

Luca, Davide

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Do electoral politics and partisan articulations matter for regional economic development? Evidence from Turkey's provinces

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Do electoral politics and partisan articulations matter for regional economic development? Evidence from Turkey's provinces

*Davide Luca**

*Dept. Of Geography and Environment, London School of Economics and Political Science. Email: d.luca@lse.ac.uk.

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Abstract

In countries with highly polarised political environments, the literature suggests that partisan articulations may influence regional economic performance via the privileged provision of government goods to constituencies with the right political affiliation, at the expenses of opponents. The article tests such prediction through a model of regional growth over 2004-2011 on the 81 provinces of Turkey, a country which has traditionally lacked inclusive political institutions. Results confirm the existence of a reduced-form relationship between votes for the national Government party and faster regional growth. Such relationship is, at least in part, explained by the heterogeneous allocation of public infrastructural investment and investment incentives by the Government to constituencies. Yet, once endogeneity between electoral results and growth is addressed, economic performance is almost entirely explained by standard drivers, primarily human capital endowment. Results overall suggest that the impact of votes on economic performance outcomes is extremely limited. They also provide a picture of the Turkish economy where partisan factionalism does not topple standard socio-economic factors. Under such light, the confrontational and autocratic stance adopted by Turkey's Prime Minister in recent years may mark a lost opportunity to capitalise any positive societal achievements during his first years in office.

Key words: *Political economy of development; electoral politics; economic growth; human capital; Turkey.*

JEL Classification: *H70; O43; O53; R11; R58*

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1. Introduction

The importance of political institutions in ensuring the efficient functioning of markets and consequently fostering economic performance has become central in much of the literature dealing with economic growth and development. A growing consensus in particular agrees on how one of the key prerequisites for sustained economic growth is the existence of *encompassing institutions* preventing narrow political groups to monopolise public resources and economic power (Acemoglu & Robinson, 2012). In spite of such burgeoning interest on the politics of economic growth, the research specifically exploring the impact of political articulations on *regional* economic development has been significantly scarcer. The existence of such gap in the literature is particularly puzzling considering the literal ‘explosion’ of research on distributive politics (Golden & Min, 2013), i.e. on how politicians selectively targets constituencies with more or less governmental monies and goods to reinforce their electoral advantage.

Recently, Bugra & Savaskan (2012) have argued that in countries lacking inclusive political institutions partisan articulations may influence local and regional economic performance via the privileged provision of Government goods to constituencies with the right political affiliation, at the expenses of opponents. The current article explores Bugra & Savaskan (2012)’s prediction by defining a political economy model of regional growth, and testing it to Turkey’s 81 provinces over 2004-2012. Turkey’s case is informative because the country has traditionally suffered from social and political fragmentation and marked divisions within society. The research can contribute to the academic debate about the link between institutions and regional economic growth (Farole, Storper, & Rodríguez-Pose, 2011) by assessing whether, and to what extent, votes and partisan articulations may influence subnational economic performance. Besides, if in recent years the literature analysing how political actors use their control over government resources to strengthen their electoral advantage has burgeoned (Golden & Min, 2013), almost no studies have so far explored the ‘so-what’ economic implications of such line of research. The results can therefore inform this second strand of literature by providing a preliminary assessment of the distributive politics’ economic consequences. Last but not least, if Turkey has frequently suffered from a lack of inclusive politics and factionalism throughout its republican history, in the last fifteen years the country has experienced significant reforms. Assessing to what extent political

cleavages between opponents and supporters of the central Government influence sub-national economies can also provide preliminary evidence about Turkey's concrete political and societal achievements over the period analysed.

The empirical strategy is first based on a Fixed Effect estimator. To rule out the potential risk of reverse causality and omitted variable bias, we then adopt a shift-share Instrumental Variable strategy inspired by the work of Bartik (1991). Last but not least, the dynamic specification we adopt may be biased by the inclusion of provincial Fixed Effects. Our last step is then to exclude the dynamic component of the growth equation and re-estimate it in levels. Baseline results confirm the existence of a reduced-form relationship between votes for the central Government and regional economic growth: the electoral support provided by each province to the incumbent party is correlated to faster rates of regional economic growth. The preferential allocation of Government goods – namely public infrastructural investment and public investment incentives to the private sector – to provinces explains, at least partly, such relationship. Yet, the overall effect of electoral politics on economic growth is very modest. Besides, once a full set of controls are included and the potential endogeneity between the dependent variable and the regressors is accounted for, regional economic performance appears as almost entirely explained by standard socio-economic factors, primarily human capital endowment. Results are robust to the inclusion of standard variables which may drive regional economic growth, as well as to the inclusion of factors specifically able to control for the structural change that Turkey's emerging economy is undergoing.

