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Abstract

Decentralisation has frequently been sold as a means to increase well-being and development. Yet, questions remain as to whether decentralisation improves economic performance. This is possibly because decentralisation processes have often led to "unfunded mandates", that is a mismatch between the powers transferred to subnational tiers of government and the resources allocated to them. In this paper we analyse how unfunded mandates shape regional economic growth across 518 regions in 30 OECD countries over the period 1997-2018. There is a negative, statistically significant, and robust impact of unfunded mandates on economic growth. This effect is higher in more politically and less fiscally decentralised regions and in regions with a higher level of wealth. Unfunded mandates thus represent a serious drag on the potential positive economic effect of political decentralisation. Hence, for those benefits to materialise, better not more decentralisation —ensuring that finance follows function— should be pursued.

Keywords: political decentralisation, fiscal decentralisation, unfunded mandates, economic growth, regions, OECD.

JEL Codes: H70, H77, O47

1. Introduction

Over the past 50 years, the drive towards decentralisation has been almost universal. Today, 40.4% of public expenditure in OECD countries is undertaken at a subnational level (OECD, 2019).

Understood as the transfer of powers and resources from central to subnational tiers of government (OECD, 2017), decentralisation has been fundamentally sold as a means to deliver greater economic dynamism and well-being for citizens, wherever they live (Rodríguez-Pose and Sandall, 2008). Yet, the verdict on whether decentralisation has delivered economic dividends remains very much in the air (Morgan, 2002). The many theoretical and empirical studies investigating the link between decentralisation and regional economic development have reached inconclusive results. Early theoretical research tended to underline that decentralisation leads to higher economic growth through increased efficiency, policy innovation, and political accountability (Tiebout, 1956; Donahue, 1997; Putnam, 1993). But the empirical evidence remains mixed, with different authors finding different relationships: positive (e.g., Iimi, 2005), negative (e.g., Rodríguez-Pose and Ezcurra, 2011), or statistically insignificant (e.g., Thornton, 2007).

One of the potential reasons for the heterogeneity of results is that past research has mostly focused on estimating the impact of political and fiscal decentralisation on the economy, either separately or jointly. In so doing, these studies make the crucial assumption that "finance follows function": once an intermediate tier of government is awarded new powers, the necessary resources follow (Bahl and Martínez-Vázquez, 2013). Nonetheless, significant gaps between the transfer of political powers and available resources remain, particularly in places where decentralisation has been driven by national authorities, which hold the upper hand in the process. These gaps, referred to as "unfunded mandates", leave subnational governments without adequate funding to fulfil their mandates, a fact that can undermine the purported benefits of decentralisation.

However, the attention unfunded mandates have received in scholarly research has been limited. To our knowledge, no cross-regional empirical study covering a large number of countries exists on the issue of unfunded mandates. Omitting this phenomenon may be one reason behind the heterogeneity of results on the link between decentralisation and economic development.

This study fills this gap by incorporating unfunded mandates into an analysis of the effects of decentralisation on economic growth. Using an original panel dataset of 518 regions in 30 OECD countries for the period 1997–2018, we analyse the extent to which unfunded mandates undermine regional economic growth. We also examine whether and to what extent a region's political and fiscal decentralisation, as well as its level of development affects the impact of unfunded mandates on regional economic growth. The overall aim of the analysis is thus to go beyond existing knowledge —which fundamentally focuses on the degree of political and fiscal decentralisation— and concentrate on the impact the frequently uneven balance between political and fiscal decentralisation in a particular region may have on its economic development.

The study is structured as follows. In Section 2 we critically review the state of the literature on decentralisation as a development tool and, more specifically, on the issue of unfunded mandates. In Section 3 we present the research question and hypotheses as well as the methodology and the data. Section 4 presents the empirical results and their robustness checks. The conclusions are developed in Section 5, outlining policy implications and proposing new avenues for future research.

2. Decentralisation, unfunded mandates and economic growth

2.1. Decentralisation as a tool for development

Theories of decentralisation have generally considered that the transfer of authority and resources to lower tiers of government generally yields economic benefits. Following Oates's (1972) fiscal decentralisation theorem, decentralisation should lead to allocative efficiency. Decentralised governments are portrayed as being closer to citizens and more capable of catering for the heterogeneous needs and preferences of their populations (Klugman, 1994). Furthermore, local decision-makers may have a greater incentive than national ones to become more efficient and innovative in the delivery of public goods and services (Donahue, 1997). Otherwise, their constituents may "vote with their feet", moving to other regions offering better services or lower taxes (Tiebout, 1956; Musgrave, 1959). Intensified competition among subnational entities may also trigger productive efficiency as regions specialise in their comparative advantages (Rodríguez-Pose and Bwire, 2004). Finally, the increased proximity of political power to citizens may improve accountability and transparency, increase participation, and reduce corruption (Putnam,

1993; Ebez and Yilmaz, 2002). All these factors put together should deliver a more efficient administration and improve economic performance.

The purported benefits of decentralisation can, nevertheless, be challenged. Proximity to citizens *per se* does not automatically lead to better decision-making. Moreover, as indicated by Prud'homme (1995), policy preferences may not vary significantly among regions. This potential lack of variation in preferences may lead to subnational governments that are less —and not more— capable and/or efficient at providing the same goods and services than the central government. Subnational governments may also incur in diseconomies of scale. Transparency and corruption may also not improve through decentralisation, especially when resources are limited. Insufficient human and financial capacity can stymie the capacity to monitor and prevent corruption (De Mello and Barenstein, 2001). More importantly for the purpose of this analysis, Prud'homme considers that decentralised entities are efficient only when they possess sufficient financial and human resources to fulfil their mandates. Hence, the benefits of decentralisation are contingent upon an appropriate funding and staffing of subnational authorities (Rodríguez-Pose and Gill, 2005).

Different empirical studies have tested these assumptions, producing a plurality of results depending on the conceptual, methodological, and econometric approaches adopted (Martínez-Vázquez and McNab, 2003). The results vary between those who find a positive relationship between decentralisation and economic growth (e.g., Iimi, 2005) and those reporting a negative impact (e.g., Rodríguez-Pose and Ezcurra, 2011). In between these extremes some uncover non-linear, hump-shaped relationships between decentralisation and economic performance (e.g., Thießen, 2003; Bodman, 2008), while others do not find any significant impact of decentralisation on growth (e.g., Thornton, 2007; Feld and Schnellenbach, 2011).

An inconclusive scholarly literature points to the possibility of past analysis of the economic impact of decentralisation omitting relevant variables. The focus so far has fallen squarely on differences in political and fiscal and political decentralisation, considering them individually. But the fact that the economic impact of decentralisation is bound to be the result of their combination has been overlooked. Yet, if a subnational authority does not receive or garner sufficient financial resources, the degree of fiscal or

political decentralisation may be irrelevant for growth in the face of a glaring mismatch between political and fiscal decentralisation. Consequently, the (im)balance between political and fiscal decentralisation —in other words, the presence of unfunded mandates— is probably a more important factor for the capacity of subnational tiers of government to deliver on their economic promise than the degree of political and fiscal decentralisation on their own.

2.2. Unfunded mandates: when finance does not follow function

The link between unfunded mandates and economic performance at a regional level has so far received limited attention in decentralisation research. This has, however, not prevented scholars from studying the legal aspects of unfunded mandates and the political incentives that prompt their appearance, especially in the US (e.g., Adler, 1997; Posner, 1998). An unfunded mandate can be defined as any devolved responsibility not accompanied by the necessary resources to fulfil it (Ross, 2018).[1] Briefly stated, it refers to situations where finance does not follow function (Bahl, 1999). This is a controversial matter a central and subnational governments have competing interests. On the one hand, the central government may see unfunded mandates as the "sly means" to offload its own policy responsibilities without paying the costs (Bennett, 2014; Half and Welham, 2016). On the other, subnational governments can perceive this opportunistic behaviour as a threat to their financial sustainability and their capacity to implement regional policies efficiently. In the US, this discontent prompted President Clinton to pass the Unfunded Mandate Reform Act in 1995, which aimed to "end the imposition […] of mandates […] without adequate funding" (Zelinsky, 1997). Rather than eradicating them, this law only slowed their approval and did not reverse unfunded mandates that were already in place (Bennett, 2014).

However, unfunded mandates are not unique to the US, nor are they a feature of federal or developed countries only. For instance, McCarten (2003) illustrates how the Indian central government has gained control and underfunded Indian states' budgets. In South Africa, many subnational authorities lack the financial and human capacities to implement essential local economic development policies (Khambule, 2020). Unfunded mandates are also a recurrent feature in decentralisation processes in developed countries.

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[1] Other nomenclatures include "cost shifting" (Sansom, 2009) and "service responsibility downloading" (McMillan, 2006).

De Groot (2019), for example, explains how Dutch subnational administrations have struggled to cope with increasing responsibilities while resources remained stable. In Italy, the 2001 Constitutional reform envisaged a better alignment of political authority and fiscal autonomy, but the law to implement this reform was only approved in 2009 and its implementation has been since postponed. This means that the mismatch between political and fiscal has not been corrected yet (Palermo and Wilson, 2014). And in the UK indirectly-elected regional agencies remain expected to deliver on many fronts without the adequate budget (Morgan, 2002; Lee, 2017; UK Government, 2022). Political discourses on "levelling-up" have re-awakened interest in this subject (Cörvers and Mayhew, 2021; UK Government, 2022). All this evidence points to the fact that unfunded mandates may exist in countries irrespective of their level of development. It raises the question of whether unfunded mandates impinge on development differently depending on the degree of decentralisation and on levels of development.

2.3. Why do unfunded mandates arise?

Unfunded mandates may stem from the balance in the degree of legitimacy of both central government and subnational entities in decentralisation processes. Rodríguez-Pose and Gill (2003) posit that whoever has the greatest legitimacy holds the upper hand in negotiations, decisively shaping the existence and dimension of unfunded mandates. When central governments hold the upper hand in terms of legitimacy, they will prefer to transfer powers and responsibilities, while keeping a tight grip on resources. This will lead to the proliferation of unfunded mandates. Conversely, when regional demands have a strong legitimacy, they may be more capable of securing not only greater responsibilities but also more resources to fulfil those responsibilities. Unfunded mandates are therefore construed as the reflection of a power hierarchy born from variations in legitimacy between the centre and the regions. Unfunded mandates are more likely to emerge when the central government dominates decentralisation. However, this power balance can vary over time, as decentralisation is a process, not a one-time event. Therefore, unfunded mandates may appear without deliberate imposition as regional needs become costlier and finance does not follow accordingly. They may also emerge as the negotiating capacity of regions is reduced, be it due to a region's smaller size and wealth, or due to the presence of political differences with the national government.

The presence of unfunded mandates and their dimension may result in dysfunctional decentralised systems. After all, unfunded mandates undermine the capacity of subnational governments to gather information, tailor policies to local preferences, and implement them adequately (Klugman, 1994; Prud'homme, 1995). Lack of resources may also stifle policy innovation and hinder productive efficiency as regions cannot invest, innovate, specialise, and compete adequately (Donahue, 1997; Oates, 1999). The resulting ineffectiveness of subnational authorities may dent trust in public authorities and lower participation, transparency, and accountability, all of which are institutions that influence economic growth (Rodrik et al., 2004). This is especially worrying for regional economic development, since regional authorities are often in charge of their own development strategies, frequently starved of resources by unfunded mandates (Basdeo, 2012; Khambule, 2020).

Yet, despite theories warning that most —if not all— benefits of decentralisation may be scrapped in the presence of unfunded mandates, no empirical study to date has analysed the impact of unfunded mandates on economic growth. Instead, most comparative research has focused on the impact of the degree of fiscal and political decentralisation on growth, making the critical assumption that finance follows function. Most current evidence of unfunded mandates comes from case studies identifying instances where finance did not follow function in developing countries, such as in Indonesia or Tanzania (Boex and Martínez-Vázquez, 2006; Bahl and Martínez-Vázquez, 2013). Albeit trail-based, the results of these studies cannot be generalised. Hence, mapping the presence and dimension of unfunded mandates and empirically testing for their effect on economic performance remains crucial to understand the economic impact of decentralisation better.

3. Methodology

3.1. Research question and hypotheses

To determine to what extent unfunded mandates —defined as the mismatch between the powers and resources devolved to subnational elected tiers of government— affect economic growth in OECD regions and analyse the extent to which variations in the degree of decentralisation and in development moderate the potential growth impact of unfunded mandates, we formulate, based on the above theoretical discussion, the following hypotheses. These are displayed in a graphic manner in Figure 1:

Hypothesis 1: Holding everything else constant, the presence and dimension of unfunded mandates undermines economic growth.

As the effects of unfunded mandates may vary depending on levels of political decentralisation, fiscal decentralisation, and stages of development, we hypothesise:

Hypothesis 2a: As the dimension of unfunded mandates increases, regional economic growth is more negatively affected in regions with a higher level of political decentralisation, as the gap between responsibilities and resources will be higher there.

Hypothesis 2b: As the dimension of unfunded mandates increases, regional economic growth is less negatively affected in regions with a higher level of fiscal decentralisation, as the gap between responsibility and resources will be lower there.

Hypothesis 2c: As the dimension of unfunded mandates increases, regional economic growth is more negatively affected in poorer regions, as autonomous governments will have fewer resources at their disposal.

