDummy_{i(r)}$ is a vector of dummy variables of country *i* for the regional government/tier *r*;[11] $YearDummy_t$ is a vector of annual time dummies; and $\varepsilon_{i(r)t}$ and $\theta_{i(r)t}$ are error terms. α_0 and β_0 are constants; α_1, β_1, β_2, and β_3 are coefficients;[12] and α_2, α_3, α_4, β_4, β_5, and β_6 are vector coefficients. The α_1 coefficient (Model 1) indicates the average effects of decentralisation on poverty and social exclusion at

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[10] A mapping of the regional quality of governance is displayed in Appendix 3.

[11] For example, Austria has two regional governments/tiers: ordinary *Länder*, on the one hand, and the capital region, Vienna, on the other. Hence, *r=1, 2.* It implies that we add 2 different dummies for Austria.

[12] The size of a coefficient describes the size of the effect that an independent variable is having on the dependent variable ($PovSocEx$). The sign on the coefficient (positive or negative) shows the direction of the effect.

the aggregate national level. This coefficient tells us how much the $PovSocEx$ variable is expected to increase when the Dec variable increases by one unit, holding all other independent variables constant. In the interaction model (Model 2), the marginal effect of decentralisation on poverty and social exclusion is $\frac{\partial PocSocEc}{\partial Dec} = \beta_1 + \beta_3 Gov$. The effect of decentralisation on poverty and social exclusion is expected to be strongly mediated by variations in the quality of subnational governments. The β_1 coefficient (Model 2) captures the effect of a one-unit change in the degree of decentralisation (Dec) on poverty and social exclusion ($PocSocEc$), when government quality (Gov) is not taken into account (Brambor, Clark, and Golder 2006). Since one cannot determine whether a model should include an interaction term simply by looking at the significance of the coefficients, we illustrate the marginal effect of decentralisation and the corresponding standard errors across the observed range of governance quality (Brambor, Clark, and Golder 2006).

Both specifications explore whether a change in the degree of decentralisation leads to improvements in —or, by contrast, exacerbates— existing poverty and social exclusion problems within a country, after controlling for some time-variant country characteristics ($Controls_{it}$) that may affect the incidence of poverty and/or social exclusion. These characteristics are a) health, proxied by the infant mortality rate (source: Eurostat); b) the total unemployment as the percent of total labour force (source: World Bank, WB); c) the value added of agriculture, industry, and services as a percentage of GDP (source: WB), which denotes the sectoral composition of the country; d) the population density in *ln*, as the population divided by the land area in square kilometres (source: WB); and e) the KOF Globalisation index, which is a composite index measuring the economic, social, and political dimension of openness (Gygli, Haelg, and Sturm 2018).[13] Both specifications control for all

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[13] The controls included in the analysis are not the only ones capable of affecting poverty and social exclusion. Others, such as educational attainment, economic development, inactivity, tax, innovation, urbanisation economies, and physical geography, among others, may also have a non-negligible influence on poverty and social exclusion rates. However, the independent variables included in a regression model should be independent from one another. That is, they should not be correlated. Highly correlated independent variables produce problems to fit the model and to interpret the results. This results in multicollinearity, making coefficients highly sensitive to small changes, reducing the precision of the estimated coefficients and weakening the statistical power of the regression model. Due to these multicollinearity problems, we do not control for several variables originally considered as controls. These include a) education, proxied by a human capital index based on the average years of schooling (Barro and Lee 2013) and returns to education (Psacharopoulos 1994) (source: Penn World Table, PWT); b) per capita GDP in *ln* (source: WB), measuring the economic development of the country; c) the percent of inactive adults (source: Eurostat); d) tax revenue (source: WB); e) patent applications to the EPO or the intramural (R&D) expenditure as the percent of GDP (source: Eurostat), as proxies

time-invariant, national-specific characteristics ($RegionNameDummy_{ir}$) and for all time-specific national-invariant characteristics ($YearDummy_t$). The region-name-dummies control for the time-invariant first-nature geographical characteristics, such as climate, natural resources, mountains, topography and the physical geography of coasts (Krugman 1993), while the year-dummies control for global business cycle and for global technological improvement effects. Controlling for these characteristics greatly reduces the risk of obtaining biased estimation results.

When examining whether the relationship between decentralisation and poverty and exclusion depends on the degree of urbanisation of the country, we run Models 1 and 2 using as dependent variable: a) the percentage of people who live in cities and their risk of being in poverty and social exclusion; b) the percentage of people in towns and suburbs and their risk of being in poverty and social exclusion; and c) the percentage of people in rural areas and their risk of being in poverty and social exclusion.

The decentralisation and governance quality variables are not time-lagged, because both changes in these variables are long-run processes (Rodríguez-Pose and Tselios 2019).

3.2.2. Poverty and social exclusion within regions

To measure the link between decentralisation in a region (at NUTS II level) and its aggregate poverty and social exclusion level, we use the following econometric specifications:

$$PovSocEx_{st} = \gamma_0 + \gamma_1 Dec_{s(max)t} + Controls_{st}\gamma_2 + YearDummy_t\gamma_3 + \varphi_{st}$$

$$\text{(3)}$$

$$PovSocEx_{st} = \delta_0 + \delta_1 Dec_{s(max)t} + \delta_2 Gov_{st} + \delta_3 Dec_{s(max)t}Gov_{rt} + Controls_{st}\delta_4 +$$
$$YearDummy_t\delta_5 + \omega_{st} \qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad \text{(4)}$$

where $PovSocEx_{st}$ is the share of poor or socially excluded people in region *s* in year *t*; $Dec_{s(max)t}$ is the maximum level of decentralisation (RAI) in region *s* in year *t* (i.e., the RAI

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for innovation; f) urban population as the percent of total population (source: WB), and the population in the largest city as the percent of urban population (source: WB); and g) the distance from a country's centroid to the nearest coastline or navigable river or the percent of land area within 100km of the nearest coastline or navigable river (source: Center for International Development, Harvard University, Gallup, Mellinger, and Sachs 2010). These variables are highly correlated with *Dec, Gov*, and/or some of the *Controls*.

score for the most authoritative regional government/tier)[14]; Gov_{st} is the quality of governance of region s in year t; $Controls_{rt}$ is a vector of control variables; $YearDummy_t$ is a vector of time dummy variables; and $\varphi_{s(max)t}$ and $\omega_{s(max)t}$ are error terms. γ_0 and δ_0 are constants; γ_1, δ_1, δ_2, and δ_3 are coefficients; and γ_2, γ_3, δ_4, and δ_5 are vector coefficients. The time-variant characteristics of a region ($Controls_{st}$), extracted from Eurostat, are a) early leavers from education; b) total unemployment as the share of the total labour force; and c) population density in *ln*, measured as the population divided by the land area in square kilometres.[15] Since the time-series variation of the decentralisation level and the quality of governance variables is very low, we do not control for the time-invariant regional characteristics. Therefore, we use OLS and GLS estimator, because most of the variation of the data is cross-regional. Moreover, changes in decentralisation and in regional governance quality are long-run processes and happen infrequently and, when they do, they do so in steps. This implies that the coefficients of OLS and GLS estimators are the most appropriate, as they interpret the long-run effects of decentralisation on poverty and social exclusion (Rodríguez-Pose and Tselios 2019).

4. Regression results

4.1 Is decentralisation connected with a reduction of poverty and social exclusion within countries?

Table 2 displays the results of regressing Model 1. It assesses the link between the degree of decentralisation in a given European country and its level of poverty and social exclusion. Columns 1, 3, 5, and 7 display the results of Model 1 without the time-variant characteristics of the country ($Controls_{it}$). Columns 2, 4, 6, and 8 present the results of Model 1 with controls. The results are displayed for all regions (columns 1 and 2), for cities (columns 3 and 4), for towns and suburbs (columns 5 and 6), and for rural areas (columns 7 and 8). The results

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[14] For instance, the RAI of an Austrian NUTS II region (i.e., Burgenland, Lower Austria, Vienna, Carinthia, Styria, Upper Austria, Salzburg, Tyrol, and Vorarlberg) is the maximum RAI score of the differentiated regions *r* which refer to this specific NUTS II region.

[15] Due to multicollinearity problems, we do not control for a) infant mortality rate, b) the per-capita GDP in *ln*, and c) the per-capita number of patent applications to the EPO or the intramural (R&D) expenditure as the percent of GDP. These variables are highly correlated with *Dec* and/or *Controls*.

show that a change in the degree of decentralisation in a country is not linked with changes in overall poverty and social exclusion at country level, even after controlling for other factors that may affect changes in poverty and social exclusion. In all the regressions considered, the coefficient of RAI (α_1) is not statistically significant. And this is the case regardless of the type of territories considered. We find no difference in the lack of association between decentralisation and poverty and social exclusion, regardless of whether the analysis focuses exclusively on cities, towns and suburbs, rural areas, or the country as a whole. By contrast, levels of poverty and social exclusion are lower in countries more dependent on industry and services and higher in more economically open countries.