The remainder of the paper is organized as follows: section two provides a review of the literature on the link between political representation and regional economic growth, sets the research hypotheses and defines the theoretical model, and offers an overview of Turkey's political economy. Section three discusses the empirical variables used to estimate the model, as well as the sample and data. Section four presents the three different estimation strategies and then discusses the results. Section five eventually draws the conclusions.

2. Exploring the link between votes and regional economic growth

2.1. A review of the literature

The impact of political parties, elections and national political institutions on macroeconomic performance has been increasingly explored by scholars in the last twenty years (Acemoglu & Robinson, 2012; Boix, 1998; Persson & Tabellini, 2003; Rajan & Zingales, 2006). A growing consensus suggests that one of the key prerequisites for sustained economic development is the existence of *encompassing institutions* preventing narrow political groups to monopolise public resources and economic power (Acemoglu & Robinson, 2012). In parallel to such political economy literature, a considerable amount of research has been conducted by regional scientists at the sub-national level. This second corpus of work has frequently stressed the importance of local political coalitions and local entrepreneurialism in shaping governance structures conducive to economic growth (Bayirbag, 2011; Storper, 2013; Wood & Valler, 2004; Wood, 2008). In spite of those two developed bodies of research, very little efforts have been made to cross-cut them. Few studies have explored how politics, namely partisan representations and articulations, may influence local and regional economic development via their role in the construction of societal cleavages, in turn responsible for moulding the business environment and influencing distributive politics.

The existence of such gap in the literature is particularly puzzling considering the literal ‘explosion’ of research on distributive politics, i.e. on how self-interested politicians may lead to target public spending and public goods to specific groups at the expenses of others to gain electoral advantage (Golden & Min, 2013).¹ Studying for example the allocation of intergovernmental transfers in Spain, Solé-Ollé and Sorribas-Navarro (2008) demonstrate that the partisan alignment across administrative layers has a sizeable positive effect on the amount of grants allocated by the central and the regional governments to municipalities. The impact they uncover is substantial, leading to increases in the allocation of per-capita public investments to municipalities with the right political affiliation as high as 40%. Yet, similarly to the majority of other studies on distributive politics, Solé-Ollé and Sorribas-Navarro (2008) do not explore the final economic impacts which such preferential allocations may determine.

¹ In their extensive analysis of the literature Golden & Min (2013) have found more than 150 articles on the topic. Our review of the literature even increases such count.

Give the sizeable effect that electoral politics may have on the design and implementation of developmental policies, there is reason to expect that partisan articulations may influence not only the allocative policy outputs, but also their final outcomes, namely economic performance. This may be particularly true in the emerging markets (Cadot, Röller, & Stephan, 2006), where public capital and state support to the business environment are likely to play a key role in triggering the private capital accumulation process. Politically supported capital accumulation has been a significant mark of business and private sector development in many emerging economies (Bugra & Savaskan, 2014; Kohli, 2004). Recently exploring the political economy of state-business relations in the emerging world, Bugra & Savaskan (2012) put exactly forward theoretical and empirical reasoning to argue that tense partisan relations between the local and the central government may hamper the local economic potential's translation into economic growth. Overall, theoretical predictions and preliminary evidence collected by the two authors would lead to suggest that party politics may influence local and regional economic performance via the Government's preferential treatment towards their partisan supporters. The national government may 'punish' unaligned constituencies via channels such as:

- (1) the provision of particular incentives to neighbouring aligned regions so as to stimulate private investments' relocations;
- (2) the restraintment of public investments for the development of key, necessary infrastructures;
- (3) and, last but not least, the mobilization of legislative and administrative mechanisms aimed at a favourable treatment of only aligned business groups.

Following such argument, the main hypothesis tested by this article states

H_{1.1}: Constituencies which support the incumbent party are more effective in promoting economic growth thanks to a preferential treatment received in the management of State resources.

In spite of hypothesis H_{1.1}, other research conducted on the impact of political and social factors in influencing local economic performance may suggest that partisan politics *in general* is not relevant to explain regional economic growth. Levitt & Poterba

(1999) provide a seminal attempt to explore a research hypothesis similar to the one above. They explore the link between congressional representation and state economic performance in the US. While they uncover a positive correlation between sub-national economic growth and the seniority of Democratic congressmen representing States at the federal level, they are unable to find any causal explanation for it. Furthermore, according to Rodríguez-pose (1998)'s results, regional growth in Western Europe is largely accounted for by “standard” factors such as physical and human capital, innovative capacities, and socio-demographic regional characteristics, rather than by electoral politics. The alternative hypothesis thus puts socio-economic factors at the heart of regional economic performance. It states

H_{A.1}: Electoral politics does not drive regional economic performance, which is instead explained by standard socio-economic factors of growth.