FIGURE 1. Graphic hypotheses
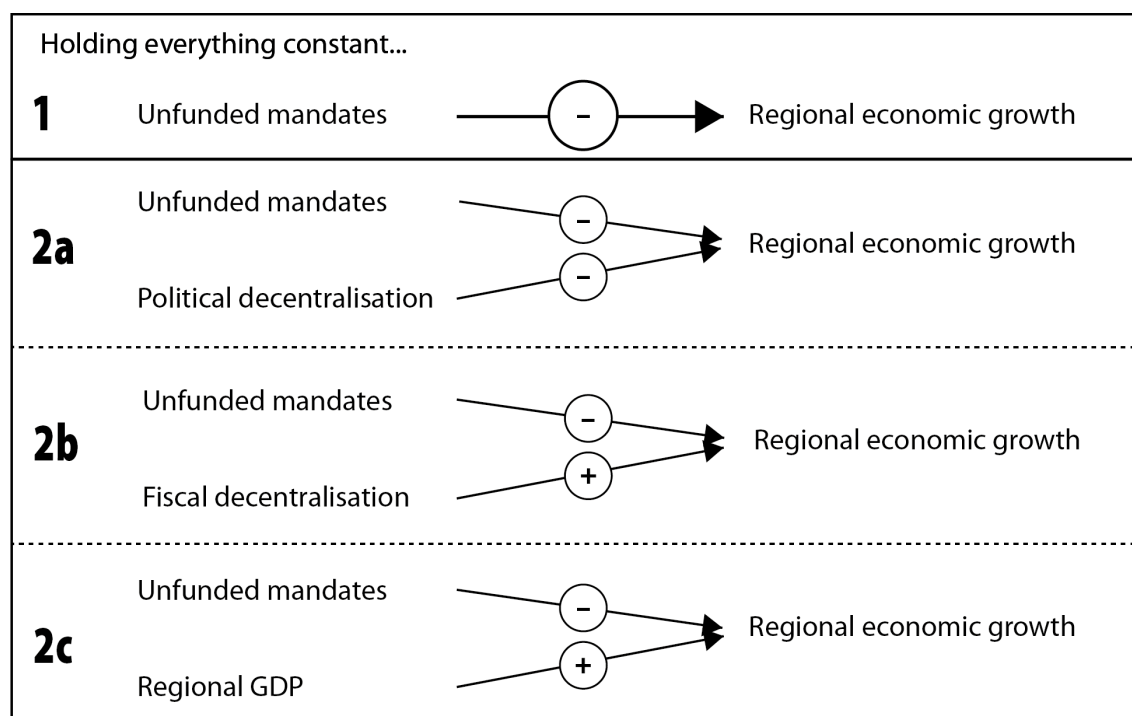
3.2. Data

Research on decentralisation has long suffered from a shortage of adequate country-level data. This problem is exacerbated when the analysis is conducted at subnational level (Martínez-Vázquez et al., 2017). Testing our hypotheses, however, requires regional data for all independent, dependent, and control variables over a reasonably large time period. Hence, one of the contributions of this research is putting together a large dataset containing information on the degree of decentralisation and the dimension of unfunded mandates for 518 regions in 30 OECD countries. The dataset covers, in an unbalanced way, the period between 1997 and 2018. The data are extracted, depending on availability, mainly from national and regional statistical offices (see Tables A1 and A2 in the Online Appendix) and complemented with data from international organisations. The extensive scope of this study in terms of regions and years, coupled with a lack of a single database compiling the data of interest, explains the slightly unbalanced nature of the panel.

The term "regions" refers to the subnational tiers of government with sufficient data availability to measure the variables of interest (see Table A3 in the Online Appendix for the regions included in the analysis). The decision to study regions in the OECD responds to practical reasons of data availability. It also simplifies the task of controlling for unobserved heterogeneity and avoiding omitted variable bias, thanks to the relatively similar characteristics of most OECD countries (Ezcurra and Rodríguez-Pose, 2013).

Measuring fiscal and political decentralisation remains a highly contentious (Martínez-Vázquez and McNab, 2003). While the share of total public expenditure spent by subnational governments remains the most commonly used proxy for fiscal decentralisation in cross-country studies, it is only available at the national level. Therefore, we use the per capita expenditure capacity of each of the 518 regions as a proxy for their degree of fiscal decentralisation. This indicator is not available in international databases, so the data collection involved checking the budgets for each of the 518 regions individually. Total regional public expenditure comprises all expenses undertaken by a particular subnational authority, irrespective of how they are funded (be them through own-source revenues, shared ones, or transfers).[2] Values have later been

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[2] Similar to OECD standards, total expenditure data includes current expenditure (employee compensation, social expenditure, subsidies, and other current transfers) as well as capital expenditure.

divided by population and rendered comparable, converting them to constant 2015 USD, adjusted by purchasing power parity (see Table A1 in the Online Appendix).

Political decentralisation is too elusive a concept for it to be captured with a single measure. Scholars have created different indexes that aggregate various measures into an overall score that denotes the level of political decentralisation. Due to the regional-level data requirement of this study, we use the Regional Authority Index (RAI) calculated by Hooghe et al. (2016, 2021), as it is the only index capturing within-country regional differences and the best at including a large variety of factors (Lessmann, 2012; Ezcurra and Rodríguez-Pose, 2013; Filippetti and Sacchi, 2016). The RAI overall score results from the aggregation of the values in eight sub-categories that are grouped under two main pillars: self-rule and shared rule.[3] The former estimates the degree of authority exerted by the region over its territory, while the latter calculates a region's influence over central government decisions. To avoid collinearity, we recalculate the index excluding the indicators related to fiscal decentralisation (fiscal autonomy and fiscal control) from the RAI overall score and use the resulting values as a proxy for political decentralisation at the regional level.

We use the above data to calculate unfunded mandates. As the imbalance between power and resources, we make the variables for fiscal and political decentralisation comparable by standardising both with a mean value of 0 and a standard deviation of 1. We then subtract the values of fiscal decentralisation from the values of political decentralisation obtaining a relative index of unfunded mandates.[4] With this conversion, we measure which regions have a larger or smaller unfunded mandate depending on whether their value is above or below the mean of 0 respectively. This index does not provide an absolute value of unfunded mandates for each region. Rather, it offers an estimated degree of unfunded mandates for each region relative to the gap between political and fiscal decentralisation in all other regions in the sample. This has the advantage of comparing

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[3] The eight sub-categories are institutional depth, policy scope, fiscal autonomy, representation, law making, executive control, fiscal control, and constitutional reform. The variety of indicators can explain why some maintain that the RAI accounts for both political and administrative decentralisation (Filippetti and Sacchi, 2016). Administrative decentralisation is not explicitly examined here due to lack of adequate regional-level data.

[4] The same procedure has been followed using RAI's fiscal autonomy and fiscal control values as our fiscal decentralisation values. Tables A8, A9, A10 and A14 in the Online Appendix show the regression results for all models calculated in Section 4.2. No significant variation of results is in evidence.

regions with one another and establishing which regions have wider or narrower unfunded mandates relative to the rest of the sample.

Finally, following previous literature on the link of decentralisation and economic growth, several control variables are incorporated into the model to avoid inconsistent parameters (Canavire-Bacarreza et al., 2017). We include regional population and region size, as larger regions in terms of population and/or land may have further resources to exploit to deliver a better economic performance (Congleton, 2006; Arzaghi and Henderson, 2005). Similarly, the level of development of a region may affect its growth potential. We therefore add regional GDP per capita in the model. We also control for human capital, a fundamental driver of growth. We measure human capital using the share of individuals in a region between the age of 25 and 34 with a completed secondary education degree (Canavire-Bacarreza et al., 2020). Government size, often correlated with declines in economic growth (e.g., Afonso and Furceri, 2010), is measured as the total general government spending as a percentage of GDP and added in the full regressions (see Tables 2, 3, and A7 in the Online Appendix). Table A1 in the Online Appendix offers the description and sources of all variables above.

3.3. **Model specification**

To test our hypotheses with our original panel dataset, a static panel-data region and time fixed-effects model is estimated with heteroscedasticity-robust standard errors (Newey and West, 1994). In this study, the baseline model adopts the following form:

$$RGDPgrowth_{it} = \alpha + \beta Unfunded_{it} + \gamma Fiscdec_{it} + \delta Poldec_{it} + X'_{it}\theta + \mu_i + \tau_t + \varepsilon \quad (1)$$

where $RGDPgrowth_{it}$ represents annual GDP growth in region i for year t; $Unfunded_{it}$ stands for unfunded mandates and denotes the difference between political decentralisation and fiscal decentralisation; $Fiscdec_{it}$ depicts the degree of fiscal decentralisation; $Poldec_{it}$ captures the level of political decentralisation; $X'_{it}\theta$ encapsulates the relevant control variables (population size, level of development, educational attainment of young adults, region size, and national government size); μ_i and τ_t are the region and time fixed-effects respectively; while ε_{it} denotes the error term.

Fixed-effects models have been normally used to estimate the economic impact of decentralisation in analyses of long-term decentralisation processes. However, one of the main problems of fixed-effects specifications when dealing with decentralisation processes is linked to the limited change over time of some decentralisation variables and, in particular, of political decentralisation. Fixed-effects models can also not consider time-invariant factors, such as region size or the presence of a particular region in a given country or continent. Random-effect estimators allows for both time-variant and time-invariant regressors, but have the drawback that region-individual effects can be correlated with some independent variables, leading to inconsistent coefficients (Hausman, 1978).

We, therefore, resort to Hausman-Taylor (HT) estimators (1981) as our econometric approach. The use of HT, on the one hand, allows to calculate consistent coefficients for time-variant variables by using their within-transformation as in the fixed-effects model; on the other, HT can also calculate coefficients for the time-invariant regressors. HT classifies variables as exogenous (i.e., correlated with the disturbance term only) or endogenous (i.e., correlated with the region-specific individual effects only), thereby partially controlling for endogeneity, a common concern in the literature (Baltagi et al., 2003; Canavire-Bacarreza et al., 2020). It also uses the between variation of time-variant exogenous regressors to derive internal instruments and hence does not require an additional external instrumental variable (Mitze, 2009; Baltagi and Liu, 2012). This is a key advantage because few strong instrumental variables exist for national-level studies, and this scarcity is aggravated at the regional scale.

The main model is specified as follows:

$$y_{it} = X'_{1it}\beta_1 + X'_{2it}\beta_2 + Z_{1it}\gamma_1 + \mu_i + \varepsilon_{it} \tag{2}$$

where:
- y_{it} captures annual GDP growth per region and acts as the dependent variable.
- $X'_{1it}\beta_1$ includes the time-variant exogenous control variables on regional population, level of development, education, and national government size. It also contains year dummy variables.

- $X'_{2it}\beta_2$ comprises three time-variant endogenous independent variables estimating the degree of unfunded mandates, the level of fiscal decentralisation, and that of political decentralisation, respectively.

- $Z_{1it}\gamma_1$ represents the time-invariant exogenous variables and includes a series of supraregional dummy variables as well as regional size.

- μ_i denotes the fixed-effects term, while ε_{it} stands for the disturbance term.

To test hypothesis 2, we also seek to determine the potentially mediating effect of a region's level of development on the relationship between unfunded mandates and regional economic growth. Hence, following Lessmann (2012) and Filippetti and Sacchi (2016), we estimate an extended version of Equation 2, where $X'_{2it}\beta_2$ includes three interaction terms between the variable for unfunded mandates and fiscal decentralisation, political decentralisation, and level of development, respectively.

Finally, we are not oblivious to discussions about reverse causality. It could be the case that lower economic growth spurs unfunded mandates, instead of the other way around. We therefore run a series of robustness checks. Due to the lack of appropriate external instrumental variables, model 2 is transformed from a static into a dynamic panel-data system-Generalised Method of Moments (GMM) (Arellano and Bover, 1995; Blundell and Bond, 1998; Roodman, 2009). This model is further discussed in the robustness checks section and its equation reads as follows:

$$
\begin{aligned}
RGDPgrowth_{it} \\
= \alpha + \beta Unfunded_{it} + \gamma Fiscdec_{it} + \delta Poldec_{it} + \zeta LagGrowRGDP_{it-1} \quad (3) \\
+ X'_{it}\theta + \varepsilon_{it}
\end{aligned}
$$

where $\zeta LagGrowRGDP_{it-1}$ captures the influence of past regional GDP growth on the next year's growth rate, and the rest of variables are as stated above. The variables for unfunded mandates and fiscal and political decentralisation are classified as endogenous in all system-GMM regressions.

4. Results

4.1. Mapping unfunded mandates

Decentralisation processes have become more common globally since the 1970s (Rodríguez-Pose and Gill, 2003). Table 1 shows the descriptive statistics for the three variables of interest for three different years within the 21-year period covered by the dataset.[5] The means for fiscal and political decentralisation show a considerable overall increase of decentralisation across OECD countries since 1997. However, some regions in certain countries participate more in this trend than others, as the maximum value of fiscal decentralisation grows substantially over time whereas the minimum barely changes. For example, regional councils in New Zealand and French *départements* barely increase their fiscal and political decentralisation; conversely, Estonian and Slovenian regions experience fiscal increases of up to 313% and 198% respectively. Figures A1 and A2 in the Online Appendix show the regional mean score over 21 years for both fiscal and political decentralisation respectively.