Table 2: The linear association between decentralisation and poverty and social exclusion within countries (Model 1)

	All areas	All areas	A. Cities	A. Cities	B. Towns and suburbs	B. Towns and suburbs	C. Rural areas	C. Rural areas
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
RAI	-0.0040	-0.0718	0.0535	-0.0067	0.2001	0.1207	-0.0507	-0.1109
Mortality		1.6456***		1.0767***		2.3379***		1.0743***
Unemployment		0.2427***		0.3077***		0.2630***		0.2369***
Agriculture		base		base		base		base
Industry		-3.4276***		-1.1969***		-1.6275***		-2.2640***
Services		-3.0917***		-1.2917***		-1.5705***		-1.8312***
Pop density (*ln*)		-16.6309***		16.2110***		10.1398		-35.0561***
KOF index		0.3948***		0.5510***		0.1804		-0.1675
Year dummies	yes	yes	yes	yes	yes	yes	yes	yes
Regional dummies	yes	yes	yes	yes	yes	yes	yes	yes
Constant	18.9650***	380.3472***	21.6222***	36.0369	11.7698***	101.8269*	18.3417***	377.3161***
Observations	1,153	1,053	1,114	1,024	1,107	1,017	1,114	1,024
R-squared	0.9224	0.9603	0.7941	0.8574	0.8791	0.9178	0.9421	0.9551

*** p<0.01, ** p<0.05, * p<0.1

Since the linear association between decentralisation and poverty and social exclusion within a country is statistically insignificant, we examine whether this association is moderated by country-level governance quality (Model 2). The structure in Table 3 follows that of Table 2. The main difference is that Table 3 displays the coefficients on decentralisation (β_1) and on the interaction term (β_3). The coefficient on decentralisation (β_1) captures the effect of a one-unit change in decentralisation on poverty and social exclusion when the value of governance quality is zero (i.e., for countries with average governance quality). Since one cannot determine whether the model should include the interaction term between decentralisation and governance quality simply by looking at the significance of the coefficients on decentralisation (β_1) and the interaction term (β_3) (i.e., whether quality of governance moderates the effect of decentralisation on poverty and social exclusion), we illustrate the

marginal effect of decentralisation and the corresponding standard errors for a) low, b) medium, and c) high governance quality, in order to cover the observed range of governance quality.

Table 3: The association between decentralisation and poverty and social exclusion within countries: The mediating role of national governance quality (Model 2)
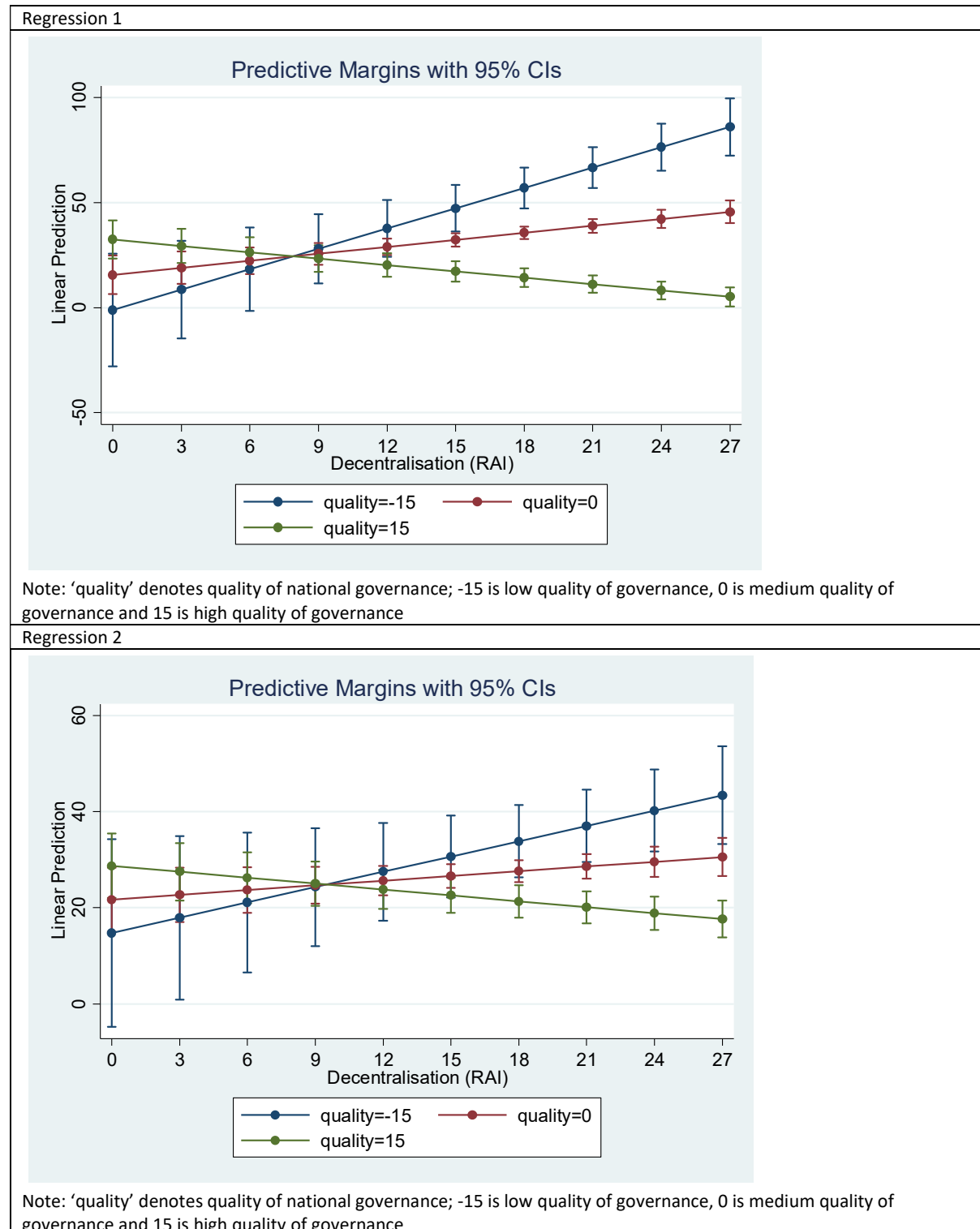
	All areas	All areas	A. Cities	A. Cities	B. Towns and suburbs	B. Towns and suburbs	C. Rural areas	C. Rural areas
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
RAI	1.1094***	0.3266*	0.4292**	0.0724	0.4115*	0.1597	0.3054	-0.0004
GOV	1.1142*	0.4671	-0.7264	-0.4612	-1.9832***	-1.6888***	-0.9329**	-0.4480
RAI x GOV	-0.1412***	-0.0491**	-0.0514**	-0.0102	-0.0344	-0.0061	-0.0496**	-0.0140
Mortality		1.6369***		1.0132***		2.1507***		1.0077***
Unemployment		0.2212***		0.2629***		0.1355***		0.1886***
Agriculture		base		base		base		base
Industry		-3.4447***		-1.2030***		-1.6249***		-2.2737***
Services		-3.1113***		-1.2851***		-1.5336***		-1.8275***
Pop density (*ln*)		-15.9728**		19.5833***		21.1197***		-31.5156***
KOF index		0.3511**		0.4266**		-0.1884		-0.3002**
Year dummies	yes	yes	yes	yes	yes	yes	yes	yes
Regional dummies	yes	yes	yes	yes	yes	yes	yes	yes
Constant	13.9556**	378.9795***	31.7850***	32.7520	34.3816***	88.0263	30.5975***	374.0768***
Observations	1,153	1,053	1,114	1,024	1,107	1,017	1,114	1,024
R-squared	0.9265	0.9607	0.8078	0.8591	0.8963	0.9239	0.9465	0.9556

*** p<0.01, ** p<0.05, * p<0.1

The results of Table 3 along with the marginal effect and the standard errors show that in European countries with a low governance quality, an increase in regional autonomy (measured by the RAI) is linked with an increase in poverty and social-exclusion. In contrast, in countries with a high governance quality, increases in the RAI indicator are connected with lower poverty and social exclusion (Regressions 1 and 2; Figure 1). Decentralisation in European countries can, therefore, be considered as a mechanism to address poverty and social exclusion, only in 'good' governance contexts. In other words, the transfer political powers, administrative competences and fiscal authority to subnational tiers of government may lead to reducing poverty and social exclusion only in countries with a high quality of governance, not in those where governance levels are subpar. Decentralising powers and resources in countries with high quality of governance may result in more efficient systems for the provision of local public services, greater accountability, and an enhanced delivery and a better and more equitable allocation of public services. This, in turn, can reduce poverty and the risk of social exclusion. Decentralisation can reduce poverty and social exclusion by bringing government closer to those governed, including the poor and socially excluded,

therefore providing greater opportunities for excluded individuals, but only when the governance ecosystem is adequate. High quality institutions imply a higher allocative efficiency of public intervention, stronger voice, and more accountability and participation, all essential factors for poverty and social exclusion alleviation.