2.2. A political-economy model of regional economic performance

The aim of this section is to briefly describe a theoretically-driven model able to account for both the standard drivers of economic growth, as well as the key political factors discussed in the previous section. Drawing from earlier political economy research (Besley et al., 2010), follows this growth model:

$$\Delta Y_{i,t} = \beta_0 Y_{i,t-1} + \beta_1 P_{i,t-1} + \beta_2 P^2_{i,t-1} + \beta_3 G_{i,t-1} + \beta_4 X_{i,t-1} + \alpha_i + n_t + \varepsilon_{i,t} \quad (1)$$

Where:

$\Delta Y_{i,t}$ is the rate of per-capita economic growth, expressed in logarithmic terms, of province i at time t and $Y_{i,t-1}$ is the yearly lagged provincial per-capita GVA, included to test for Solow-style convergence of per-capita income, with $\beta < 0$ indicating convergence;

$P_{i,t-1}$ and $P^2_{i,t-1}$ are the key variables of the model and are aimed at measuring the political alignment of territorial constituencies to the central Government. In particular, we want to test whether $\beta_1 > 0$, i.e. whether partisan closeness to the central Government drives higher growth rate of provincial personal income. $P^2_{i,t-1}$ is included to control for possible non-linearity in the relationship between P and ΔY .

$G_{i,t-1}$ includes the Government goods which, according to the hypothesis discussed in section 2.1, should be driving the correlation (if any) between political alignment and regional economic growth. Concretely, the model proxies G via the inclusion of public infrastructural investments and investment incentives to the private sector, two key policy tools adopted by the Turkish Government to foster regional economies.

$X_{i,t-1}$, consists in a vector of factors which, according to the literature, may play a role in influencing the dynamics of economic growth, such as private, public and human capital investments. While much of growth theory ignores the existence of productivity gaps between existing activities in the economy, in developing countries growth traditionally takes place through the movement of labour from low-productivity to high-productivity sectors. In the last decades, Turkey has indeed experienced significant trends of structural economic transformation (Altug et al., 2007), with a significant shift of work-force from traditional sectors such as agriculture to manufacturing and, more recently, services. Such process has played a consistent role in the increase of total productivity. Turkey's average productivity in manufacturing, for example, currently exceeds the one in agriculture almost by a factor of three (Rodrik, 2010). Structural change, in particular, has been responsible for 45% of the labour productivity growth in Turkey between 1990 and 2005 (Rodrik, 2010). To control for such trends, the vector $X_{i,t-1}$ will also include three key socio-economic variables able to account for such structural change, namely the share of manufacturing in the regional economy, the level of regional entrepreneurship and the level of rural population.

α_i and n_t respectively consist in province fixed- and time-effects, and $\varepsilon_{i,t}$ is the error term.

The political economy hypothesis being tested through the inclusion of $P_{i,t-1}$ and $P^2_{i,t-1}$ is grounded on three key assumptions. The first one is that, like in many other developing and emerging countries, capital accumulation is still scarce and therefore the State – via public policies such as the direct provision of public capital, or the support of specific businesses – plays a key role in economic development (Kohli, 2004). Although the weight of the Turkish State's intervention in the economy has shrunk since the 1980s, an abundant amount of literature has provided theoretical and empirical evidence in support of such assumption. The evidence include qualitative and case-study

investigations on the State-business relations (Acemoglu & Robinson, 2013b; Bugra & Savaskan, 2014), as well as econometric analyses on the impact of public capital on regional productivity (Deliktas, Önder, & Karadag, 2008; Karadag, Deliktas, & Önder, 2004). Furthermore, the country still remains one of the most centralised public finance systems among OECD countries (Blöchliger & Rabesona, 2009). Centralism has continued to play a key role because of its intertwinement with the strongly unitary ideology at the base of Turkey's modern Kemalist state (Dulupcu, Gul, & Okcu, 2004). Many of the final decisions affecting regional development are still largely in the hands of Turkey's central Government, which may use such power to implement vote buying strategies.

The second assumption implies that the impact of electoral politics on economic performance occurs through distributive politics, i.e. the heterogeneous allocations of Government goods and services across constituencies. The first part of section 4 is aimed at providing empirical evidence to show that Government supporters receive a preferential treatment in the allocation of key public resources necessary for development. The inclusion of G in the model will then help testing whether any links between electoral results and economic growth is indeed driven by distributive politics. If this was true, adding G into the equation should lead to a decrease in the magnitude of the electoral variable's coefficients, since their effect would now be picked up by the former.