TABLE 1. Fiscal decentralisation, political decentralisation and unfunded mandates (1997-2018)

Variable	Year	Mean	Std. Dev.	Min	Max
Fiscal decentralisation	1997	3269.069	2558.776	43.01164	12277.95
	2007	4495.101	4480.01	74.63864	37758.78
	2018	5613.333	5629.48	147.0289	51684.8
Political decentralisation	1997	11.93552	6.729218	1	22
	2007	12.45446	6.322351	1	22
	2018	12.73069	6.241244	2	23
Unfunded mandates	1997	0.9309916	0.873728	−1.318581	2.511998
	2007	−0.0015037	1.007628	−2.885196	1.983407
	2018	−0.0509553	0.911043	−2.144672	1.861805

Author's elaboration using data sources in Table A1.

Our main interest lies in measuring unfunded mandates. Table 1 above shows a reduction of its mean values over the 21-year period. This is an indication that fiscal decentralisation tends to catch up with political decentralisation over time. Nevertheless, Figure 2 reveals that unfunded mandates are pervasive across many parts of the OECD. Since the unfunded mandate variable is standardised with mean 0, Figure 2 uses a three-coloured palette to illustrate the areas where unfunded mandates are more or less pronounced, with green tones for lower values of unfunded mandates, ochre ones for values around the

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[5] Table A4 and Table A5 in the Online Appendix provide a complete set of descriptive statistics and pairwise correlations, respectively.

mean, and brown for higher values. These are obtained by calculating the mean of unfunded mandates for the entire 21-year period.[6]
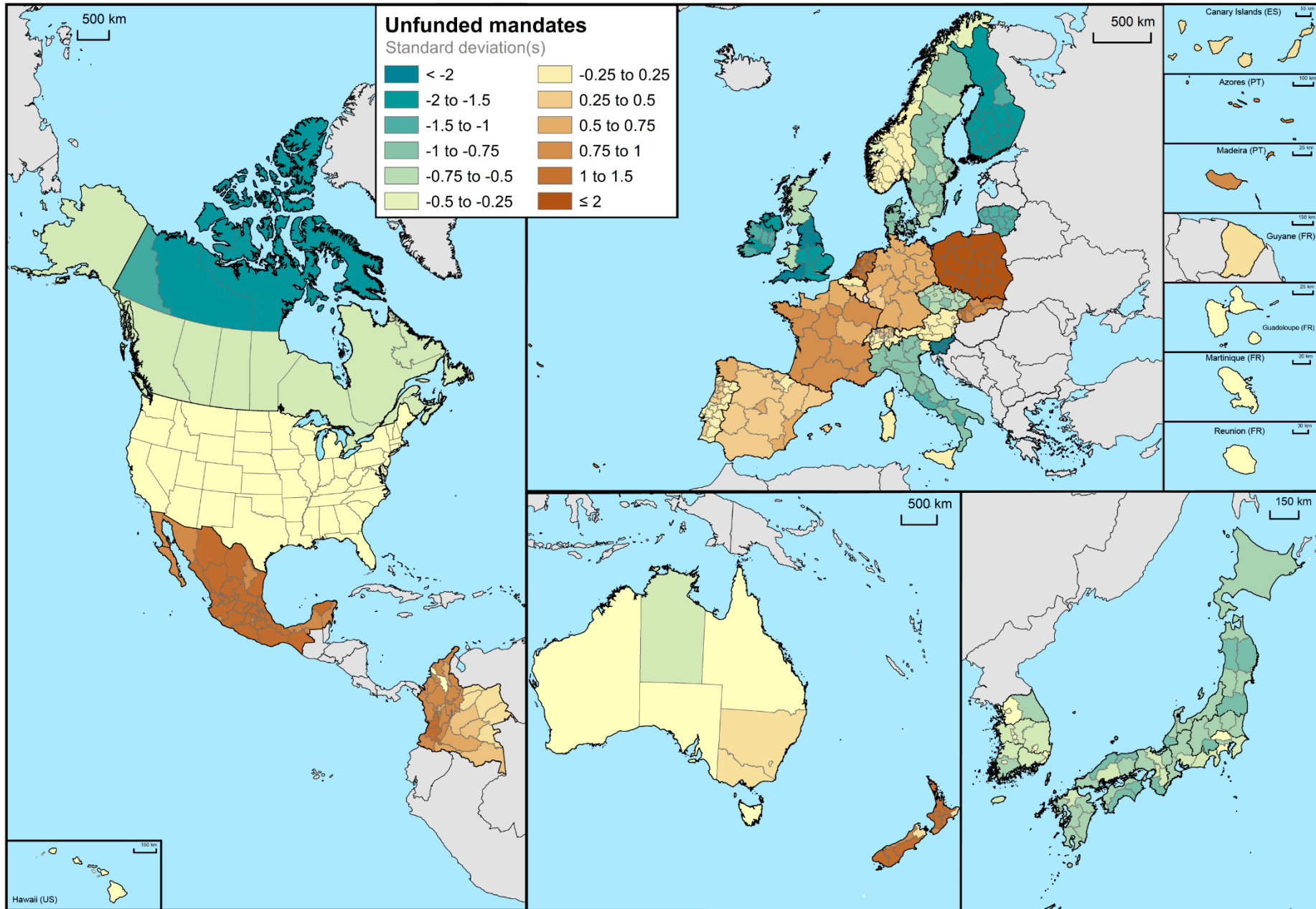
Figure 2 shows that the presence of unfunded mandates follows no clear pattern in terms of which region displays a higher value of unfunded mandates. We nevertheless identify some general trends based on the type of decentralisation and levels of development of different regions. Unfunded mandates also vary across continents. Firstly, higher values of unfunded mandates mostly affect relatively highly centralised countries. This includes most regions of New Zealand, the Netherlands, France, Poland, and Slovakia. However, exceptions exist, with unfunded mandates being rather prevalent in most regions of Germany, Spain, and Mexico. In any case, unfunded mandates appear less common in federal countries such as Canada, the US, Australia, and Austria. Secondly, unfunded mandates are more prevalent in regions with relatively lower levels of development. This is the case for regions in Colombia, Poland, and Slovakia. Once again, a remarkable exception is Germany, which stays at relatively high values of unfunded mandates. Finally, unfunded mandates are more widespread in Europe and Latin America than in Canada, the US, and Australasian OECD countries.

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[6] Calculating the mean may slightly neutralise variations that may occur from year to year. Figure A3 in the Online Appendix shows the values of unfunded mandates for 2018, which are virtually identical to those in Figure 2 below.

**FIGURE 2. Unfunded mandates (mean of the entire time series)**

In short, Figure 2 shows that unfunded mandates are common, but they follow no clear-cut pattern. Moreover, whilst there is some internal variation within countries, differences in unfunded mandates within countries are generally lower than across countries.

How do unfunded mandates and differences in the degree of political and fiscal decentralisation connect with regional economic growth? Figures 3, 4, and 5 plot single-factor correlations between the three variables of interest and the dependent variable. Only fiscal decentralisation seems to be negatively correlated with economic growth, yet the correlation is very weak (Rodríguez-Pose and Ezcurra, 2011; Baskaran and Feld, 2013). The other two graphs reveal a practically inexistent relationship, which would support previous studies that have reported that fiscal and political decentralisation do not exert a statistically significant effect on economic growth (e.g., Thornton, 2007). Nevertheless, note that these are individual correlation graphs that do not control for other factors and thus cannot be used to infer a sound (non-)relationship between variables, especially for the multifaceted process of decentralisation. An inferential approach may change the initial conclusions drawn from these correlations.
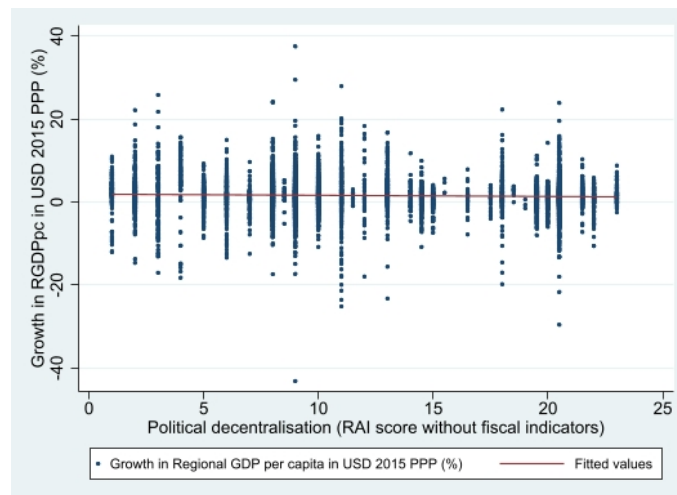
FIGURE 3. Correlation between unfunded mandates and RGDP growth
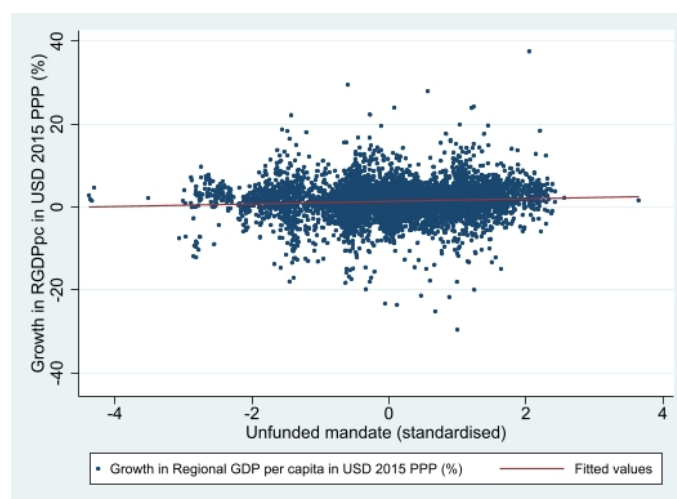
FIGURE 4. Correlation between fiscal decentralisation and RGDP growth
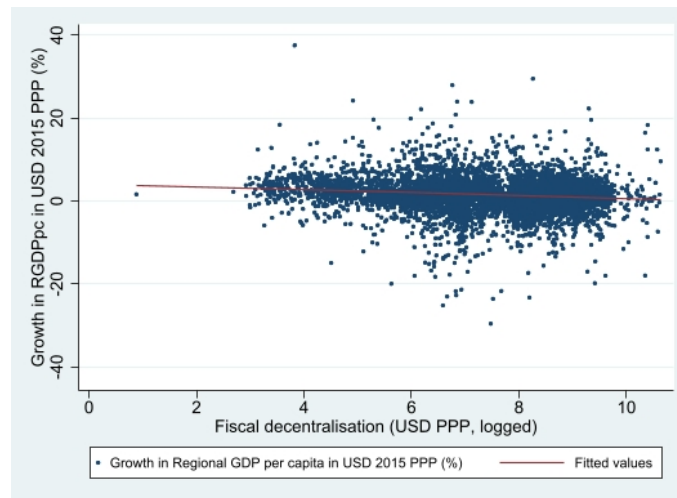
FIGURE 5. Correlation between political decentralisation and RGDP growth

4.2. Regression results

4.2.1. *Baseline model: two-way fixed-effects estimator*

As stated in the Methodology, we fit a panel-data two-way fixed-effects estimator as the baseline model presented in Equation 1.[7] Table 2 displays the results using a forward-selection procedure that adds control variables sequentially. The number of observations is higher (over 6,000 in 80% of the specifications) than in most previous analyses of decentralisation and the number of regions (502) only declines after introducing

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[7] Due to the relatively short time span and the large number of regions, this should prevent non-stationarity from biasing the estimates by means of spurious correlations (Wooldridge, 2002; Crescenzi and Rodríguez-Pose, 2012). Augmented Dickey-Fuller and Phillips-Perron unit root tests are conducted in Table A6 in the Online Appendix and reject the null of non-stationarity at the conventional levels of significance.

education and national government size.[8] Regardless of the number of control variables, the independent variables of interest maintain the same coefficient signs in each of these estimations. Fiscal decentralisation has a negative connection with economic growth, whereas the reverse is true for political decentralisation, which boosts economic growth. This is in line with previous studies arguing that whilst political decentralisation may be beneficial for economic performance, fiscal decentralisation is connected with a loss of economic efficiency and growth (Rodríguez-Pose and Ezcurra, 2011). Most importantly, the presence of unfunded mandates is negatively associated with economic growth at over the 5% level of statistical significance. Hence, irrespective of the degree of fiscal and political decentralisation, the mismatch between the two undermines economic growth. Wider unfunded mandates cut regional economic performance. This implies that more decentralisation is not necessarily always desirable if the powers and resources at the disposal of regional governments are not properly aligned (Filippetti and Cerulli, 2018). This conforms with our main hypothesis based upon theories that underline the importance of equipping devolved authorities with the appropriate resources to reap the purported benefits of decentralisation (Prud'homme, 1995).

The magnitudes of the coefficient of the three variables of interest are only marginally sensitive to the inclusion of control variables. The different control variables display the expected values too. For both the level of development and the level of education, there is a highly statistically significant and positive association with growth. Conversely, the overall population and the national government size are negative and statistically significant, although in the former case to different degrees and with some marginal variation.