Figure 1: Predictive margins for Regressions 1 and 2 of Table 3 (Model 2)

Note: 'quality' denotes quality of national governance; -15 is low quality of governance, 0 is medium quality of governance and 15 is high quality of governance

Note: 'quality' denotes quality of national governance; -15 is low quality of governance, 0 is medium quality of governance and 15 is high quality of governance

Conversely, in countries with low quality of governance, decentralisation may exacerbate poverty and social exclusion problems. Thus, if decentralisation leads to the award of more powers and resources to local governments that are less capable of delivering efficient policies than the national government, the impact on poverty and social exclusion may be negative. In those cases, doing nothing may be a better option for dealing with poverty and social exclusion. Bearing in mind that the government quality (Gov) variable is proxied by the sum of six dimensions of governance, low voice and accountability, political instability and violence, government ineffectiveness, regulatory inferiority, weak rule of law, and corruption are cumulative factors that can undermine even the best- intentioned policies to tackle poverty by subnational tiers of government. The findings above are robust for cities (Regressions 3 and 4) and towns and suburbs (Regressions 5 and 6), but sensitive to the inclusion of the control variables in rural areas (Regressions 7 and 8).

As for the controls, the regression results show that an increase in the infant mortality rate and/or the total unemployment of a country are connected to greater poverty and social exclusion problems, regardless of the type of area of the country considered —cities, towns and suburbs, and rural areas. Areas more dependent on agriculture are also more vulnerable to poverty and social exclusion risks than industry— and services-sector economies. An increase in the population density of urban areas (cities, towns, and suburbs) and/or a decrease in the population density of rural areas is associated with an increase in poverty and social exclusion in the area. Hence, the increase of the urban population with the simultaneous decrease of the rural population worsens poverty and social exclusion. Finally, globalisation (KOF index) is linked to improvements in poverty and social exclusion in rural areas, but connected to an increase these problems in cities.

We then examine whether our main finding —that decentralisation seems to lower poverty and social exclusion in countries with a high quality of governance— in the context of two different types of regional governments/tiers: a) those where decentralisation takes place symmetrically within a country, and b) those where decentralisation is asymmetric within a country (Hooghe et al. 2016; Shair-Rosenfield et al. 2021). In the former type, decentralisation yields a uniform institutional setup, leading to regions with the same transfers of powers within any given country. These are called standard (or ordinary) regions. In the latter type of regional government/tier, decentralisation leads to regions with asymmetric powers. This

implies that some regions have different regulations and deviate from the country-wide constitutional framework. These are called special regions because they receive special treatment. Table 4 shows that for both standard and autonomous regions, the effect of decentralisation depends on governance. In standard regions, there is evidence that decentralisation is connected to lower poverty and social exclusion problems, but fundamentally in countries with good institutions (Regressions 1 —without controls— and 2 —with controls). For the special regions in countries with high quality of governance, more autonomy can also lower poverty and social exclusion (Regressions 3 —without controls and 4 —with controls). Hence, greater autonomy increases the efficiency in the provision of local public services for the poor and socially excluded. Decentralisation thus leads to improvements in the delivery, allocation and equity of public services for everyone, and to the implementation of welfare policies more adapted to the local needs and preferences of people in or at-risk of poverty.

Table 4: The association between decentralisation and poverty and social exclusion within countries for standard regions and for autonomous regions

	Standard regions	Standard regions	Autonomous regions	Autonomous regions
	(1)	(2)	(3)	(4)
RAI	0.8419***	0.1030	0.2446	0.9226
GOV	0.7425*	0.5914*	-0.0027	1.9913**
RAI x GOV	-0.1474***	-0.0852***	-0.0568	-0.1161***
Mortality		1.7244***		-0.2217
Unemployment		0.2302***		0.2586***
Agriculture		base		base
Industry		-3.5273***		-0.9899***
Services		-3.1593***		-1.2358***
Pop density (*ln*)		-18.5921***		-15.6940***
KOF index		0.5282***		0.2867**
Year dummies	yes	yes	yes	yes
Regional dummies	yes	yes	yes	yes
Constant	24.3136***	397.2635***	26.4596***	196.9287***
Observations	602	548	275	253
R-squared	0.9274	0.9609	0.9480	0.9684

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

We then decompose the 'poverty and social exclusion' variable to explore whether decentralisation is connected to a) lower at-risk-of poverty, b) lower material deprivation rate, or c) less people living in households with low work intensity (Appendix 4). There is a robust evidence that decentralisation matters for at-risk-of poverty and, even more, for severe material deprivation rate, but it is less connected to the share of people living in households with low work intensity. Hence, an increase in decentralisation may increase the

ability of households to afford some items considered by most people to be desirable to lead an adequate life.

Finally, we replicate Models 1 and 2 for *self-rule* and *shared-rule* (Appendix 5). The results show that a change in the degree of decentralisation —regardless of whether it is measured by the RAI, *self-rule* or *shared-rule*— in a country is not linked with changes in overall poverty and social exclusion at country level (Model 1). Considering the mediating role of governance quality (Model 2), an increase in the RAI or self-rule is associated with an increase in poverty and social exclusion, but in countries with a high quality of governance, an increase in RAI or *self-rule* is connected with a decrease in poverty and social exclusion, especially for cities, towns, and suburbs (urban areas). Hence, in decentralised contexts only high-quality governance guarantees the design and implementation of public interventions more capable of responding to the local needs and preferences of the poor and socially excluded. And these interventions benefit more those living in urban rather than in rural areas. Public services in urban areas are different than those that need to be provided in rural areas and decentralised governments appear to struggle more to provide those services in the latter. It is often less costly to deliver public goods and services in cities than in remote rural areas. Decentralised governments in rural areas often struggle with capacity problems, both in terms of the skills of those in charge of designing and implementing policies and of the financial resources put at their disposal. As for the regions that can co-determine national policies (*shared-rule*), the findings show big differences between 'towns and suburbs' and 'rural areas'. More specifically, *shared-rule* is connected with lower poverty and social exclusion in the rural areas of countries with a relatively high quality of governance. The same can be said for the towns and suburbs of the countries with low governance quality. The findings for large urban areas are sensitive to the control variables. Thus, the success of decentralising decision-making power to regional governments for poverty and social-exclusion reduction depends not just on the quality of the governments and governance systems to which authority and resources are decentralised, but also on where citizens live. Lastly, the results show that in symmetric decentralisation regimes, there is robust evidence that decentralisation, proxied by RAI, *self-rule* or *shared-rule*, is connected to lower poverty and social exclusion problems, but fundamentally in countries with good institutions.

4.2 Is decentralisation connected with a reduction of poverty and social exclusion within regions?

Table 5 displays the results of the analysis when we consider, instead of the aggregate impact of decentralisation on poverty and social exclusion at country level, its effect at a regional level (Model 3). The results point to the fact that increases in regional powers and resources are associated with lower poverty and social exclusion across European regions. This finding is robust to the inclusion of different regional controls, such as early leavers from education, total unemployment, and population density. The coefficient on decentralisation (γ_1) is statistically significant in all regressions (Regressions 1-4), regardless also of method. Using OLS or GLS yields coefficients with the same sign and degree of significance. Decentralisation is thus linked to reductions in regional poverty and social exclusion problems across European regions. Decomposing the 'regional poverty and social exclusion' variable, we observe that decentralisation matters for the reduction of the severe material deprivation at a regional level. This, however, is not the case when we consider the at-risk-of poverty dimension at a regional level (Appendix 6). Unfortunately, there are no adequate data for the people living in households with low work intensity. Once more, an increase in decentralisation improves the capacity of households to afford some items considered by most people desirable and able of improving quality of life. The regional control variables show that an increase in regional unemployment is linked with an increase in regional poverty and social exclusion problems, which is robust to the estimator and to the proxy for decentralisation.