The third assumption concerns the specific type of relationship driving distributive politics and linking political articulations to regional performance. The current article focuses primarily on partisanship, since political and social cleavages in Turkey have frequently been built around political parties. The role of parties in shaping Turkey's economy and society has been emphasized by numerous authors (De Leon, Desai, & Tugal, 2009; Heper & Keyman, 2006). Within the distributive politics literature a classic debate has flourished on whether Governments target goods to cement or to buy votes. According to the first explanation, the districts most likely to be favoured in the distribution of public resources are the strongholds of the central governing party – the main opposition parties being the ones disfavoured – because risk-averse politicians prefer strengthening their core electorates' loyalties rather than embarking in politically-risky electoral investments (Cox & McCubbins, 1986). By contrast, other scholars foresee models where utility-maximising politicians will first favour groups – or, as Golden &

Min (2013) underline, districts – with the highest electoral productivity, i.e. those most willing to switch their votes following economic favours, namely swing and low-income voters (Dixit & Londregan, 1996). Recently, Diaz-cayeros, Estévez, & Magaloni (2012) have argued that in the emerging and developing world core-voters models are more likely to be appropriate. Their reasoning is motivated by acknowledging how party loyalty is not something given, but endogenous to the distributive politics dynamics. Although partisanship can still be based on a moral sense of obligation as foreseen in earlier literature, in such approach party loyalties are more likely *conditional* and determined upon material inducement (Diaz-cayeros et al., 2012). The very high level of electoral volatility experience in Turkey until recently may indeed suggest that electors have been very susceptible to material inducements and macroeconomic performance (Hazama, 2009).

Yet, even within core-supporters models, utility-maximising politicians may decide to reduce their support to core constituencies above and below a certain votes' threshold. In other words, combining Cox & McCubbins (1986) Dixit & Londregan (1996)'s models, the relationship between the amount of goods distributed and partisan support may be non-linear and inverse-U shaped, as found in the case of the European regional structural funds allocations (Bouvet & Dall'Erba, 2010). Such non-linearity implies that the preferential treatment tends to increase with the partisan support up to a certain threshold and, after it, it will start decreasing again. Anecdotal evidence supporting such argument in the Turkish context is offered, for example, by a Parliamentary speech delivered in 2012 by a legislator from the province of Kütahya. In such occasion, the Member of Parliament complained how the province had been “forgotten” in the distribution of State resources and had been left behind in terms of development (Işık, 2012), in spite of its exceptionally strong electoral support given to the governing party – which exceeded 60% in both 2007 and 2011 elections.

2.3. Turkey's background

Bugra & Savaskan (2012)'s argument draws from the case of Turkey, a polity where incumbents have frequently provided privileged treatment to people and constituencies with the right political affiliation and punished opponents (Acemoglu & Robinson, 2013b; Heper & Keyman, 2006). Supporting such concerns, qualitative evidence

collected by the two authors suggests that business groups with strong links to the government experienced better economic performance than ones opposed to it thanks to preferential treatment in the allocation and management of public resources and other goods such as public tenders. According to Bugra & Savaskan (2012), such concerns not only apply to individual business groups but also to entire constituencies. They uncover the fear of local and regional actors about feeling penalized by the government for systematically voting for the main opposition party (*Cumhuriyet Halk Partisi*, Republican People's Party, CHP, as opposed to the *Adalet ve Kalkima Partisi*, Justice and Development Party, AKP) in both local and national elections.²

Bayırbağ (2010, 2011)'s findings about the process of industrialization occurred in the Anatolian town of Gaziantep supports Bugra & Savaskan (2012)'s hypothesis. According to his empirical results, Gaziantep's success story can only be explained by taking into account not only standard socio-economic local characteristics but also a successful strategy by the local élite to link to the central State. According to Bayırbağ, such strategy was a key element to attract scarce public resources, which have in turn contributed triggering economic development at the expenses of similar locations which did not manage to link politically to the central State.³

² The other main parties since the early 2000s have been the National Action Party (*Milli Hareket Partisi*, MHP), and the pro-Kurdish Peace and Democracy Party (*Barış ve Demokrasi Partisi*, BDP), which succeeded to the Democratic Society Party (*Demokrat Toplum Partisi*, DTP) outlawed in 2008.

³ In a period of very high political instability, Bayırbağ claims that such strategy of linking to the central State – *scale politics*, in the author's words – was achieved through national business associations rather than through party politics. Yet, compared to the 1990s analysed by Bayırbağ, the political stage following the 2000s has been much more stable and increasingly divided between supporters and opponents of the ruling governing party. The support of business associations – particularly the ones represented by the umbrella organisation MÜSİAD – has also been acknowledge as a source of AKP's electoral success (Onis, 2004). Under such political framework – we argue – party politics is (again) a significant proxy to map socio-political fault lines. This is the reason why the following political economy analysis is based on partisanship.

The map presented in Figure I shows how the patterns of regional economic growth during the last decade have been consistently heterogeneous. The group of regions which experienced the highest average annual growth rates of per capita GVA during 2004-2012 include both some of the poorest NUTS II regions such as Mardin (8% per annum), Erzurum (4.5% per year) and Ağrı (4.3% per year), as well as middle income regions such as Manisa (4.9% per year), Balıkesir (4.5% per year), Malatya (4.1%), and Kırıkkale (4.1%).