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[8] Statistical estimations only consider regions with data for *all* variables inserted in the equation. Despite building a panel dataset with 518 regions that have data for at least one variable of interest, pooling them slightly reduces the number of regions covered. Regressions thus do not cover Icelandic and Estonian regions, the two regional councils of West Coast and Hawkes-Bay (New Zealand), and Panevėžys county (Lithuania). For regressions including the control variable for education, nine Colombian departments and all Korean regions have been omitted due to lack of comparable data.

TABLE 2. Two-way fixed-effects models

Dependent variable:	(1)	(2)	(3)	(4)	(5)
Regional GDP growth	FE	FE	FE	FE	FE
Unfunded mandates	-2.646**	-2.713**	-2.547**	-2.557**	-1.214**
	(1.076)	(1.09)	(1.064)	(1.108)	(.502)
Fiscal decentralisation	-1.853***	-1.809***	-3.502***	-3.664***	-2.01***
	(.69)	(.697)	(.751)	(.751)	(.357)
Political decentralisation	3.475**	3.664**	3.732***	3.352**	1.508*
	(1.441)	(1.46)	(1.423)	(1.465)	(.917)
Population		-4.405***	.063	-3.879*	-2.299
		(1.363)	(1.727)	(2.061)	(2.138)
Regional GDP pc			12.877***	13.942***	13.663***
			(1.215)	(1.296)	(1.307)
Education				.082***	.096***
				(.018)	(.018)
National government size					-.123***
					(.031)
Year dummies	YES	YES	YES	YES	YES
Observations	6788	6786	6786	6028	5923
Number of regions	502	502	502	476	475
R^2	.188	.19	.235	.264	.268
F-stat	41.541	46.769	49.867	54.112	51.33
F-stat (p-value)	0.000	0.000	0.000	0.000	0.000

Standard errors are in parentheses

*** $p<.01$, ** $p<.05$, * $p<.1$

4.2.2. Main model: Hausman-Taylor estimator

It could be argued that the two-way fixed-effects model is not ideal as it does not allow for the inclusion of time-invariant regressors. To consider both time-variant and time-invariant variables some authors have resorted to random-effects estimators (e.g., Lessmann, 2012). Nevertheless, this approach is far from satisfactory, as the use of random-effects models may lead to inconsistent estimates in cases where region-specific individual effects are correlated with at least some independent regressors (Baltagi et al., 2003). We, therefore, use a Hausman-Taylor model (Hausman, 1981), which circumvents the "all or nothing" dichotomy between fixed- and random-effects models, allowing for the inclusion of both time-variant and time-invariant regressors.

Table 3 presents the results of this estimation, following Equation 2. The HT model classifies the variables for unfunded mandates, fiscal decentralisation, and political decentralisation as time-variant endogenous regressors. In all regressions, time-invariant

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supraregional dummies have been included for the different continental regions, namely Western Europe, Eastern Europe, Asia-Pacific, North America, and Latin America, the latter being the reference category. As in the previous table, control variables are added sequentially.

TABLE 3. Hausman-Taylor estimator

Dependent variable: Regional GDP growth	(1) HT	(2) HT	(3) HT	(4) HT	(5) HT	(6) HT
Unfunded mandates	-.787	-2.451**	-2.323**	-2.562**	-2.571**	-1.812**
	(.774)	(1.045)	(1.015)	(1.068)	(1.064)	(.678)
Fiscal decentralisation	-.539	-1.672**	-2.57***	-3.111***	-3.028***	-2.322***
	(.479)	(.655)	(.649)	(.689)	(.684)	(.62)
Political decentralisation	1.546	3.374**	2.921**	3.002**	2.989**	1.772*
	(1.058)	(1.404)	(1.372)	(1.412)	(1.407)	(1.283)
Population		-.185***	-.22**	-.258*	-.393***	-.26*
		(.062)	(.099)	(.139)	(.147)	(.128)
Regional GDP pc			6.33***	9.753***	9.274***	7.61***
			(.64)	(.853)	(.819)	(.738)
Education				.041***	.038***	.048***
				(.015)	(.014)	(.013)
Region size					.485***	.472***
					(.147)	(.128)
National government size						-.117***
						(.028)
Year dummies	YES	YES	YES	YES	YES	YES
Supraregional dummies	YES	YES	YES	YES	YES	YES
Observations	6788	6786	6786	6028	6028	5934
Number of regions	502	502	502	476	476	476
Chi^2	2904.46	1737.025	1539.815	1506.715	1518.541	1615.315
Chi^2 (p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1

The HT model reports similar results to those in the baseline two-way fixed-effects model. The variables of interest preserve their sign, magnitudes, and, in most cases, the 5% level of statistical significance. Again, fiscal decentralisation has a negative correlation with economic growth while political decentralisation has a positive one. As in the baseline model, the coefficient for unfunded mandates is negative and statistically significant. This is in line with our main hypothesis since our regressions indicate that wider unfunded mandates entail lower rates of regional economic growth.[9] Misalignments between fiscal and political decentralisation may thus hamper economic efficiency and growth (Prud'homme, 1995; Khambule, 2021). If the magnitudes of the coefficients for fiscal

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[9] This is also true if the same estimations are run with regions that have average or higher levels of unfunded mandates (see Table A11 in the Online Appendix).

and political decentralisation are broadly similar but with opposite signs, it could be argued that the presence of smaller or larger unfunded mandates is key in determining whether decentralisation has an overall positive or negative effect, holding everything else constant. Hence, what seems to matter is not so much the extent to which a region is fiscally or politically decentralised, but rather the level of mismatch between the two. These empirical results give credence to those who warn against unfunded mandates, but not merely for political or constitutional reasons (Posner, 1998; Bennett, 2014), also for economic ones. Unfunded mandates, which prevail in decentralisation processes across the world, seriously undermine the economic impact of transferring powers and resources to lower tiers of government. When subnational governments are suddenly expected to provide public goods and services previously conducted by national governments, but with fewer resources, the result is worse economic performance. The impact on growth will then depend on how large the unfunded mandate is: the bigger the gap between fiscal and political decentralisation, the higher the impact on growth. Therefore, the results in Table 3 provide sufficient evidence to confirm our main hypothesis according to which as the unfunded mandate increases, regional economic growth decreases, *ceteris paribus*.

The sign and significance of the control variables included in the baseline model remain stable in the main HT regressions. In addition, new time invariant variables are added in the HT model. Following Arzaghi and Henderson (2005), region size is included in regression 5 and displays a positive and statistically significant relationship with growth. Finally, the supraregional dummies —omitted from the table for better visualisation— control for continental factors that may have affected economic performance. Latin American regions in OECD member countries grew faster during the period of analysis than regions in other supraregional groupings. This concurs with the economic convergence literature.[10]

4.2.3. *Interaction models*

The previous results support our main hypothesis, that unfunded mandates represent a serious drag on the economic impact of decentralisation. The question now shifts to our second hypothesis about whether this relationship is affected by the degree of political

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[10] Table A11 in the Online Appendix also adds an Anglo-Saxon federal dummy variable resulting in no relevant variation compared to our main estimations.

and fiscal decentralisation in a region and by its level of development. In line with our second hypotheses, larger unfunded mandates in more politically decentralised regions may reduce growth as a higher transfer of powers may increase the gap between responsibilities and resources for regional governments (H2a). In contrast, more fiscally decentralised regions may be less negatively affected by wider unfunded mandates, as they would have a larger fiscal capacity to manoeuvre (H2b). Finally, larger unfunded mandates in poorer regions can reduce economic growth more strongly than for richer regions, which may have institutional characteristics that mitigate that negative effect (H2c). These hypotheses are tested in Table 4 through an extension of the main model, which includes three interaction terms between the variable for unfunded mandates and three other regressors.

TABLE 4. Interaction models

Dependent variable: Regional GDP growth	(1) HT	(2) HT	(3) HT
Unfunded mandates	-2.573**	-3.718***	-2.101*
	(1.066)	(1.224)	(1.136)
Political decentralisation	3.045**	2.863**	3.083**
	(1.413)	(1.41)	(1.405)
Unfunded mandates*Political decentralisation	-.579***		
	(.186)		
Fiscal decentralisation	-3.899***	-3.188***	-3.277***
	(.735)	(.701)	(.674)
Unfunded mandates*Fiscal decentralisation		.165**	
		(.08)	
Regional GDP pc	10.519***	9.132***	9.755***
	(.929)	(.815)	(.866)
Unfunded mandates*Regional GDP pc			-.085**
			(.042)
Population	-.37**	-.378**	-.368**
	(.175)	(.147)	(.155)
Education	.043***	.041***	.042***
	(.015)	(.015)	(.015)
Region size	.498***	.494***	.474***
	(.171)	(.14)	(.159)
Year dummies	YES	YES	YES
Supraregional dummies	YES	YES	YES
Observations	6028	6028	6028
Number of regions	476	476	476
Chi^2	1508.933	1544.26	1491.324
Chi^2 (p-value)	0.000	0.000	0.000

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1

The predicted marginal values are plotted in Figures 6, 7 and 8.[11] The solid lines depict the true predicted relationship between variables as per the values on Table 4, while the dotted lines compare it with a counterfactual situation where the interaction term is not added. Since margin plots cannot be created automatically for HT estimations using statistical software, we calculate the linear relationship based on minimum, average, and maximum values of the unfunded mandate variable for regions with low, average, and high values of the interacted variable (fiscal decentralisation, political decentralisation, and regional GDP per capita).[12] These figures serve as a stylised illustration of the directions and steepness of the lines rather than a portrayal of the exact predicted values of regional GDP growth.

FIGURE 6. Interaction between unfunded mandates and political decentralisation

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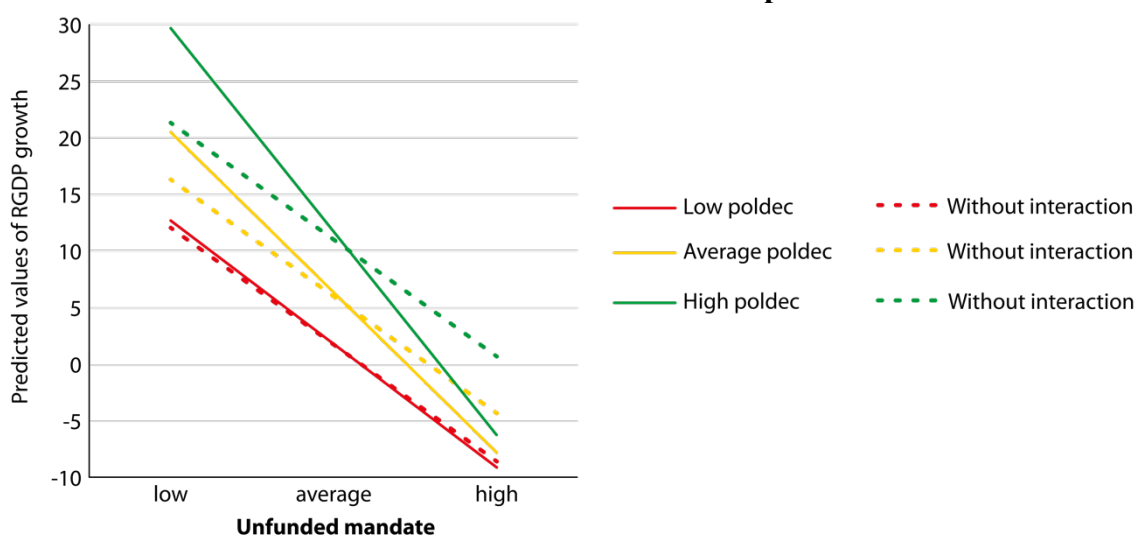
[11] Figures 6, 7 and 8 follow the next equations respectively:
$$Figure\ 6: \beta_1 Unfunded + \beta_2 Poldec + \beta_3 Unfunded * Poldec$$
$$Figure\ 7: \beta_1 Unfunded + \beta_2 Fiscdec + \beta_3 Unfunded * Fiscdec$$
$$Figure\ 8: \beta_1 Unfunded + \beta_2 RGDP + \beta_3 Unfunded * RGD$$

[12] The average value is taken by calculating the average of the minimum and maximum values of the variable at hand. It is included in each interaction graph for comparison purposes.