Table 5: The linear association between decentralisation and poverty and social exclusion within regions (Model 3)

	OLS	OLS	GLS	GLS
	(1)	(2)	(3)	(4)
RAI	-0.3647***	-0.8438***	-0.3711***	-0.3620***
Leavers		0.6138***		-0.0271
Unemployment		0.7155***		0.3978***
Pop density (*ln*)		0.1155		-0.0063
Year dummies	yes	yes	yes	yes
Constant	27.2060***	13.8126***	29.9530***	30.9432***
Observations	1,000	933	1,000	933
R-squared	0.0721	0.4077		

*** p<0.01, ** p<0.05, * p<0.1

Table 6 presents the mediating role of regional quality of governance (Model 4). The coefficient on decentralisation (δ_1) captures the effect of a one-unit change in

decentralisation level of a region on its poverty and social exclusion for regions with medium quality of governance. For the interpretation of the results, again, we show the marginal effect of decentralisation and the corresponding standard errors for a) low, b) medium, and c) high quality levels of governance.
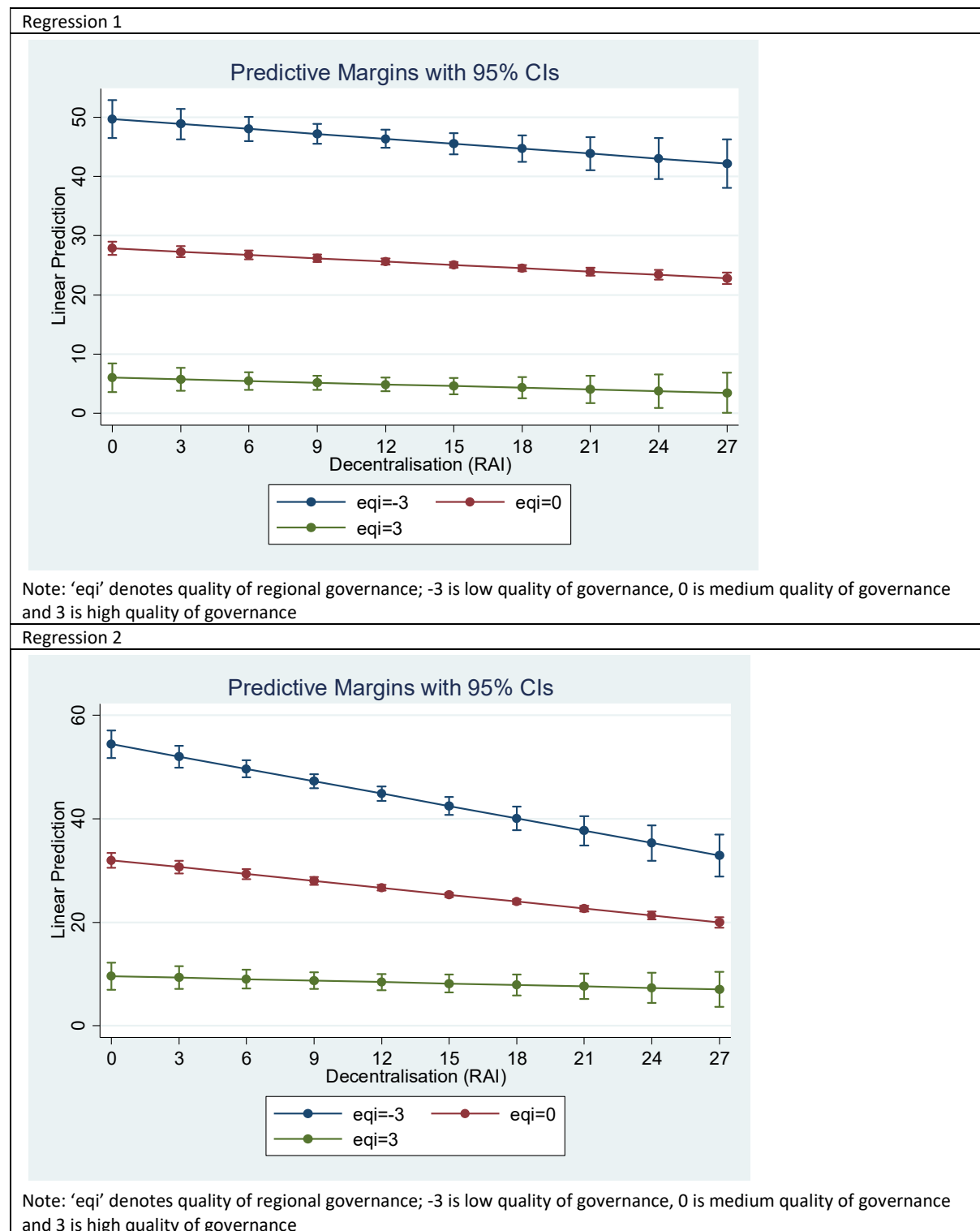
Table 6: The association between decentralisation and poverty and social exclusion within regions: The mediating role of regional governance quality (Model 4)

	OLS	OLS	GLS	GLS
	(1)	(2)	(3)	(4)
RAI	-0.1863***	-0.4450***	-0.1394	-0.1577*
GOV	-7.2790***	-7.4746***	-5.8852***	-7.8144***
RAI x GOV	0.0307	0.1171***	0.0396	0.2130**
Leavers		0.3192***		0.0155
Unemployment		0.5452***		0.4003***
Pop density (*ln*)		-1.5758***		-0.8368*
Year dummies	yes	yes	yes	yes
Constant	28.9876***	29.0737***	26.9586***	32.5386***
Observations	1,000	933	1,000	933
R-squared	0.5120	0.6793		

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

The sign of the coefficient on decentralisation (δ_1) and the sign of the coefficient on the interaction term (δ_3) do not change with the inclusion of the regional controls and the estimator. Figure 2 shows that greater regional autonomy is connected, once again, to lower regional poverty and social exclusion, but this process is slightly stronger for regions with relatively lower quality of regional governance. This finding is likely to denote that there is a convergence in the magnitude of the effect of decentralisation between regions with high- and low-level of governance quality. The effect of greater responsiveness to the needs of the poor and the socially excluded at a local level is likely to be higher for regions with low-level of governance than others. Moreover, higher decentralisation can promote regional convergence because of the expectation that regions with a lower regional quality of governance may have a greater room for manoeuvre to react effectively to local needs (Kyriacou, Muinelo-Gallo, and Roca-Sagalés 2015). However, it should be noted here that the analysis for regional poverty and social inclusion does not cover the same countries of the analysis of conducted at national level.

Figure 2: Predictive margins for Regressions 1 and 2 of Table 6 (Model 4)

Note: 'eqi' denotes quality of regional governance; -3 is low quality of governance, 0 is medium quality of governance and 3 is high quality of governance

Finally, we replicate Models 3 and 4 for *self-rule* and *shared-rule* (Appendix 7). The finding at the regional level (i.e., that an increase in regional powers and resources is associated with lower poverty and social exclusion across European regions) is robust to the proxy for

decentralisation considered (Model 3). The results for the mediating role of the regional governance quality (Model 4) show that greater decentralisation is connected to lower regional poverty and social exclusion, which is not only slightly stronger for regions with relatively lower quality of regional governance, but also robust to the measurement of decentralisation.

5. Conclusions

Over the last few decades there has been a drift towards is greater decentralisation across many countries of Europe. The economic, social, and political consequences of this drive have been hotly debated, but the extent to which decentralisation processes in Europe are contributing to alleviating poverty and social exclusion is an area that has remained neglected, both in scholarly research and policy analysis. In this paper we have tried to address this gap by conducting research on the link between decentralisation and poverty and social exclusion, both at an aggregate level for countries, as well as for individual regions.

The results indicate that, on the whole, decentralisation is mostly connected with reductions in poverty and social exclusion, both within countries and regions. However, there are important caveats and differences in this relationship between the national and regional scale. At the national scale, decentralisation leads to lower levels of national poverty and social exclusion mostly in European countries with relatively high-quality governance, and fundamentally through its effect on poverty reduction in urban areas. Hence, in the Nordic countries, Austria, the Netherlands, or Germany, where governance quality is clearly above average, decentralisation can provide the right recipe for poverty alleviation. Decentralisation in countries such as Bulgaria, Croatia, Greece, Hungary, Italy, or Romania, with a lower governance quality, by contrast, is unlikely to have the same effect. The quality of governance is far more important for addressing social problems than the level of autonomy of European regions, meaning that centralisation may have a limited sway in addressing social problems across Southern and Eastern Europe. At the regional level, the effect is more uniform. Greater local autonomy is fundamentally linked with lower poverty and social exclusion in all regions, regardless of their governance level. This implies that decentralisation can lead to a greater responsiveness to the needs of the poor and the socially excluded within regions across the

whole of Europe, although the aggregate impact at country level only emerges when we move up the governance quality scale.

The analysis is not without problems. Decentralisation is fundamentally a long-term process in which changes happen often after considerable periods of time and in step changes. This nature of decentralisation implies that longer term analyses are still required to measure the true impact of the transfer of power and resources to subnational tiers of government. Lack of adequate data prevents us from focusing on the long-term, meaning that some of the results need to be considered with some caution.