Figure I. Approximately here

Figure I also shows the average percentage of votes cast for the AKP in national elections between 2002, 2007 and 2011. After almost a decade of extreme political fragmentation, 2002 elections are interpreted as a turning point in Turkish politics (Işık & Pınarcıoğlu, 2010; Zeyneloğlu, 2006) as they witnessed a dramatic turnover among the political class and the substantial rise of a newly formed party – Justice and Development Party (*Adalet ve Kalkınma Partisi*, AKP) – which has kept increasing its power thereafter. Since then, the political scene has been mostly dominated by such party (AKP hereafter). The distribution in Figure I shows the marked spatial heterogeneity of the electoral support to the AKP, with average results across the three electoral tournaments ranging from 10% to more than 63%. The consolidation of Turkey's political spectrum following 2002 has in particular marked the crystallisation of a neat fault line running in parallel to the contraposition between the pro-Islamic constituencies and the secular, Kemalist supporters.⁴

The division of Turkey's society dates back to the late Ottoman period and the early republican years. One of the most established metaphors used to depict such cleavage describes Turkey as a country divided between a political centre – constituted by the State bureaucracy, the military, and the historical urban elites – and a large periphery – including the lower classes and rural environments, frequently with more conservative and Islamic traditions (Mardin, 1973). The strongly non-confessional State building

⁴ The literature identifies as second transversal cleavage opposing Turkish nationalists to supporters of the Kurdish pro-independence movement (Çarkoğlu & Hinich, 2006). The current article focuses exclusively on the first one since its overall societal depth is likely to be more significant than the latter.

project started by the founder of the Republic M.K. Atatürk, and subsequently advocated by the Republic People' Party (CHP hereafter) had traditionally been one carried out by the centre. Since the 1980s, two socio-economic changes started altering such scenario: first, a massive wave of internal migration towards the main urban areas transformed the spatial equilibrium between the centre and the periphery. Authors have therefore recently renamed the societal cleavage as one between “White Turks”, representing the former group, and “Black Turks”, representing the less-educated, lower-class with frequently peasant roots and stronger links to religion (Acemoglu & Robinson, 2013a). Second, and most important, the economic rise of provincial Anatolian towns – the so-called Anatolian Tigers – led by a new capitalist class with rural origins and which identify themselves as pious capitalists – or “Islamic Calvinists” (ESI, 2005) – started altering the distribution of economic power between the two groups. The political success of the Justice and Development Party (AKP) eventually marked the political victory of the latter over the former.

3. Variables and data

3.1. Empirical variables

The variables selected for the empirical estimation of equation (1) are described in the following paragraphs. The dependent variable is the annual growth rate of NUTS II regional gross value added, expressed in per capita Turkish Lira at 2012 prices and in logarithmic terms.

A one-year lag between left- and right-hand side variables is included to account for the time necessary for political variables to potentially influence economic outcomes. This means that the length of the panel decreases from 9 to 8 years. Among the regressors, lagged output $Y_{i,t-1}$ is followed by the model's political variable

Partisan alignment: empirically, such variable will be proxied by the share of votes casted for the governing party (AKP) in national elections. The decision not to focus on results from local elections is motivated by the fact that administrative elections are frequently based on local political issues, while national elections provide a better picture of the overall partisan closeness of a province to the central Government. Following the conceptual discussion in section 2.2, the squared variable will also be included to account

for the non-linear relationship we expect to find between partisan representation and regional economic growth.

The socio-economic control variables accounted for in the analysis are

Public capital investment: total amount of public capital investment in transport and infrastructural network projects to each province.⁵ Values are expressed in per capita Turkish Lira (TL) at 2012 prices and in logarithmic terms.

Private capital investment: gross regional investment in tangible goods is aimed at controlling for the role private capital accumulation may play in economic growth. Values are expressed in per capita Turkish Lira (TL) at 2012 prices.

Human capital stock: this variable is proxied by the percentage of labour force with ISCED 3-4 level education attainment. While analyses conducted in more technologically-advanced countries customarily account for ISCED 5-6 levels, our analysis focuses on ISCED 3-4 levels. First, the overall levels of education attainment in Turkey are still comparatively low. The average level of schooling for the workforce, for example, was in 2005 at 5.3 years, i.e. 2/3 years less than many other countries at a similar level of economic development (Altug et al., 2007). Furthermore, considering that a key driver of economic growth has been manufacturing in industries characterised by low/medium technological levels, ISCED 5-6 levels are not likely to capture the potential impact that human capital may play in economic development.