FIGURE 7. Interaction between unfunded mandates and fiscal decentralisation
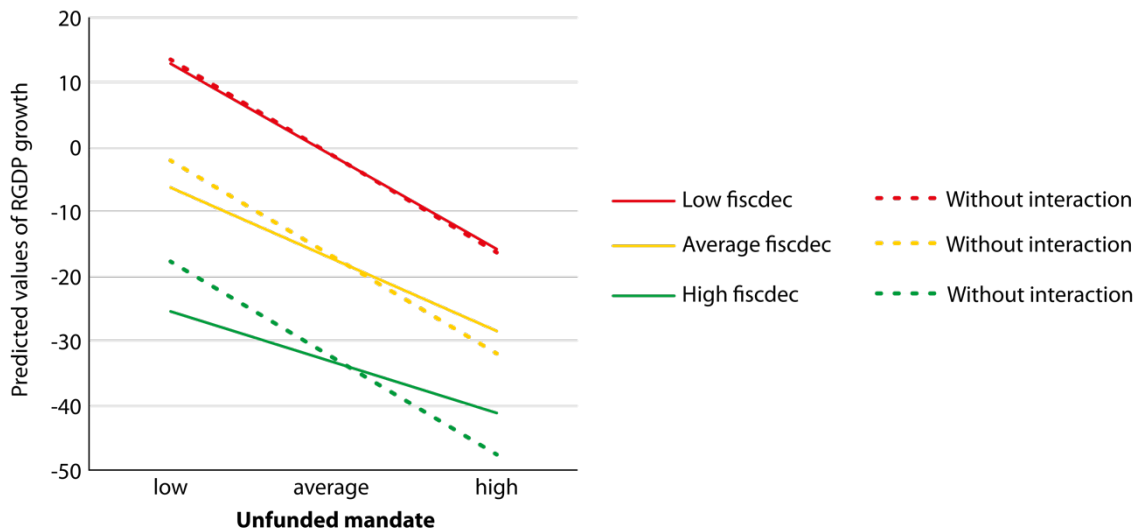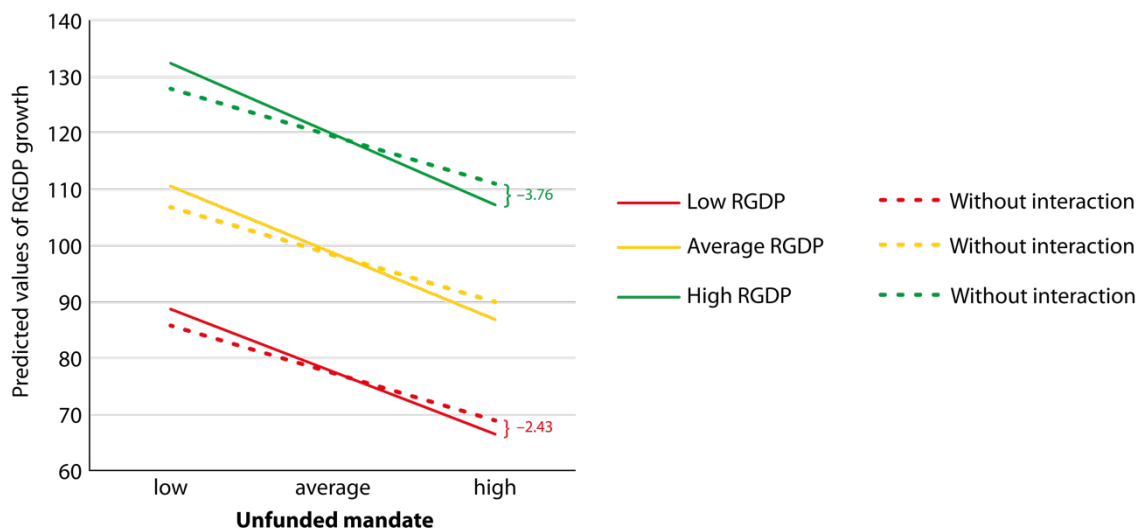

FIGURE 8. Interaction between unfunded mandates and level of development (Regional GDP)

The interaction term for political decentralisation and unfunded mandates in Regression 1 in Table 4 is negative and strongly statistically significant. In Figure 6, the green solid line shows a steep downward slope, implying that for highly politically decentralised regions, increasing unfunded mandates lowers growth. This concurs with the idea that political power at subnational levels engenders positive stimuli for economic growth but that these may not materialise if the needed finance does not accompany devolved functions (Bahl, 1999; Rodríguez-Pose and Bwire, 2004). The steep slope signals that any positive impact of growth linked to political decentralisation may be outweighed by the losses of unfunded mandates. Unfunded mandates, by contrast, have a far lower impact on the growth of regions with low levels of political decentralisation. Therefore,

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the interaction term markedly reduces growth for highly devolved authorities with high unfunded mandates scores, confirming hypothesis H2a.

Regression 2 in Table 4 shows that even if both unfunded mandates and fiscal decentralisation reduce economic growth, the interaction term between them is positive and statistically significant. This implies that in highly fiscally decentralised regions, unfunded mandates may somewhat cushion the negative connection between fiscal decentralisation and economic growth, as indicated by the green lines in Figure 7. This confirms our hypothesis H2b as highly decentralised regions have a greater margin of manoeuvre when faced with unfunded mandates, being able to somewhat mitigate —but not neutralise— the negative effects of fiscal decentralisation. This is in contrast with the situation depicted by the red lines. These are considerably steeper, thereby indicating that less fiscally decentralised regions are more sensitive to unfunded mandates than those that are more fiscally decentralised. This confirms hypothesis H2b.

Lastly, regression 3 in Table 4 shows a positive and statistically significant impact of the level of development (Regional GDP) on growth. The interaction term between the two is, however, negative and significant whereas its magnitude is marginally small. In Figure 8, richer regions (i.e., green lines) grow more than poorer regions (i.e., red lines), especially when unfunded mandates are minimal. As the dimension of unfunded mandates grows, economic growth in all regions decreases irrespective of the levels of development. However, it does so at different rates. At high values of unfunded mandates, the difference between predicted values of the two red lines is smaller (i.e. –2.43) than the difference between values of the two green lines (i.e. –3.76). This indicates a marginally stronger downward effect of the interaction term on richer rather than poorer regions with a large value of unfunded mandates. This rejects hypothesis H2c.

In sum, the interaction terms indicate that, first, regions with a higher fiscal decentralisation have more margin of manoeuvre than the less fiscally decentralised ones when confronted with unfunded mandates. More fiscally decentralised regions can thus soften the negative impact of unfunded mandates on growth. Second, political decentralisation can contribute to economic growth, but large unfunded mandates weaken this positive effect (Bahl, 1999). Hence, further political decentralisation in a context of high unfunded mandates is not the solution to a malfunctioning decentralised polity;

instead, resources should be devolved to balance out unfunded mandates. Finally, contrary to both established theories and our secondary hypothesis H2c, wealthier regions with large unfunded mandates grow less than poorer ones with the same level of unfunded mandates, albeit only marginally. Low unfunded mandates make it easier for decentralisation to elicit economic growth both in rich and poor regions —but particularly in rich ones.

4.2.4. Controlling for endogeneity

Table A13 in the Online Appendix[13] includes additional tests using different techniques, fitting both static and dynamic models with the aim of checking the robustness of our main model.

To control for potential endogeneity, a dynamic model is estimated. The ideal approach to control for a potential case of reverse causality is to use an external instrumental variable strategy. Instruments have been used in the decentralisation literature, such as a country's legal origin, the ethnic fractionalisation index, and even land area (e.g., Lessmann, 2012; Canavire-Bacarreza et al., 2020). Nonetheless, it is up for debate whether these instruments meet the exclusion restriction according to which the instrument is not correlated with the error term and thus has no persistent impact on the dependent variable (Martínez-Vázquez et al., 2017). For example, using land area as an instrument for the relationship between decentralisation and economic growth is questionable, as geography is indeed an essential determinant of economic performance and could be endogenous (e.g., Alesina and Spolaore, 2003; Crafts and Venables, 2003).

If finding a robust instrumental variable at the country level is complicated, doing so at the regional data becomes practically unfeasible. Therefore, to account for endogeneity, the static model 2 is transformed into the dynamic panel-data GMM in Equation 3. We follow Arellano and Bover (1995) and Blundell and Bond (1998)'s system-GMM, as it operates better than the difference-GMM when finite samples have a large n and a moderately small t (Blundell et al., 2001; Windmeijer, 2005; Roodman, 2009). A system-GMM adds additional moment restrictions and allows lagged first differences to be used as instruments in the levels equation, thereby correcting for any potential bias likely to

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[13] Table A14 in the Online Appendix shows the same robustness checks with the unfunded mandates variable calculated with scores from RAI, both for fiscal and political decentralisation.

emerge in difference-GMM. To restrict the proliferation of instruments, the second and third lags have been chosen for the endogenous variables (Rodríguez-Pose and Ketterer, 2012). Whilst it has been found that the efficiency gains of two-step system-GMM estimators are minimal compared to one-step procedures, both are presented (Hwang and Sun, 2018).

The dynamic models, which are asymptotically robust to heteroscedasticity, show that the variable for unfunded mandates remains negative and statistically significant, especially in models that are lag-restricted and have fewer instruments. Fiscal and political decentralisation are also consistently negative and positive respectively. They are significant at over the 1% level in regression 12. As for the controls, both levels of education and development remain broadly significant. However, geographical variables such as population and region size become insignificant. This may be a consequence of lagging the dependent variable, whose coefficients remain positive and significant. In all dynamic regressions, we conduct the Arellano-Bond test for serial correlation and find that there is first- but no second-order serial correlation, as indicated by the large p-values. This fails to reject the null hypothesis meaning that the residuals themselves are not serially correlated (Henderson, 2003). In short, both static and dynamic tests confirm the robustness of the results.

5. Conclusion

Decentralisation is an ongoing global process. Yet, empirical studies on decentralisation remain inconclusive about its impact on economic performance. By assuming that "finance follows function" —that is, that devolved responsibilities are accompanied by the necessary resources to fulfil them—, these studies neglect that this is rarely the case. Mismatches between powers and resources, also known as unfunded mandates, are the norm rather than the exception (e.g., Bahl and Martínez-Vázquez, 2013). To our knowledge, this represents the first cross-regional empirical study assessing the extent to which the (mis)match between fiscal and political decentralisation may impact economic growth.

Using an original dataset for 518 regions in 30 OECD countries over a 21-year period (1997–2018), our analysis supports the view that it is not so much the degree of fiscal and political decentralisation that matters for regional economic growth, but rather the

dimension of the mismatch between the two. This association is negative, statistically significant, and robust to different econometric estimations. Moreover, we find that fiscally decentralised regions enjoy a larger margin of manoeuvre than the less fiscally decentralised once when confronted with unfunded mandates due to their higher fiscal capacity; that political decentralisation may be positive for economic growth, but that any potential benefits fizzle out in the presence of unfunded mandates; and that richer regions in the OECD are more negatively affected by unfunded mandates than poorer regions — albeit only marginally.

These results indicate that the debate about the economic impact of decentralisation has possibly been misguided. It should not be just about whether more or less political and/or fiscal decentralisation is needed, but also about whether the resources at the disposal of subnational governments are sufficient to address the responsibilities they have to face. Therefore, if decentralisation is to help promote economic growth, we should focus not necessarily on whether more transfers of powers and resources to regional governments are needed, but on achieving a better decentralisation; that is, a decentralisation process that appropriately matches responsibilities with resources. Otherwise, if finance does not follow function, governments cannot plausibly claim to be "decentralising authority"; instead, they are "decentralising problems", as unfunded mandates render governance systems dysfunctional and endanger economic growth by incurring in losses of efficiency and most likely undermining trust in institutions.

As any other study on this topic, our research is also subject to limitations. First, lack of data constrain our capacity to delve deeper into the impact of decentralisation on developing economies. Future research may reproduce this analysis on a larger database encompassing developing countries to test whether the results hold. Second, different definitions and measures of unfunded mandates may be developed and tested using different econometric techniques and models. Discerning whether unfunded mandates occur in one policy area or another may be key, as not all policy domains may contribute equally to securing economic growth. Finally, in light of the importance of institutions on growth (Acemoglu and Robinson, 2012), future studies could include institutional variables. Although unavailable for some OECD regions, adding the European Quality of Government Index (Charron et al., 2021) to a subset of EU regions seems promising in order to test whether the effects of unfunded mandates remain unchanged.

Despite these limitations and the road ahead for future research, this study pushes the boundaries of our knowledge about how decentralisation affects economic development. We do so by delving on the concept of unfunded mandates, a factor that had attracted considerable theoretical attention but that until now had been empirically neglected. We have demonstrated that a balanced decentralisation system is crucial to reap the purported benefits of decentralisation on economic growth. This is far from merely being an academic concern. Overcoming the well-documented rise of territorial inequalities and the resulting wave of geographical discontent necessitates sound regional development strategies (Iammarino et al., 2019). The effectiveness of these policies could be undermined by dysfunctional decentralisation processes When transferring authority to subnational tiers of government, decision-makers shall be better off building decentralisation systems that guarantee the fulfilment of the "finance follows function" rule and avoid the proliferation of unfunded mandates, which can put a brake on the economic development prospects of many regions across the world.

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7. Online Appendix

TABLE A1. Data sources and definition of the variables

Variable	Abbreviation	Definition	Source
Dependent variable			
Regional GDP growth	*Regional GDP growth*	Annual growth rate of regional GDP from 1997 to 2018 in USD 2015 adjusted by purchasing power parity (PPP).	Eurostat, OECD, national statistical offices, and author's calculations.
Explanatory endogenous variables			
Unfunded mandate	*unfunded*	Difference between the standardised values of *poldec* and *fiscdec* (with mean 0 and standard deviation 1).	Author's calculations.
Fiscal decentralisation	*fiscdec*	Regional total public expenditure per capita in constant USD 2015 adjusted by PPP (logged).	National statistical offices and regional statistical offices
Political decentralisation	*poldec*	Regional Authority Index's overall score excluding fiscal decentralisation indicators (i.e., *fiscalautonomy*, *fiscal_multilateral*, *fiscal_bilateral*) (logged).	Hooghe et al. (2021)
Explanatory exogenous variables (control variables)			
Population	*population*	Regional population (logged).	Eurostat, OECD, and national statistical offices.
Regional GDP pc	*RGDP*	Regional GDP per capita in constant USD 2015 adjusted by PPP (logged).	Eurostat, OECD, and national statistical offices.
Education	*education*	Share of the regional young adult population (from 25 to 34 years of age) with secondary education (levels 3-4 ISCED 2011).	Eurostat, OECD, and national statistical offices.
Region size	*region size*	Regional land area in km^2 (logged).	Eurostat and national statistical offices.