Having said that, the analysis gives new evidence, but also raises new questions about the potentially beneficial effects of decentralisation for addressing the poverty and social exclusion problems that have gripped many areas of Europe in recent times. They also have practical implications for policymakers and regulators. Regional governments, because of their capacity to tailor public policies to local needs more adequately than when conducted at the national level, theoretically have the potential to engage in economic development and service activities that might reduce poverty and social exclusion and improve well-being. However, this potential is worth little if the governance ecosystem in which powers and resources are being decentralised is low quality. Policymakers and regulators should recognise these limitations and actively intervene to improve institutional quality and build capacity. Only in these circumstances will decentralised governments become capable of contributing to alleviating urgent social problems, making decentralisation a powerful tool to address poverty and social exclusion at an aggregate scale.

References

Agyemang-Duah, W.; E.K. Gbedoho; P. Peprah; F. Arthur; A.K. Sobeng; J. Okyere; and J.M. Dokbila. 2018. Reducing poverty through fiscal decentralization in Ghana and beyond: A review. *Cogent Economics & Finance* **6**.

Bardhan, P. and D. Mookherjee. 2006. Decentralisation and accountability in infrastructure delivery in developing countries. *Economic Journal* **116:101-127**.

Barro, R. and J.-W. Lee. 2013. A New Data Set of Educational Attainment in the World, 1950-2010. *Journal of Development Economics* **104:184-198**.

Baud, I.; N. Sridharan; and K. Pfeffer. 2008. Mapping urban poverty for local governance in an Indian mega-city: The case of Delhi. *Urban Studies* **45:1385-1412**.

Becker, S.; S. Macpherson; and F. Falkingham. 1987. Some local-authority responses to poverty. *Local Government Studies* **13:35-47**.

Bekele, Y.W. and D.J. Kjosavik. 2016. Decentralised local governance and poverty reduction in Post-1991 Ethiopia: A political economy study. *Politics and Governance* **4:1-15**.

Bird, R. and E.R. Rodríguez. 1999. Decentralization and poverty alleviation. International experience and the case of the Philippines. *Public Administration and Development* **19:299-319**.

Brambor, T.; W.R. Clark; and M. Golder. 2006. Understanding interaction models: Improving empirical analyses. *Political Analysis* **14:63-82**.

Brelsford, C.; J. Lobo; J. Hand; and L.M.A. Bettencourt. 2017. Heterogeneity and scale of sustainable development in cities. *Proceedings of the National Academy of Sciences of the United States of America* **114:8963-8968**.

Buettner, T. and F. Holm-Hadulla. 2013. City size and the demand for local public goods. *Regional Science and Urban Economics* **43:16-21**.

Canare, T. and J.P. Francisco. 2019. Decentralization, Fiscal Independence, and Poverty in the Philippines. *Public Budgeting and Finance* **39:94-117**.

Charron, N.; V. Lapuente; and P. Annoni. 2019. Measuring Quality of Government in EU Regions Across Space and Time. *Papers in Regional Science* **98:1925-1953**.

Commission, P. 2013. On efficiency and effectiveness: some definitions: Staff Research Note, Canberra.

Crook, R.C. 2003. Decentralisation and poverty reduction in Africa: The politics of local-central relations. *Public Administration and Development* **23:77-88**.

European Commission. 2010. Europe 2020: A European strategy for smart, sustainable and inclusive growth. Brussels, 3.3.2010: COM(2010) 2020.

———. 2013. Empowering Local Authorities in partner countries for enhanced governance and more effective development outcomes Brussels, 15.5.2013, COM(2013) 280 final

Ezcurra, R. and A. Rodríguez-Pose. 2013. Political Decentralization, Economic Growth and Regional Disparities in the OECD. *Regional Studies* **47:388-401**.

Faguet, J.P. and F. Sánchez. 2008. Decentralization's effects on educational outcomes in Bolivia and Colombia. *World Development* **36:1294-1316**.

Fitjar, D.R. 2021. Unrequited metropolitan mergers: suburban rejection of cities in the Norwegian municipal reform. *Territory, Politics, Governance* **9:17-36**.

Gallup, J.L.; A.D. Mellinger; and J.D. Sachs. 2010. Geography Datasets: John L. Gallup;Andrew D. Mellinger;Jeffrey D. Sachs, 2010, "Geography Datasets", https://hdl.handle.net/1902.1/14429, Harvard Dataverse, V1, UNF:5:SnYwMY387RxYcu3OxaSFgA== [fileUNF]

Gerring, J. and S.C. Thacker. 2004. Political institutions and corruption: The role of unitarism and parliamentarism. *British Journal of Political Science* **34:295-330**.

Guritno, D.C.; B.R. Samudro; and A.M. Soesilo. 2019. The paradox of political dynasties of regeneration type and poverty in regional autonomy era. *International Journal of Ethics and Systems* **35:179-194**.

Gygli, S.; F. Haelg; and J.-E. Sturm. 2018. The KOF Globalisation Index – Revisited: KOF Working Paper, No. 439.

Hernández-Trillo, F. 2016. Poverty Alleviation in Federal Systems: The Case of Mexico. *World Development* **87:204-214**.

Hooghe, L.; G. Marks; A.H. Schakel; S.C. Osterkatz; S. Niedzwiecki; and S. Shair-Rosenfield. 2016. *Measuring Regional Authority: A Postfunctionalist Theory of Governance, Volume I*. Oxford: Oxford University Press.

Kaufmann, D.; A. Kraay; and M. Mastruzzi. 2010. The Worldwide Governance Indicators : A Summary of Methodology, Data and Analytical Issues: World Bank Policy Research Working Paper No. 5430.

Keating, M. 2021. Beyond the nation-state: territory, solidarity and welfare in a multiscalar Europe. *Territory, Politics, Governance* **9:331-345**.

Kim, A. 2008. Decentralization and the Provision of Public Services: Framework and implementation. : Policy Research Working Paper 4503, World Bank Capacity Building, Partnership and Outreach Team. Washington DC: World Bank.

Krugman, P. 1993. First nature, second nature, and metropolitan location. *Journal of Regional Science* **33:129-144**.

Kyriacou, A.P. and N. Morral-Palacín. 2015. Secessionism and the Quality of Government: Evidence from a Sample of OECD Countries. *Territory, Politics, Governance* **3:187-204**.

Kyriacou, A.P.; L. Muinelo-Gallo; and O. Roca-Sagalés. 2015. Fiscal decentralization and regional disparities: The importance of good governance. *Papers in Regional Science* **94:89-U832**.

Kyriacou, A.P. and O. Roca-Sagalés. 2011. Fiscal and political decentralization and government quality. *Environment and Planning C-Government and Policy* **29:204-223**.

Lobao, L. and D. Kraybill. 2009. Poverty and local governments: Economic development and community service provision in an era of decentralization. *Growth and Change* **40:418-451**.

Muringani, J.; D.R. Fitjar; and A. Rodríguez-Pose. 2019. Decentralisation, quality of government and economic growth in the regions of the EU. *Revista de Economía Mundial* **51:25-50**.

Nagel, S.S. 1986. Efficiency, effectiveness, and equity in public policy evaluation. *Policy Studies Review* **6:99-120**.

Nursini, N. and Tawakkal. 2019. Poverty alleviation in the context of fiscal decentralisation in Indonesia. *Economics & Sociology* **12:270-285**.

Oates, W.E. 1993. Fiscal decentralisation and economic development. *National Tax Journal* **46:237-243**.

Oates, W.E. 1999. An essay on fiscal federalism. *Journal of Economic Literature* **37:1120-1149**.

Partridge, M.D. and D.S. Rickman. 2006. *The geography of American poverty: Is there a need for place-based policies?* Kalamazoo. MI: W.E. Upjohn Institute.

Peterson, P. 1995. *The Price of Federalism*. Washington, DC: The Brookings Institution.

Pike, A.; A. Rodríguez-Pose; J. Tomaney; G. Torrisi; and V. Tselios. 2012. In search of the 'economic dividend' of devolution: spatial disparities, spatial economic policy, and decentralisation in the UK. *Environment and Planning C-Government and Policy* **30:10-28**.

Prud'homme, R. 1995. The dangers of decentralization. *World Bank Research Observer* **10:201-220**.

Psacharopoulos, G. 1994. Returns to investment in education: a global update. *World Development* **22:1325–1343**.

Psycharis, Y.; A. Rodríguez-Pose; and V. Tselios. 2021. Ministers and distributive politics: political influences in the regional allocation of public investment in Greece. *Territory Politics Governance* **9:276-305**.

Rodríguez-Pose, A. and R. Ezcurra. 2010. Does decentralization matter for regional disparities? a cross-country analysis. *Journal of Economic Geography* **10:619-644**.

———. 2011. Is fiscal decentralisation harmful for regional growth? Evidence from the OECD countries. *Journal of Economic Geography* **11:619-643**.

Rodríguez-Pose, A. and N. Gill. 2003. The global trend towards devolution and its implications. *Environment and Planning C-Government and Policy* **21:333-351**.