Manufacturing employment share: manufacturing employment shares will capture one of the core sectors contributing to the transformation of Turkey's economy. The importance of manufacturing in the economic development of Turkey's regions has

⁵ A large proportion of investments is registered as multi-provincial, so it is not possible to match it with any specific province. Over 2004-2012, multi-provincial projects accounted on average for 45.67% of the total public investment portfolio, with an annual standard deviation from the period's overall mean of 5.10. Following earlier pieces of literature (Celebioglu & Dall'erba, 2010; Deliktas et al., 2008; Karadag et al., 2004), our analysis will only concentrate on the investments which can be matched with single provinces.

particularly increased since the 1980s, as many new industrial centres emerged in Anatolia.

Entrepreneurship: Acemoglu & Robinson (2013) suggest that the beginning of the AKP government in 2002 may have witnessed an opening of economic opportunities to Anatolian entrepreneurs and would-be entrepreneurs, often with conservative and religious backgrounds, previously disfavoured by the strongly non-confessional bureaucracy. According to such hypothesis, the beginning of the AKP government may thus have ‘levelled the economic playing field’ by broadening the geographical and social basis of entrepreneurship (Acemoglu & Robinson, 2013b). The inclusion of entrepreneurship into the equation should help controlling for such trends and for any spurious correlation between political variables and economic performance not related to the partisan preferential treatment hypothesis. In the absence of any other viable indicators, the variable is proxied by the annual variation in the total number of economic units per 1000 inhabitants.

Rural population: the last indicator aimed at capturing the structural transformation of the Turkish socio-economic system is the % of provincial population living in rural districts. In a country such as Turkey characterised by late development and a rapid, recent urbanisation, the regional developmental inequalities are likely to be correlated with the urban/rural divide.

3.2. Sample and data

The analysis employs a panel data set covering 81 Turkish provinces over the period 2004-2012. We will focus on changes in NUTS II regions income, rather than provinces (NUTS III level) income, thus assigning to each province the value of its corresponding NUTS II region. This is done for two reasons. The first is that, even if NUTS II regions do not correspond to any administrative tier, in 2001 the Turkish statistical ceased reporting economic data for provinces and started instead reporting values at NUTS II level. Second, in absence of any other viable solution, such strategy follows earlier literature. Applying a similar strategy to the US, Levitt & Poterba (1999) argue that the use of economic outcome data at an administrative layer higher than the political variables’ one may be better for capturing economic spillovers from potentially powerful legislators that accrue to residents outside their strict electoral constituencies.

Political variables are collected at the provincial level, which constitute the power bases of political parties and one of the most important tiers of political representation in Turkey (Guvenc & Kirmanoglu, 2009). Electoral data for 2002, 2007 and 2011 elections was gathered from the European Election Database, as well as from Turkey's Electoral High Committee. We annualise political variables by extending electoral results over each legislature's single year. Electoral wards within metropolitan provinces are not taken into account and therefore national elections' data is only collected for provinces.

All the other socio-economic controls are collected at provincial level when available, or at NUTS II level otherwise. A detailed description of variables, their key summary statistics, and pairwise correlation coefficients are respectively provided in Appendixes I, II and III.

4. *Empirical strategy and results*

We develop our empirical strategy in two main steps. First, in section 4.1 we briefly provide evidence on the link between partisan articulations, proxied by votes, and policy choices. Second, in sections 4.2 and 4.3 we extend the analysis to investigate whether the preferential treatment of the Government's supporters influence regional economic performance. We also develop a more sophisticated empirical specification to account for possible reverse causality between dependent and explanatory variables. Finally, sections 4.4 and 4.5 provide some robustness tests and discuss the results.

4.1. *Votes and development policy*

Extensive evidence on the distributive politics of Turkey has already been provided by earlier pieces of literature. Luca and Rodríguez-Pose (2014) in particular explore the drivers of total public investment across Turkey's provinces for the same period considered in this article. While they stress how politics does not topple socioeconomic factors in the allocation of public investment, they show how political criteria have nonetheless played an important role in influencing investment allocations at the advantage of the Government's supporters, and at the expenses of opponents. Adopting a different empirical strategy, Celbis et al. (2014) reach similar conclusion.

To recap the overall findings of such pieces of research, we estimate the link between partisan articulations – proxied by votes in national elections – and the

geographical distribution of infrastructural investment and investment incentives to the private sector. The equation we estimate takes the following form

$$G_{i,t} = \beta_1 P_{i,t-1} + \beta_2 X_{i,t-1} + \alpha_i + n_t + \varepsilon_{i,t} \quad (2)$$

Where G is the amount of public goods distributed by the central Government, P is the electoral support given to the national incumbent party, X is the vector of socio-economic controls discussed in section 2.2, α and n respectively consist in province fixed- and time-effects, and ε is the error term. Again, we include a one-year lag between left- and right-hand side variables. Our aim is to provide exploratory evidence so for the sake of simplicity we include P only in its linear form. Table I shows the empirical results. Columns (1) and (2) refers to infrastructural investment, while columns (3) and (4) refers to investment incentives to the private sector. As already stressed earlier, these are two of the key components behind Turkey's regional development policy, as well as the preferential treatment hypothesis.