TABLE A2. Data sources

Country	Source name	Source hyperlink
Australia	Australian Bureau of Statistics	https://www.abs.gov.au/
Austria	Bundesanstalt Statistik Österreich (Statistics Austria)	https://www.statistik.at/web_en/statistics/index.html
Belgium	National Bank of Belgium – Online Statistics	https://stat.nbb.be/
Canada	Statistics Canada	https://www.statcan.gc.ca/eng/start
Colombia	Observatorio de Control y Vigilancia de las Finanzas y las Políticas Públicas	https://observatoriofiscal.contraloria.gov.co/Pages/Observatorio.aspx
Czech Republic	Český statistický úřad (Czech Statistical Office)	https://www.czso.cz/csu/czso/home
Denmark	Danmarks Statistik (Statistics Denmark)	https://www.dst.dk/en/
Estonia	Statistikaamet (Statistics Estonia)	https://www.stat.ee/en
Finland	Tilastokeskus (Statistics Finland)	https://www.stat.fi/index_en.html
France	Collectivités locales	https://www.collectivites-locales.gouv.fr/
Germany	1. Ministerium für Finanzen – Baden-Württemberg 2. Bayerisches Staatsministerium der Finanzen und für Heimat – Bavaria 3. Senatsverwaltung für Finanzen – Berlin 4. Ministerium der Finanzen und für Europa – Brandenburg 5. Der Senator für Finanzen – Bremen 6. Finanzbehörde – Hamburg 7. Hessisches Ministerium der Finanzen – Hesse 8. Finanzministerium – Mecklenburg-Vorpommern 9. Niedersächsisches Finanzministerium – Lower Saxony 10. Ministerium der Finanzen des Landes Nordrhein-Westfalen - North Rhine-Westphalia 11. Ministerium der Finanzen – Rhineland-Palatinate 12. Ministerium der Finanzen und Europa – Saarland 13. Staatsministerium der Finanzen – Saxony 14. Ministerium der Finanzen des Landes Sachsen-Anhalt – Saxony-Anhalt 15. Finanzministerium - Schleswig-Holstein 16. Finanzministerium – Thuringia	1. https://fm.baden-wuerttemberg.de/de/startseite/ 2. https://www.stmfh.bayern.de/ 3. https://www.berlin.de/sen/finanzen/ 4. https://mdfe.brandenburg.de/mdfe/de/ 5. https://www.finanzen.bremen.de/ 6. https://www.hamburg.de/fb/ 7. https://finanzen.hessen.de/ 8. https://www.regierung-mv.de/Landesregierung/fm/ 9. https://www.mf.niedersachsen.de/startseite/ 10. https://www.finanzverwaltung.nrw.de/ 11. https://fm.rlp.de/de/startseite/ 12. https://www.saarland.de/mfe/DE/home/home_node.html 13. https://www.smf.sachsen.de/ 14. https://mf.sachsen-anhalt.de/ministerium-der-finanzen/ 15. https://www.schleswig-holstein.de/DE/Landesregierung/VI/vi_node.html 16. https://finanzen.thueringen.de/
Iceland	Samband íslenskra sveitarfélaga (Icelandic Association of Local Authorities)	https://www.samband.is/english/
Ireland	Rialtas na hÉireann (Government of Ireland)	https://www.gov.ie/en/#
Italy	Istituto Nazionale di Statistica (Italian National Institute of Statistics)	https://www.istat.it/en/
Japan	1. Statistics Bureau of Japan 2. Ministry of Internal Affairs and Communications	1. https://www.stat.go.jp/english/index.html 2. https://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/
South Korea	Korean Statistical Information Service	https://kosis.kr/eng/
Lithuania	Oficialiosios statistikos portalas (Official Statistics Portal)	https://osp.stat.gov.lt/en
Mexico	Instituto Nacional de Estadística y Geografía (National Institute of Statistics, Geography and Informatics)	http://en.www.inegi.org.mx/default.html
Netherlands	Centraal Bureau voor de Statistiek (Statistics Netherlands)	https://opendata.cbs.nl/#/CBS/en/
New Zealand	Stats NZ	https://www.stats.govt.nz/
Norway	Statistisk sentralbyrå (Statistics Norway)	https://www.ssb.no/en
Poland	Bank Danych Lokalnych (Bank of Local Data)	https://bdl.stat.gov.pl/BDL/start
Portugal	Instituto Nacional de Estatística (Statistics Portugal)	https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_main

Slovakia	1. Bratislavský kraj – Bratislava 2. Trnavský samosprávny kraj – Trnava 3. Trenčiansky samosprávny kraj – Trenčín 4. Nitriansky samosprávny kraj – Nitra 5. Žilinský samosprávny kraj – Žilina 6. Banskobystrický samosprávny kraj – Banská Bistrica 7. Prešovský samosprávny kraj – Prešov 8. Košický samosprávny kraj – Košice	1. https://bratislavskykraj.sk/ 2. https://www.trnava-vuc.sk/ 3. https://www.tsk.sk/ 4. https://www.unsk.sk/ 5. https://www.zilinskazupa.sk/ 6. https://www.bbsk.sk/ 7. https://www.po-kraj.sk/en/welcome.html 8. https://web.vucke.sk/sk/
Slovenia	Republic of Slovenia	https://www.gov.si/en/
Spain	Ministerio de Hacienda (Ministry of Finance)	https://www.hacienda.gob.es/en-GB/Paginas/Home.aspx
Sweden	Statistiska centralbyrån (Statistics Sweden)	https://www.scb.se/
Switzerland	Federal Finance Administration	https://www.efv.admin.ch/efv/en/home.html
United Kingdom	Office for National Statistics	https://www.ons.gov.uk/
United States	United States Census Bureau	https://www.census.gov/en.html

TABLE A3. Territorial levels (TL)

TL2		TL3	
Country	*Unit name (number)*	*Country*	*Unit name (number)*
Australia	States/territories (8)	Czech Republic	Kraje (14)
Austria	Bundesländer (9)	Estonia	Groups of maakond (5)
Belgium	Régions (3)	Finland	Maakunnat (19)
Canada	Provinces and territories (13)	Iceland	Landsvaedi (8)
Colombia	Departamentos (32)	Ireland	Regional Authority Regions (8)
Denmark	Regioner (5)	Japan	Prefectures (47)
France	Régions de France métropolitaine (13) + Régions d'outre-mer (4)	Korea	Special city, metropolitan and province (17)
Germany	Länder (16)	Lithuania	Counties (10)
Italy	Regioni (21)	Norway	Fylker (18)
Mexico	Estados (32)	Portugal	Grupos de municipios (25)
Netherlands	Provinces (12)	Slovak Republic	Kraj (8)
New Zealand	Regional councils (14)	Slovenia	Statistične regije (12)
Poland	Voivodeships (17)	Sweden	Län (21)
Spain	Comunidades Autónomas (19)	Switzerland	Cantons (26)
United Kingdom	Regions and countries (12)		
United States	States and the District of Columbia (51)		

TABLE A4. Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Regional GDP growth	8664	1.607	3.961	-43.147	37.499
Unfunded mandates	8655	.212	1.069	-4.378	3.645
Fiscal decentralisation	9336	7.515	1.573	.88	10.675
Political decentralisation	14438	2.477	.749	0	3.296
Population	9661	13.794	1.553	8.835	17.491
Regional GDP	9176	10.368	.523	7.847	12.16
Education	10073	44.382	16.008	2.98	86.2
Region size	17850	9.413	1.79	2.639	14.743

TABLE A5. Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Regional GDP growth	1.000							
(2) Unfunded mandates	0.072*	1.000						
(3) Fiscal decentralisation	-0.133*	-0.623*	1.000					
(4) Political decentralisat.	-0.059*	0.470*	0.385*	1.000				
(5) Population	-0.025*	0.186*	0.047*	0.302*	1.000			
(6) Regional GDP	-0.096*	-0.322*	0.562*	0.289*	0.112*	1.000		
(7) Education	0.066*	-0.323*	0.139*	-0.056*	-0.178*	0.166*	1.000	
(8) Region size		0.180*	0.074*	0.250*	0.473*	0.021*	-0.082*	1.000

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

TABLE A6. Unit root tests

Variable	ADF	ADF-trend	Phillips-Perron	Phillips-Perron-trend
Regional GDP growth	−78.78***	−78.789***	−79.245***	−79.246***
Unfunded mandat.	−18.417***	−18.395***	−19.764***	−19.753***
Fiscal decentralis.	−25.518***	−26.056***	−23.885***	−24.468***
Political decentral.	−27.774***	−28.105***	−28.326***	−28.762***
Population	9.474*	9.249*	3.082	3.002
Regional GDP	−16.062***	−15.998***	−15.028***	−14.996***
Education	−24.665***	−24.652***	−23.095***	−23.085***
Region size	−10.040***	−10.034***	−10.345***	−10.341***

*** p<.01, ** p<.05, * p<.1*

ADF stands for augmented Dickey-Fuller test.

TABLE A7. Full regressions for different models using national government size

Dependent variable: Regional GDP growth	(1) FE	(2) HT	(3) One-step GMM (no lag limits)	(4) Two-step GMM (no lag limits)	(5) One-step GMM (lag limits)	(6) Two-step GMM (lag limits)
Unfunded mandates	-1.214**	-1.812**	-1.949**	-1.712**	-6.314**	-7.084***
	(.502)	(.678)	(.799)	(.788)	(3.146)	(2.678)
Fiscal decentralisation	-2.01***	-2.322***	-1.835***	-.127	-2.949	-4.063**
	(.357)	(.62)	(.59)	(.397)	(1.948)	(1.693)
Political decentralisation	1.508*	1.772*	3.031***	2.056***	6.357	8.307***
	(.917)	(1.283)	(.857)	(.687)	(4.069)	(3.039)
Population	-2.299	-.26*	-.345	.185	-.207	-.139
	(2.138)	(.128)	(.415)	(.334)	(.816)	(.4)
Regional GDP pc	13.663***	7.61***	7.896***	.603	-3.639	-2.621
	(1.307)	(.738)	(2.471)	(1.623)	(4.395)	(1.589)
Education	.096***	.048***	.103***	.071**	-.18**	-.115*
	(.018)	(.013)	(.028)	(.029)	(.084)	(.071)
National government size	-.123***	-.117***	-.107**	-.195***	.068	-.222*
	(.031)	(.028)	(.046)	(.046)	(.177)	(.139)
Region size		.472***	.747***	.473**	.095	-.098
		(.128)	(.243)	(.222)	(.732)	(.174)
Lagged Regional GDP growth			.078***	.068**	.417**	.42**
			(.029)	(.034)	(.206)	(.173)
Year dummies	YES	YES	YES	YES	YES	YES
Supraregional dummies	NO	YES	YES	YES	YES	YES
Observations	5923	5934	5752	5752	5763	5763
Number of regions	475	476	475	475	476	476
R^2	.268	—	—	—	—	—
Chi^2 (Wald test)	—	1615.315	1575.03	1044.644	1307.598	1746.879
Chi^2 (p-value)	—	0.000	0.000	0.000	0.000	0.000
2nd order autocorrelation	—	—	-1.082	-1.043	.923	1.127
2nd order autocorrelation (p-v)	—	—	.279	.297	.356	.26
F-statistic	51.33	—	—	—	—	—
F-statistic (p-value)	0.000	—	—	—	—	—
Number of instruments	—	—	130	130	39	39

Robust standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1

TABLE A8. Two-way fixed-effects models (Unfunded mandates calculated with RAI FD and PD values)

Dependent variable: Regional GDP growth	(1) FE	(2) FE	(3) FE	(4) FE
Unfunded mandates	-1.925***	-1.971***	-1.88**	-1.907**
	(.74)	(.749)	(.731)	(.77)
Fiscal decentralisation	-.307	-.224	-2.015***	-2.176***
	(.221)	(.221)	(.401)	(.361)
Political decentralisation	2.402**	2.56**	2.719***	2.322**
	(.983)	(.998)	(.973)	(.993)
Population		-4.385***	.079	-3.798*
		(1.365)	(1.73)	(2.062)
Regional GDP pc			12.885***	13.927***
			(1.217)	(1.3)
Education				.079***
				(.018)
Year dummies	YES	YES	YES	YES
Observations	6777	6775	6775	6017
Number of regions	501	501	501	475
R^2	.187	.189	.234	.263
F-stat	41.013	46.333	49.267	53.513
F-stat (p-value)	0.000	0.000	0.000	0.000

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1

TABLE A9. Hausman-Taylor estimator (Unfunded mandates calculated with RAI FD and PD values)