Rodríguez-Pose, A.; Y. Psycharis; and V. Tselios. 2016a. Liberals, Socialists, and pork-barrel politics in Greece. *Environment and Planning A* **48:1473-1492**.

———. 2016b. Politics and Investment: Examining the Territorial Allocation of Public Investment in Greece. *Regional Studies* **50:1097-1112**.

Rodríguez-Pose, A.; S.A.R. Tijmstra; and A. Bwire. 2009. Fiscal decentralisation, efficiency, and growth. *Environment and Planning A* **41:2041-2062**.

Rodríguez-Pose, A. and V. Tselios. 2019. Well-being, Political Decentralisation and Governance Quality in Europe. *Journal of Human Development and Capabilities* **20:69-93**.

Ryan, R. and R. Woods. 2015. Decentralisation and subsidiarity: Concepts and frameworks for emerging economies: Occasional Paper Series Number 15, Forum of Federations, 2015, Ottawa, Ontario (Canada), ISSN: 1922-558X (online ISSM 1922-5598).

Sanogo, T. 2019. Does fiscal decentralization enhance citizens' access to public services and reduce poverty? Evidence from Cote d'Ivoire municipalities in a conflict setting. *World Development* **113:204-221**.

Sepúlveda, C.F. and J. Martínez-Vázquez. 2011. The consequences of fiscal decentralization on poverty and income equality. *Environment and Planning C-Government and Policy* **29:321-343**.

Shair-Rosenfield, S.; A.H. Schakel; S. Niedzwiecki; G. Marks; L. Hooghe; and S. Chapman-Osterkatz. 2021. Language difference and regional authority. *Regional and Federal Studies* **31:73-97**.

Steiner, S. 2007. Decentralisation and poverty: Conceptual framework and application to Uganda. *Public Administration and Development* **27:175-185**.

Su, F.B.; M. Li; and R. Tao. 2019. Transfer-Based Decentralization and Poverty Alleviation: Evidence from a Quasi-Experiment in China. *Publius-the Journal of Federalism* **49:694-718**.

Teehankee, J. 2012. Clientelism and Party Politics in the Philippines. In *Party Politics in Southeast Asia: Clientelism and Electoral Competition in Indonesia, Thailand, and the Philippines*, ed. D. Tomsa and A. Ufen, 186-214. New York, NY: Routledge.

Tiebout, C.M. 1956. A pure theory of local expenditures. *Journal of Political Economy* **64:416-424**.

Tillin, L. 2022. Does India have subnational welfare regimes? The role of state governments in shaping social policy. *Territory, Politics, Governance* **10:86-102**.

Tselios, V. 2014. Urbanization and Socioeconomic Status in the European Regions: The Role of Population Ageing and Capital City Regions. *European Planning Studies* **22:1879-1901**.

Veron, R.; G. Williams; S. Corbridge; and M. Srivastava. 2006. Decentralized corruption or corrupt decentralization? Community monitoring of poverty-alleviation schemes in Eastern India. *World Development* **34:1922-1941**.

Wu, A.M.; L. Ye; and H. Li. 2019. The impact of fiscal decentralization on urban agglomeration: Evidence from China. *Journal of Urban Affairs* **41:170-188**.

Yankson, P.W.K. 2008. Decentralisation and poverty reduction in the Gomoa District of Ghana. *Norsk Geografisk Tidsskrift-Norwegian Journal of Geography* **62:230-240**.

Appendix

Appendix 1: Mapping of poverty and social exclusion
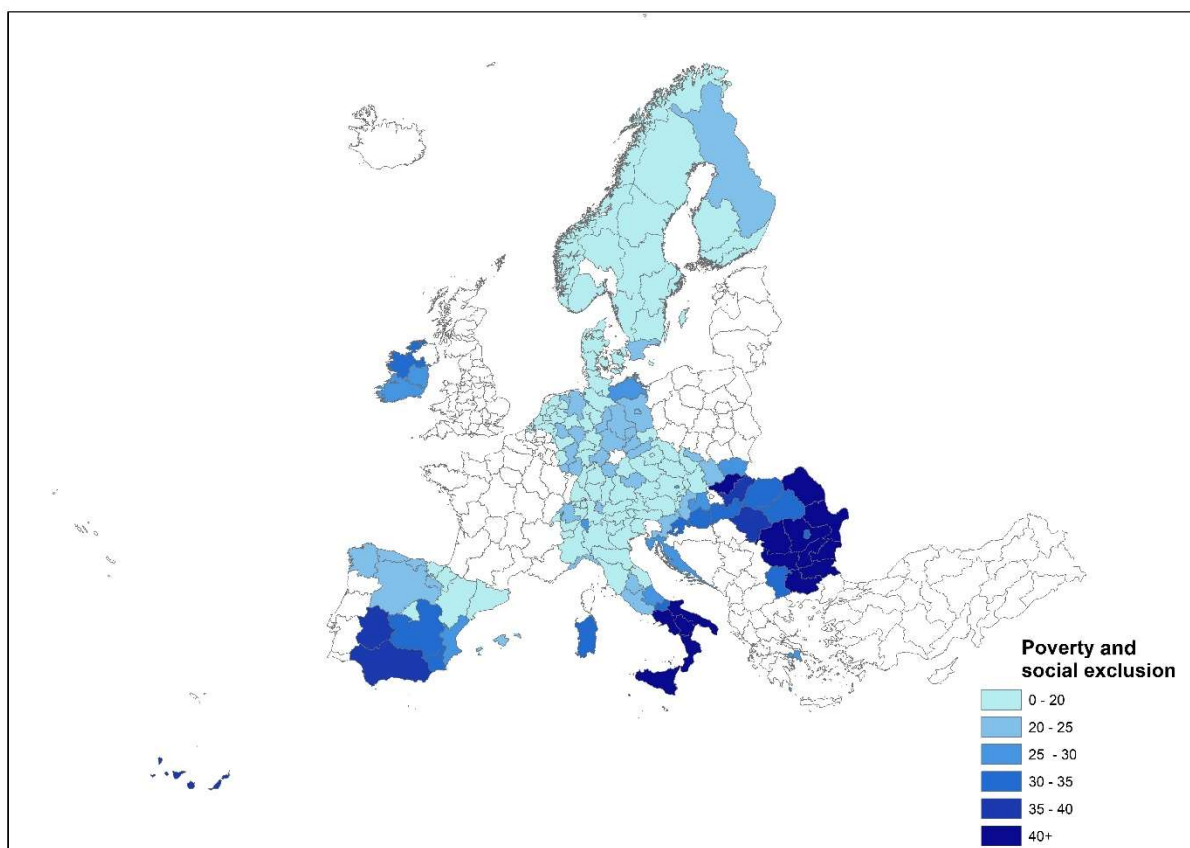
Appendix 2: Mapping of decentralisation
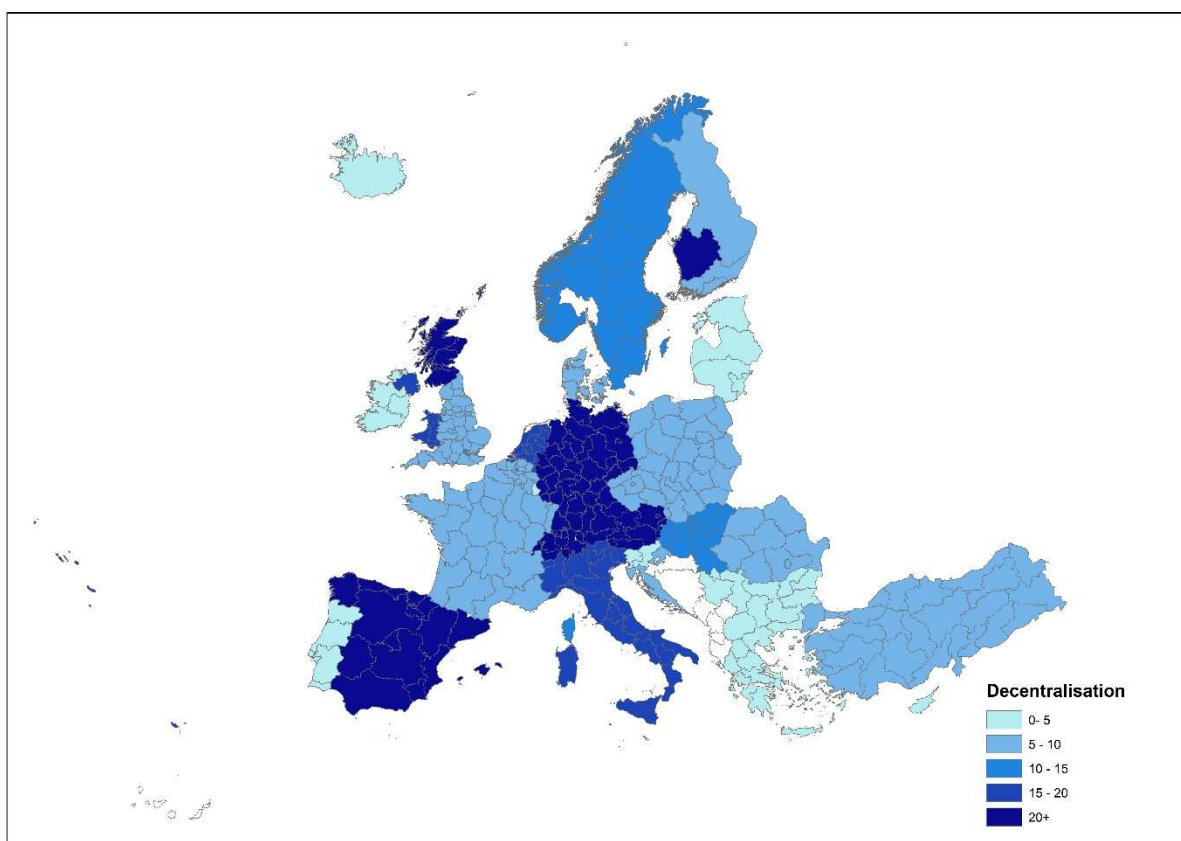
Appendix 3: Mapping of quality of governance