Table I. Approximately here

As expected, the amount of infrastructural investment and investment incentives to the private sector allocated to each province is positively and statistically significantly correlated to provincial electoral support to the national Government. Such evidence is robust against the inclusion of the socio-economic controls, the province and year fixed effects.

4.2. Votes and economic growth: robust Fixed Effects estimates

The aim of this section is to answer the core question of the analysis and explore whether the effect of partisan articulations extends to regional economic performance. Our baseline empirical strategy to explore the link between votes and regional development is to estimate equation (1) adopting a heteroscedasticity and autocorrelation robust estimator with province and annual fixed effects. Such strategy should attenuate the risk of spurious correlations between left- and right-hand side variables caused by unobserved voter and province characteristics – such as social capital, economic structure, as well as any other shocks that may affect both the political process and the economic performance.

To control for potential serial and spatial correlation, estimations adopt robust standard errors adjusted for clustering at the provincial level (NUTS III level, 81 clusters). Errors are clustered at NUTS III, rather than NUTS II level, not only because we believe the former is a more important tier but also because the latter only includes 26 units and such low number may not guarantee consistent results.

Table II. Approximately here

Table II presents the results. Province and year effects, as well as the lagged dependent variable, are included across all models. The overall fit of the models is good, with a ‘within’ R^2 reaching 68.4% in the full specification.

In line with the main hypothesis, column one shows a positive and significant correlation between the percentage of support given to the governing party, the AKP, and the rate of per capita regional economic growth. As expected, the inclusion of the quadratic political term in column 2 determine a neat increase in the statistical significance of the correlation between the percentage of votes casted to the central governing party (AKP) and the rate of per-capita GVA annual growth rate. This finding confirms that such correlation is significantly inverse-U shaped rather than linear. The fitted line shown in Figure II is based on the estimates from column 2 and the observed range of AKP values. It clearly shows how the marginal increase in GVA growth tend to reduce with the increase in the level of support to the central Government, turning negative for values above around 70% of votes. Such finding is in line with the theoretical predictions discussed in section 2.2, since the Government is more likely to provide stronger favouritism to constituencies where the electoral races are tight compared to provinces either completely lost or secured.

Figure II. Approximately here

The main research hypothesis argues that the correlation between the electoral variables and the regional growth rate is driven by distributive politics, i.e. the preferential treatment of politically aligned provinces in the allocation of key State developmental resources. If that was true, adding public infrastructural investment and the amount of public investment incentives provided to the private sector – two key State goods behind the preferential treatment hypothesis – into the equation should lead to a decrease in the magnitude of the electoral variable’s coefficients, since their effect would now be picked

up by the newly added variables. Column 3 of Table II shows that this is partly the case. Both public infrastructural investment and investment incentives to the private sector are statistically significant, and their inclusion determines a reduction in the magnitude of the AKP coefficient. At the same time, it is necessary to acknowledge that in absolute terms such reduction is not high. Interestingly, a bigger reduction in the AKP coefficient occurs when the control variables are included in column 4.⁶

The socio-economic control variables all show the expected sign, as well as a high level of statistical significance: entrepreneurship, public infrastructural investment, public investment incentives to the private sector, human capital, private capital, the share of manufacturing employment on total employment, and the rate of rural population appear all positively correlated to regional economic growth. Unexpectedly, the most relevant coefficient across the models is by far human capital, whose magnitude is significantly higher than all the others – even after taking into account differences in the variables’ units of measurement.

4.3. Controlling for endogeneity: Instrumental Variable estimates

While the within estimator exploited in section 4.1 should help controlling for potential omitted factors, a second and more important cause of concern in the estimation of equation (1) is the endogeneity of the political variables. 2002 electoral results can be confidently considered as exogenous. After almost a decade of rampant corruption, poor economic performance and infighting under coalition governments, 2002 elections ousted all of the parties that had entered the parliament in the previous election round. The combined share of votes for the five main parties in 1999 elections was 81 percent, while it dropped to a mere 24 percent in 2002 (Akarca & Baslevent, 2011). The literature on distributive politics underline that voters may reward or punish politicians on the basis of their past allocations of the budget – retrospective voting models – or on the basis of their promises about the future – prospective voting models (Larcinese et al., 2012). If the latter were true for Turkey, then also 2002 results would suffer from endogeneity since voters’ *expectations* in 2002 would be correlated to the future preferential treatment by the central

⁶ Results not presented here but available on request shows that the reduction in the AKP coefficient is in particular driven by the inclusion, among the controls, of rural population.