Dependent variable: Regional GDP growth	(1) HT	(2) HT	(3) HT	(4) HT	(5) HT
Unfunded mandates	-.415*	-1.396**	-.544*	-1.116**	-1.106**
	(.23)	(.556)	(.358)	(.432)	(.417)
Fiscal decentralisation	-.156*	-.308*	-1.324***	-1.743***	-1.655***
	(.089)	(.161)	(.23)	(.245)	(.234)
Political decentralisation	.691***	1.787**	.887*	1.238*	1.164*
	(.255)	(.733)	(.735)	(.808)	(.78)
Population		-.177**	-.278**	-.258	-.426***
		(.078)	(.112)	(.158)	(.159)
Regional GDP pc			6.827***	9.838***	9.332***
			(.716)	(.878)	(.842)
Education				.043***	.04***
				(.015)	(.015)
Region size					.594***
					(.166)
Year dummies	YES	YES	YES	YES	YES
Supraregional dummies	YES	YES	YES	YES	YES
Observations	6777	6775	6775	6017	6017
Number of regions	501	501	501	475	475
Chi^2	2349.221	1617.162	1403.409	1460.795	1460.996
Chi^2 (p-value)	0.000	0.000	0.000	0.000	0.000

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1

TABLE A10. Interaction models (Unfunded mandates calculated with RAI FD and PD values)

Dependent variable: Regional GDP growth	(1) HT	(2) HT	(3) HT
Unfunded mandates	-1.224*	-2.626**	-1.818**
	(.7)	(1.22)	(.993)
Political decentralisation	1.249	1.046	1.641*
	(.823)	(.767)	(.841)
Unfunded mandates*political decentralisation	-.063		
	(.168)		
Fiscal decentralisation	-1.698***	-1.741***	-1.951***
	(.236)	(.25)	(.279)
Unfunded mandates*fiscal decentralisation		.212*	
		(.124)	
Regional GDP pc	9.544***	9.315***	11.48***
	(.855)	(.845)	(1.019)
Unfunded mandates*Regional GDP			.034
			(.073)
Population	-.395**	-.434***	-.58***
	(.163)	(.158)	(.213)
Education	.04***	.039**	.052***
	(.015)	(.015)	(.016)
Region size	.596***	.581***	.714***
	(.162)	(.162)	(.191)
Year dummies	YES	YES	YES
Supraregional dummies	YES	YES	YES
Observations	6017	6017	6017
Number of regions	475	475	475
Chi^2	1475.899	1472.399	1477.202
Chi^2 (p-value)	0.000	0.000	0.000

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1*

Dependent variable: Regional GDP growth	(1) FE	(2) HT	(3) One-step GMM (no lag limits)	(4) Two-step GMM (no lag limits)	(5) One-step GMM (lag limits)	(6) Two-step GMM (lag limits)
Unfunded mandates	-1.899***	-.811**	-2.689*	-2.152*	-10.214**	-7.306*
	(.366)	(.363)	(1.436)	(1.126)	(4.432)	(4.308)
Fiscal decentralisation	-1.381***	-.867***	-.73*	-.875**	.531	-2.066
	(.359)	(.167)	(.431)	(.412)	(2.202)	(1.629)
Political decentralisation	1.617	-1.897***	3.147**	4.301***	2.754	-5.259
	(1.024)	(.364)	(1.3)	(.981)	(7.147)	(3.543)
Population	-1.906	-.383***	-1.007	-.753*	-6.523**	-2.697
	(2.16)	(.143)	(.626)	(.427)	(2.953)	(1.438)
Regional GDP pc	10.481***	5.5***	1.43	-.259	2.358	1.789
	(1.082)	(.605)	(2.361)	(1.15)	(4.753)	(3.066)
Education	.081***	.041**	.071*	.055**	.197*	.052
	(.022)	(.017)	(.039)	(.025)	(.114)	(.076)
Region size		.282*	.224	.109	-.629	1.095
		(.154)	(.373)	(.26)	(1.205)	(.717)
Lagged Regional GDP growth			.151***	.135***	.329*	.522***
			(.038)	(.04)	(.194)	(.163)
Year dummies	YES	YES	YES	YES	YES	YES
Supraregional dummies	NO	YES	YES	YES	YES	YES
Observations	3857	3857	3725	3725	3725	3725
Number of regions	292	292	292	292	292	292
Chi^2 (Wald test)	—	1490.541	1311.439	941.258	656.854	1105.285
Chi^2 (p-value)	—	0.000	0.000	0.000	0.000	0.000
2nd order autocorrelation	—	—	-.136	-.247	.506	1.374
2nd order autocorrelation (p-v)	—	—	.892	.805	.613	.169
F-statistic	—	—	—	—	—	—
F-statistic (p-value)	—	—	—	—	—	—
Number of instruments	—	—	100	100	39	39

Robust standard errors are in parentheses

*** p<.01, ** p<.05, * p<.1

TABLE A12. Full regressions for different models using the Anglo-Saxon federal dummy variable

Dependent variable: Regional GDP growth	(1) HT	(2) One-step GMM (no lag limits)	(3) Two-step GMM (no lag limits)	(4) One-step GMM (lag limits)	(5) Two-step GMM (lag limits)	(1) HT	(2) One-step GMM (no lag limits)	(3) Two-step GMM (no lag limits)	(4) One-step GMM (lag limits)	(5) Two-step GMM (lag limits)
Unfunded mandates	-2.318**	-2.3*	-1.88***	-5.187**	-7.833***	-2.578**	-3.059*	-2.744***	-4.279*	-4.67***
	(1.069)	(1.312)	(.625)	(2.374)	(2.784)	(1.063)	(1.598)	(.931)	(3.341)	(1.72)
Fiscal decentralisation	-3.385***	-2.953***	-.893**	-2.665*	-2.975**	-3.014***	-3.606***	-.578*	-.119*	-2.136**
	(.707)	(.834)	(.375)	(1.36)	(1.515)	(.688)	(1.064)	(.455)	(2.249)	(.94)
Political decentralisat.	2.792**	3.826**	.926*	5.225*	9.026***	2.991**	6.361***	2.482***	3.451*	5.599***
	(1.417)	(1.669)	(.489)	(2.748)	(3.254)	(1.407)	(2.144)	(.862)	(3.168)	(1.92)
Population	-.059	-.033	-.012	.348	.304	-.427***	-1.231**	-.611	3.589	.348
	(.197)	(.26)	(.258)	(.602)	(.522)	(.145)	(.528)	(.448)	(3.049)	(.355)
Regional GDP pc	9.169***	3.298**	1.024	-4.872**	-8.095***	8.991***	8.598***	1.382	-13.012***	-4.209***
	(.765)	(1.457)	(1.4)	(2.469)	(2.301)	(.798)	(2.104)	(1.678)	(4.71)	(1.175)
Education	.031**	.008	.078***	-.042	-.035	.037***	.103***	.046	-.221*	-.081
	(.015)	(.022)	(.02)	(.061)	(.061)	(.014)	(.027)	(.031)	(.133)	(.072)
Region size	.743***	.188*	.274*	-.093*	-.49*	.462***	.824***	.754**	-2.811*	-.206*
	(.143)	(.143)	(.156)	(.288)	(.302)	(.146)	(.303)	(.328)	(1.849)	(.167)
Lagged Regional GDP growth		.107***	.092***	.099***	.36**		.1***	.083**	.11***	.292*
		(.028)	(.031)	(.031)	(.14)		(.03)	(.034)	(.032)	(.166)
Anglo-Saxon fed. dum.	-2.174*	.509	-.572	1.049	2.158	1.055	5.117	2.463	-20.42	-.522
	(1.741)	(.878)	(.756)	(2.464)	(1.964)	(.722)	(4.532)	(2.342)	(18.377)	(1.011)
Asia & Pacific dummy						-9.631***	-5.024**	1.199	2.156	1.768
						(1.183)	(1.978)	(1.546)	(3.156)	(1.997)
Eastern Europe dummy						-8.03***	-7.656***	3.231	11.087	4.928**
						(1.188)	(2.316)	(2.32)	(8.597)	(2.421)
North America dummy						-11.742***	-15.467***	-4.696	33.285	4.84*
						(1.619)	(4.072)	(2.976)	(22.661)	(2.932)
Western Europe dummy						-10.322***	-9.477***	.036	6.192	3.533
						(1.225)	(1.876)	(1.635)	(6.13)	(2.236)
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Supraregional dummies	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES
Observations	6028	5857	5846	5857	5857	6028	5857	5846	5857	5857
Number of regions	476	476	475	476	476	476	476	475	476	476
Chi^2 (Wald test)	1512.764	1889.366	1038.185	1539.25	1008.955	1553.777	1381.516	815.054	854.4	1607.561
Chi^2 (p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2nd order autocorr.	—	-.602	-.726	-.899	.999	—	-.643	-.78	-.888	.645
2nd order autocorr. (p-v)	—	.547	.468	.369	.318	—	.52	.435	.375	.519
Number of instruments	—	130	130	39	39	—	130	130	39	39

Robust standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1

TABLE A13. Robustness checks

					Static			
Dependent variable: Regional GDP growth	(1) FE (AR)	(2) FE (DK)	(3) FE (W-pop)	(4) FE (W-REGIONAL GDP)	(5) FE (W-size)	(6) HT	(7) HT	(8) HT
Unfunded mandates	-3.189***	-2.557***	-2.85***	-2.191**	-2.629**	-2.275**	-.527*	-2.47**
	(.57)	(.601)	(.96)	(1.069)	(1.186)	(.919)	(.303)	(1.068)
Fiscal decentralisation	-5.791***	-3.664***	-3.555***	-4.325***	-3.752***	-3.026***	-1.923***	-3.117***
	(.449)	(.677)	(.665)	(.751)	(.811)	(.604)	(.331)	(.701)
Political decentralisation	3.961***	3.352***	2.618**	2.762**	3.379**			
	(.669)	(.881)	(1.151)	(1.349)	(1.578)			
Population	-13.136***	-3.879*	-1.531	-6.183**	-3.866*	-.371**	-.339**	-.386**
	(.695)	(2.07)	(1.848)	(2.609)	(2.301)	(.159)	(.142)	(.152)
Regional GDP pc	21.83***	13.942***	11.781***	15.418***	13.775***	9.794***	8.825***	9.444***
	(.852)	(3.275)	(1.044)	(1.684)	(1.398)	(.845)	(.768)	(.825)
Education	.135***	.082**	.067***	.108***	.082***	.043***	.04***	.039***
	(.017)	(.03)	(.02)	(.021)	(.019)	(.014)	(.014)	(.014)
Region size			5.817	17.133***	11.445**	.464***	.412***	.468***
			(4.334)	(5.866)	(5.28)	(.161)	(.145)	(.156)
RAI's self-rule						2.999**		3.071**
						(1.351)		(1.405)
RAI's shared rule							-.01	0.107
							(.071)	(0.107)
Lagged growth Regional GDP pc								
Year dummies	NO	YES	YES	YES	YES	YES	YES	YES
Supraregional dummies	NO	NO	NO	NO	NO	YES	YES	YES
Weighted	NO	NO	YES	YES	YES	NO	NO	NO
Observations	5552	6028	6028	6028	6028	6028	6028	6028
Number of regions	476	476	476	476	476	476	476	476
R^2 (within)	0.1241	0.2640	0.4185	0.3369	0.3284	—	—	—
Chi^2 (Wald test)	—	—	—	—	—	1500.919	1514.457	1523.373
Chi^2 (p-value)	—	—	—	—	—	0.000	0.000	0.000
2nd order autocorr.	—	—	—	—	—	—	—	—
2nd order autocorr. (p-v)	—	—	—	—	—	—	—	—
F-statistic	119.74	3072002.36	—	—	—	—	—	—
F-statistic (p-value)	0.000	0.000	—	—	—	—	—	—
Number of instruments	—	—	—	—	—	—	—	—

Robust standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1

TABLE A13. Robustness checks (continued)

Dependent variable: Regional GDP growth	Dynamic			
	(9) One-step sys-GMM	(10) Two-step sys-GMM	(11) One-step sys-GMM	(12) Two-step sys-GMM
	Unrestricted		Restricted (2 to 3 lags)	
Unfunded mandates	-2.464*	-2.177*	-4.715**	-4.835***
	(1.467)	(1.214)	(2.579)	(1.862)
Fiscal decentralisation	-3.583***	-1.715**	-2.439*	-2.227**
	(.996)	(.795)	(1.385)	(.931)
Political decentralisation	5.398***	3.539**	4.589*	5.826***
	(1.934)	(1.527)	(2.903)	(2.054)
Population	-.626	-.366	.359	.261
	(.492)	(.268)	(.779)	(.286)
Regional GDP	9.868***	1.706*	5.738*	4.259***
	(2.276)	(1.299)	(3.168)	(1.196)
Education	.114***	.061**	.127*	.074*
	(.027)	(.028)	(.041)	(.039)
Region size	.569**	.26	-.252	-.186
	(.254)	(.204)	(.635)	(.162)
RAI's self-rule				
RAI's shared rule				
Lagged Regional GDP pc growth	.099***	.094***	.108***	.297*
	(.03)	(.034)	(.032)	(.162)
Year dummies	YES	YES	YES	YES
Supraregional dummies	YES	YES	YES	YES
Weighted	NO	NO	NO	NO
Observations	5857	5857	5857	5857
Number of regions	476	476	476	476
R^2 (within)	—	—	—	—
Chi^2 (Wald test)	1438.508	1029.982	1356.621	1592.014
Chi^2 (p-value)	0.000	0.000	0.000	0.000
2nd order autocorr.	-.64	-.662	-.736	.678
2nd order autocorr. (p-v)	.522	.462	.508	.498
F-statistic	—	—	—	—
F-statistic (p-value)	—	—	—	—
Number of instruments	130	130	39	39