Quality of governance

- -2,698 - -1,820
- -1,820 - -0,942
- -0,942 - -0,064
- -0,064 - 0,813
- 0,813 - 1,691
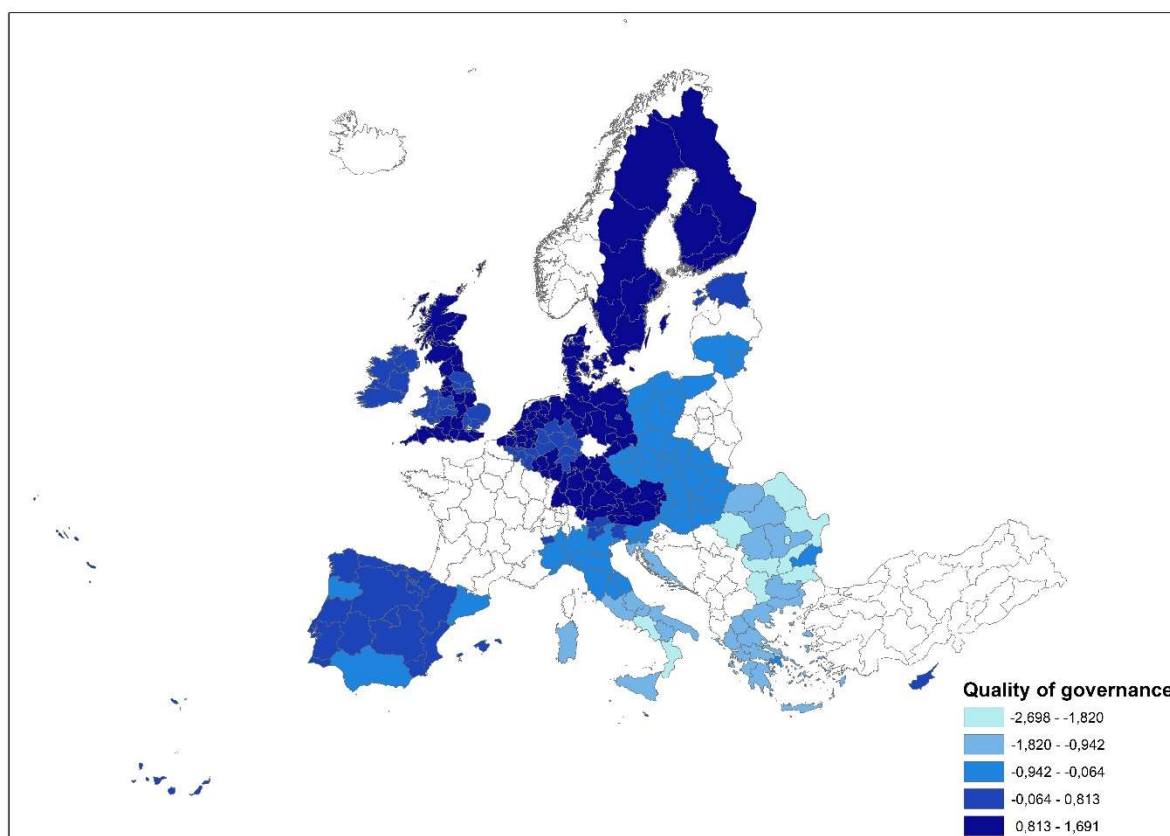
Appendix 4: The association between decentralisation and poverty and social exclusion within countries: decomposition of the 'poverty and social exclusion' variable

	At-risk-of poverty	At-risk-of poverty	Severe material deprivation rate	Severe material deprivation rate	People living in households with very low work intensity	People living in households with very low work intensity
	(1)	(2)	(3)	(4)	(5)	(6)
RAI	0.2088***	0.1545*	1.2982***	0.5231**	0.9315***	-0.2208
GOV	0.4660***	0.3850**	0.9030	-0.0912	-1.0213*	-1.5002**
RAI x GOV	-0.0349***	-0.0272***	-0.1514***	-0.0614***	-0.1014***	0.0357
Mortality		0.2664**		2.5091***		0.2653
Unemployment		0.0032		0.1257***		0.2911**
Agriculture		base		base		base
Industry		-0.1106		-4.1262***		0.0173
Services		-0.0308		-3.8516***		1.1104
Pop density (*ln*)		-19.7783***		-13.4914*		-26.1314*
KOF index		0.2838***		0.6129***		-3.5391**
Year dummies	yes	yes	yes	yes	yes	yes
Regional dummies	yes	yes	yes	yes	yes	yes
Constant	12.4184***	91.9426***	-1.0759	409.1905***	41.4711***	281.6633***
Observations	1,153	1,053	1,153	1,053	1,153	1,053
R-squared	0.9489	0.9540	0.9204	0.9585	0.3753	0.4715

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Appendix 5: Regression results for self-rule and shared-rule: poverty and social exclusion within countries

5.1: The linear association between decentralisation and poverty and social exclusion within countries (Model 1)

	All areas	All areas	A. Cities	A. Cities	B. Towns and suburbs	B. Towns and suburbs	C. Rural areas	C. Rural areas
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Self-rule	0.0260	-0.1362	0.1391	0.0016	0.3443*	0.1842	-0.0347	-0.2173*
Mortality		1.6473***		1.0767***		2.3350***		1.0776***
Unemployment		0.2449***		0.3074***		0.2607***		0.2405***
Agriculture		base		base		base		base
Industry		-3.4209***		-1.1977***		-1.6351***		-2.2524***
Services		-3.0862***		-1.2922***		-1.5777***		-1.8217***
Pop density (*ln*)		-16.8202***		16.2180***		10.3977		-35.3739***
KOF index		0.3991***		0.5503***		0.1762		-0.1598
Year dummies	yes	yes	yes	yes	yes	yes	yes	yes
Regional dummies	yes	yes	yes	yes	yes	yes	yes	yes
Constant	18.5151***	380.6233***	20.9261***	35.9287	11.5896***	101.8247*	17.6675***	377.7855***
Observations	1,153	1,053	1,114	1,024	1,107	1,017	1,114	1,024
R-squared	0.9224	0.9603	0.7943	0.8574	0.8794	0.9178	0.9421	0.9552
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Shared-rule	-0.1467*	0.0112	-0.0895	0.0269	0.0384	0.1723	-0.2254	0.0501
Mortality		1.6454***		1.0772***		2.3410***		1.0758***
Unemployment		0.2406***		0.3075***		0.2670***		0.2335***
Agriculture		base		base		base		base
Industry		-3.4324***		-1.1974***		-1.6133***		-2.2750***
Services		-3.0935***		-1.2915***		-1.5601***		-1.8359***
Pop density (*ln*)		-16.5610***		16.1874***		9.8761		-35.0373***
KOF index		0.3889***		0.5503***		0.1900		-0.1774
Year dummies	yes	yes	yes	yes	yes	yes	yes	yes
Regional dummies	yes	yes	yes	yes	yes	yes	yes	yes
Constant	20.1923***	378.8964***	23.6432***	35.7922	15.9741***	102.5240*	19.2179***	375.4743***
Observations	1,153	1,053	1,114	1,024	1,107	1,017	1,114	1,024
R-squared	0.9224	0.9602	0.7940	0.8574	0.8787	0.9176	0.9421	0.9550

*** p<0.01, ** p<0.05, * p<0.1

5.2: The association between decentralisation and poverty and social exclusion within counties: The mediating role of national governance quality (Model 2)