Robust standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1

TABLE A14. Robustness checks (Unfunded mandates calculated with RAI FD and PD values)

	Static							
Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Regional GDP growth	FE	FE	FE	FE	FE	HT	HT	HT
	(AR)	(DK)	(W-pop)	(W-RGDP)	(W-size)			
Unfunded mandates	-1.981***	-1.907***	-2.279***	-1.77**	-1.967**	-1.212*	-.759*	-1.204*
	(.434)	(.465)	(.66)	(.783)	(.823)	(.626)	(.427)	(.62)
Fiscal decentralisation	-3.866***	-2.176***	-1.862***	-3.021***	-2.22***	-1.82***	-1.727***	-1.757***
	(.311)	(.581)	(.405)	(.451)	(.395)	(.252)	(.252)	(.248)
Political decentralisation	2.407***	2.322***	1.497*	2.023**	2.304**			
	(.522)	(.672)	(.815)	(.955)	(1.063)			
Population	-13.736***	-3.798*	-1.518	-6.204**	-3.786	-.42**	-.313**	-.309*
	(.69)	(2.049)	(1.846)	(2.61)	(2.3)	(.168)	(.157)	(.174)
Regional GDP pc	21.745***	13.927***	11.803***	15.425***	13.763***	9.71***	9.102***	9.897***
	(.854)	(3.263)	(1.045)	(1.685)	(1.4)	(.861)	(.793)	(.862)
Education	.133***	.079**	.066***	.105***	.079***	.042***	.039***	.043***
	(.017)	(.03)	(.02)	(.021)	(.02)	(.015)	(.014)	(.015)
Region size			5.77	17.119***	11.16**	.594***	.48***	.534***
			(4.329)	(5.869)	(5.281)	(.171)	(.153)	(.18)
RAI's self-rule						1.541*		1.889**
						(.877)		(.927)
RAI's shared rule							-.026	-.615***
							(.069)	(.177)
Lagged growth Regional GDP								
Year dummies	NO	YES	YES	YES	YES	YES	YES	YES
Supraregional dummies	NO	NO	NO	NO	NO	YES	YES	YES
Weighted	NO	NO	YES	YES	YES	NO	NO	NO
Observations	5542	6017	6017	6017	6017	6114	6114	6114
Number of regions	475	475	475	475	475	475	475	475
R^2 (within)	0.1222	0.2632	0.4186	0.3369	0.3278	—	—	—
Chi^2 (Wald test)	—	—	—	—	—	1458.522	1480.241	1438.443
Chi^2 (p-value)	—	—	—	—	—	0.000	0.000	0.000
2nd order autocorr.	—	—	—	—	—	—	—	—
2nd order autocorr. (p-v)	—	—	—	—	—	—	—	—
F-statistic	117.415	5897.305	—	—	—	—	—	—
F-statistic (p-value)	0.000	0.000	—	—	—	—	—	—
Number of instruments	—	—	—	—	—	—	—	—

Robust standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1

TABLE A14. Robustness checks (Unfunded mandates calculated with RAI FD and PD values, continued)

Dependent variable: Regional GDP growth	Dynamic			
	(9) One-step sys-GMM	(10) Two-step sys-GMM	(11) One-step sys-GMM	(12) Two-step sys-GMM
	Unrestricted		Restricted (2 to 3 lags)	
Unfunded mandates	-1.899**	-1.602***	-7.87**	-1.036**
	(.739)	(.589)	(3.533)	(0.832)
Fiscal decentralisation	-2.767***	-1.343***	4.715	.128
	(.555)	(.416)	(6.607)	(1.176)
Political decentralisation	2.323***	1.174*	5.852**	1.562
	(.793)	(.677)	(2.938)	(1.402)
Population	-.498	-.099	2.681	.562
	(.459)	(.309)	(3.159)	(.751)
Regional GDP pc	10.203***	2.555	-21.263*	-2.97*
	(2.513)	(1.636)	(11.595)	(1.684)
Education	.084***	.035	-.353*	-.051
	(.028)	(.024)	(.207)	(.048)
Region size	.827***	.407**	-2.75	-.156
	(.25)	(.198)	(1.688)	(.26)
RAI's self-rule				
RAI's shared rule				
Lagged Regional GDP growth	.096***	.103***	.12**	.231
	(.029)	(.033)	(.054)	(.231)
Year dummies	YES	YES	YES	YES
Supraregional dummies	YES	YES	YES	YES
Weighted	NO	NO	NO	NO
Observations	5846	5846	5857	5857
Number of regions	475	475	476	476
R^2 (within)	—	—	—	—
Chi^2 (Wald test)	1488.52	1042.196	718.468	1072.707
Chi^2 (p-value)	0.000	0.000	0.000	0.000
2nd order autocorr.	-.72	-.529	-.808	.293
2nd order autocorr. (p-v)	.471	.597	.419	.77
F-statistic	—	—	—	—
F-statistic (p-value)	—	—	—	—
Number of instruments	130	130	39	39

Robust standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1*

FIGURE A1. Fiscal decentralisation (mean of the entire time series)

Fiscal decentralisation
USD per capita (2015) by PPP

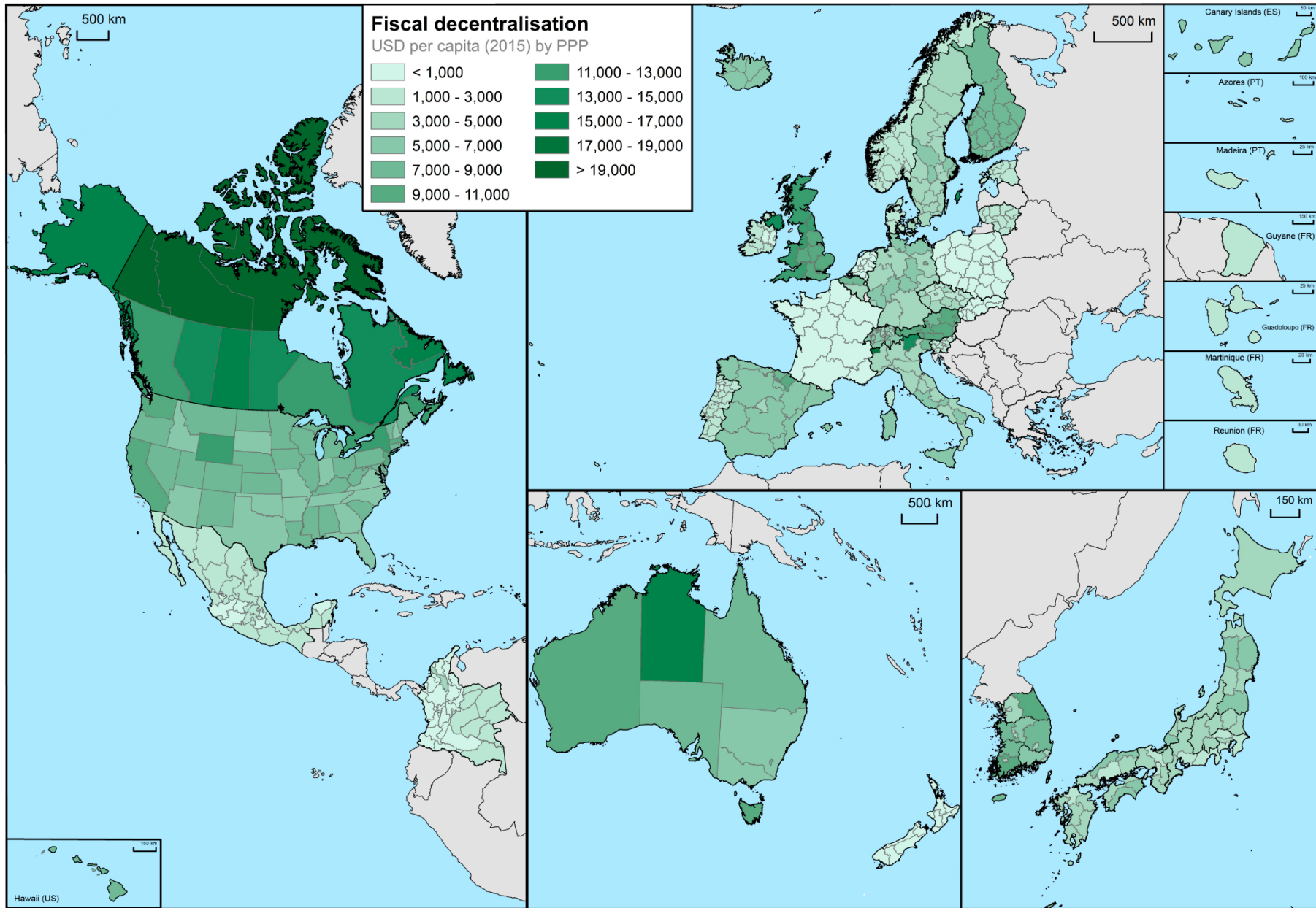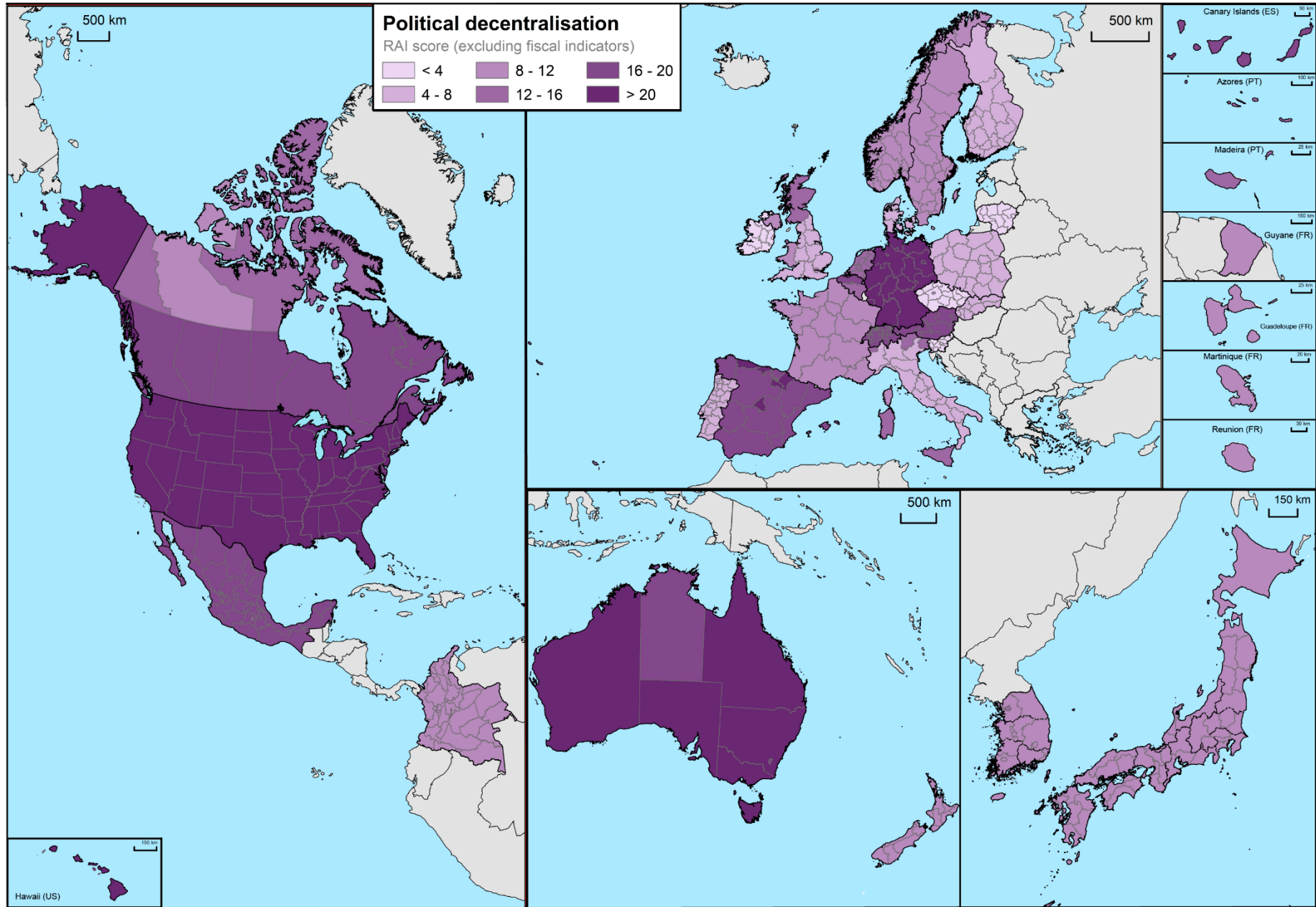|	
< 1,000	11,000 - 13,000
1,000 - 3,000	13,000 - 15,000
3,000 - 5,000	15,000 - 17,000
5,000 - 7,000	17,000 - 19,000
7,000 - 9,000	> 19,000
9,000 - 11,000	

FIGURE A2. Political decentralisation (mean of the entire time series)

FIGURE A3. Unfunded mandates (2018 only)