	All areas	All areas	A. Cities	A. Cities	B. Towns and suburbs	B. Towns and suburbs	C. Rural areas	C. Rural areas
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Self-rule	1.3235***	0.3214	0.4917*	0.2021	0.9174***	0.7263**	0.2411	-0.2401
GOV	1.2714*	0.4913	-0.7514	-0.3069	-1.3737**	-1.0064**	-1.0413**	-0.6444
Self-rule x GOV	-0.1885***	-0.0632**	-0.0606**	-0.0284	-0.0998***	-0.0768**	-0.0514*	0.0023
Mortality		1.6165***		1.0030***		2.1228***		1.0091***
Unemployment		0.2262***		0.2608***		0.1224***		0.1962***
Agriculture		base		base		base		base
Industry		-3.4567***		-1.2175***		-1.6993***		-2.2461***
Services		-3.1203***		-1.2988***		-1.6063***		-1.8016***
Pop density (*ln*)		-15.1563**		20.0398***		22.3395***		-31.7354***
KOF index		0.3457**		0.4168**		-0.2217		-0.2875**
Year dummies	yes	yes	yes	yes	yes	yes	yes	yes
Regional dummies	yes	yes	yes	yes	yes	yes	yes	yes
Constant	13.7258**	377.0227***	31.8537***	31.5689	31.0409***	87.6328	31.2650***	373.5496***
Observations	1,153	1,053	1,114	1,024	1,107	1,017	1,114	1,024
R-squared	0.9260	0.9606	0.8074	0.8592	0.8971	0.9245	0.9463	0.9557
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Shared-rule	2.0302***	0.9286***	0.8479**	-0.0473	-0.4801	-1.1258***	0.9615**	0.8879**
GOV	-0.0773	0.1193	-1.1579***	-0.6051**	-2.6137***	-2.1216***	-1.2626***	-0.3902
Shared-rule x GOV	-0.2450***	-0.1050***	-0.0996***	0.0087	0.0721*	0.1489***	-0.1272***	-0.0955***
Mortality		1.6769***		1.0077***		2.0796***		1.0549***
Unemployment		0.2241***		0.2659***		0.1523***		0.1818***
Agriculture		base		base		base		base
Industry		-3.4094***		-1.1934***		-1.5902***		-2.2754***
Services		-3.0782***		-1.2740***		-1.4949***		-1.8275***
Pop density (*ln*)		-17.8706***		19.8509***		24.5558***		-33.6455***
KOF index		0.3808***		0.4271**		-0.2100		-0.2868**
Year dummies	yes	yes	yes	yes	yes	yes	yes	yes
Regional dummies	yes	yes	yes	yes	yes	yes	yes	yes
Constant	22.4450***	383.1763***	35.3312***	30.9586	40.4351***	73.8735	32.0827***	379.5404***
Observations	1,153	1,053	1,114	1,024	1,107	1,017	1,114	1,024
R-squared	0.9254	0.9607	0.8076	0.8590	0.8961	0.9249	0.9466	0.9557

*** p<0.01, ** p<0.05, * p<0.1

5.3: The association between decentralisation and poverty and social exclusion within countries for standard regions and for autonomous regions

	Standard regions	Standard regions	Autonomous regions	Autonomous regions
	(1)	(2)	(3)	(4)
Self-rule	1.1571***	0.3459	1.5794**	1.8146***
GOV	1.3072**	1.1316***	2.3757**	3.4297***
Self-rule x GOV	-0.2433***	-0.1673***	-0.2327***	-0.2534***
Mortality		1.7083***		-0.3837
Unemployment		0.2412***		0.2659***
Agriculture		base		base
Industry		-3.5004***		-1.1831***
Services		-3.1312***		-1.4339***
Pop density (*ln*)		-18.0321***		-6.5977
KOF index		0.5135***		0.1691
Year dummies	yes	yes	yes	yes
Regional dummies	yes	yes	yes	yes
Constant	22.2966***	388.8389***	7.4745	161.5392***
Observations	602	548	275	253
R-squared	0.9278	0.9613	0.9498	0.9693
	(5)	(6)	(7)	(8)
Shared-rule	2.4521	2.4303*	-22.0807***	29.8149
GOV	-0.3640	-0.0088	-1.2176***	-0.0516
Shared-rule x GOV	-0.2035**	-0.1113	0.0378	-0.0272
Mortality		1.6795***		-0.2639
Unemployment		0.2209***		0.2621***
Agriculture		base		base
Industry		-3.6299***		-0.9781***
Services		-3.2417***		-1.1806***
Pop density (*ln*)		-17.6648***		-13.2911**
KOF index		0.4901***		0.2456*
Year dummies	yes	yes	yes	yes
Regional dummies	yes	yes	yes	yes
Constant	17.2818	381.2768***	141.2685***	49.1684
Observations	602	548	275	253
R-squared	0.9262	0.9604	0.9477	0.9673

*** p<0.01, ** p<0.05, * p<0.1

Appendix 6: The association between decentralisation and poverty and social exclusion within regions: decomposition of the 'poverty and social exclusion' variable

	At-risk-of poverty	At-risk-of poverty	Severe material deprivation rate	Severe material deprivation rate
A. OLS				
	(1)	(2)	(3)	(4)
RAI	0.0762**	-0.3031***	-0.7838***	-1.2418***
Leavers		0.4903***		0.4837***
Unemployment		0.5644***		0.3242***
Pop density (*ln*)		-0.9787***		0.9299***
Year dummies	yes	yes	yes	yes
Constant	18.7968***	9.4761***	10.2234***	1.3185
Observations	964	898	961	898
R-squared	0.0073	0.4315	0.2564	0.4348
B. GLS				
	(5)	(6)	(7)	(8)
RAI	0.0054	-0.0226	-0.6984***	-0.8421***
Leavers		0.1536***		-0.1286**
Unemployment		0.1392**		0.2928***
Pop density (*ln*)		-1.1168**		0.9525
Year dummies	yes	yes	yes	yes
Constant	18.1501***	17.7872***	20.0892***	20.1142***
Observations	964	898	961	898

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

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Appendix 7: Regression results for self-rule and shared-rule: poverty or social exclusion within regions

7.1: The linear association between decentralisation and poverty and social exclusion within regions (Model 3)

A. OLS				
	(1)	(2)	(3)	(4)
Self-rule	-0.6845***	-1.1627***		
Shared-rule			-0.4918***	-1.5745***
Leavers		0.4626***		0.6903***
Unemployment		0.6430***		0.7475***
Pop density (*ln*)		-0.0256		0.0852
Year dummies	yes	yes	yes	yes
Constant	28.0586***	17.6768***	26.2333***	11.2386***
Observations	1,000	933	1,000	933
R-squared	0.0796	0.3412	0.0476	0.3962
B. GLS				
	(5)	(6)	(7)	(8)
Self-rule	-0.5831**	-0.6660***		
Shared-rule			-0.6433***	-0.5390***
Leavers		-0.0388		-0.0248
Unemployment		0.4011***		0.3944***
Pop density (*ln*)		-0.3367		0.0223
Year dummies	yes	yes	yes	yes
Constant	30.4979***	34.3988***	27.1119***	27.5463***
Observations	1,000	933	1,000	933

*** p<0.01, ** p<0.05, * p<0.1

7.2: The association between decentralisation and poverty and social exclusion within regions: The mediating role of regional governance quality (Model 4)

A. OLS				
	(1)	(2)	(3)	(4)
Self-rule	-0.5129***	-0.7247***		
Shared-rule			-0.0693	-1.1267***
GOV	-6.5983***	-6.2794***	-7.0492***	-6.9361***
Self-rule x GOV	-0.0371	-0.0377		
Shared-rule x GOV			-0.0246	0.8463***
Leavers		0.2503***		0.4059***
Unemployment		0.4421***		0.6985***
Pop density (*ln*)		-1.9243***		-1.5512***
Year dummies	yes	yes	yes	yes
Constant	29.7098***	33.7378***	28.4481***	25.7430***
Observations	1,000	933	1,000	933
R-squared	0.5297	0.6746	0.4991	0.6821
B. GLS				
	(5)	(6)	(7)	(8)
Self-rule	-0.3539**	-0.3386**		
Shared-rule			-0.1609	-0.3045
GOV	-5.2973***	-6.9330***	-5.7399***	-6.6787***
Self-rule x GOV	-0.0115	0.1811		
Shared-rule x GOV			0.1074	0.5712***
Leavers		0.0129		0.0128
Unemployment		0.3717***		0.4244***
Pop density (*ln*)		-0.6645		-1.2383**
Year dummies	yes	yes	yes	yes
Constant	28.9369***	33.6734***	25.3903***	32.5760***
Observations	1,000	933	1,000	933

*** p<0.01, ** p<0.05, * p<0.1