Government. Yet, in a politically very unstable environment where politicians frequently did not keep their pledges (as it was likely after the 1990s), we argue that the risk of endogeneity due to prospective voting is low. In the case of subsequent results endogeneity is nonetheless a serious issue, since electoral outcomes at time t are likely to be influenced by economic performance at time t and time $t-1$. Our solution to identify the genuine causality between votes and economic performance is to adopt an instrumental variable approach. To this aim we design a shift-share instrument drawing from the seminal strategy proposed by Bartik (1991) and since then increasingly used to identify sources of exogenous shocks in spatial economics literature (e.g.: Moretti, 2010). The theory behind the instrument is that national vote pattern changes that are party-specific but external to an individual province reflect exogenous political shocks for that province. Concretely, we construct the instrument by weighting each initial provincial result in the base year b (2002) for the national variation between time t and the base year b :

$$POL_{IVit} = n_{ib} * \left(1 + \frac{N_t - N_b}{N_b}\right)$$

The inclusion of the endogenous political term in quadratic form in equation (1) poses a further challenge. Since adding any linear variable as second instrument would lead to a poorly identified model, our solution is to instrument the quadratic term of the endogenous variable with the quadratic term of the main instrument, as suggested by Woodridge (2010).

The following paragraphs discuss the results obtained with the Instrumental Variable strategy. Table IV shows the models' estimates following the same order as table II, while table III shows the first stage regression coefficients for the full model of column 4. The relevance condition for the instruments is met: the first stage F-test of excluded instruments is above 10 (i.e. the customary rule-of-thumb value), while the instruments are strong and statistically significant predictors of the main endogenous variable to be instrumented. Furthermore, all the F-tests of excluded instruments for each of the models shown in Table IV are satisfactorily close to 10.⁷

Table III. Approximately here

⁷ The F-tests here reported refer to the endogenous variable's quadratic term.

Table IV. Approximately here

The estimates presented in Table IV reflect relatively closely the ones shown in Table II. At the same time, the political variables' magnitude and level of statistical significance are now both reduced. This suggests that the Fixed Effects estimates for the political variables are partly influenced by endogeneity. The causal effect of partisan closeness to the central Government in driving faster regional economic performance appears with the expected sign, yet it turns significant only after the non-linearity is accounted for, i.e. when its quadratic term is included in the regression (column 2 of Table IV). Furthermore, the comparison between Figures II and III clearly shows that after controlling for endogeneity, the causal effect's magnitude appear even smaller, reaching its inverse-U shape's peak at an earlier level of the AKP values' distribution. For electoral result values higher (more or less) than 55%, the overall net effect between the linear and quadratic political terms now turns even negative.

Figure III. Approximately here

Similarly to what observed with the FE estimates, including public infrastructure investment and public investment incentives to the private sector – two of the channels through which the impact of electoral variables should influence economic performance – in model 3 of Table IV determines a reduction in the coefficient and significance of AKP. As before, it is also worth noting that a similar reduction in the AKP coefficients also occurs when the controls are included in the full model (column 4). In other terms, the correlation between partisan closeness to the central Government and regional economic growth is indeed partly explained by the preferential allocation of public investment and incentives. Yet, another significant portion of it is explained by spurious factors among which, in particular, the rural/urban territorial divide.

All other coefficients included in model 4 appear with the same expected sign and high statistical significance as in Table II. Confirming earlier research (Deliktas et al., 2008; Karadag et al., 2004), public infrastructural investment seem to be a relevant predictor of regional economic growth (column 3). The same is true for investment incentives offered by the State to the private sector (also shown in column 3). Entrepreneurship, human capital, manufacturing employment share and private capital investment are also significant drivers of economic growth (column 4). The percentage

of population living in rural districts within each province is also correlated to higher economic performance, a finding in line with the overall trend of economic convergence.

4.4. Robustness check: addressing the potential dynamic panel FE bias

This last empirical section is aimed at providing some robustness checks on the results discussed above. In dynamic models – i.e. equations characterised by the inclusion of the lagged dependent variable among the regressors – FE estimates are potentially biased in the order of $1/T$ (Nickell, 1981). Considering the dramatic dynamism of Turkey's regional economies during the period of study we believe that the estimates obtained from the dynamic model are likely to be more reliable. Yet, to rule out any potential concerns, this final section estimates the same models discussed in sections 5.2 and 5.3 but excluding their dynamic components, i.e. including the dependent variable exclusively in levels instead of first difference, while also excluding the lagged convergence term from the regressors. The new equation takes the following form:

$$Y_{i,t} = \beta_1 P_{i,t-1} + \beta_2 P_{i,t-1}^2 + \beta_3 G_{i,t-1} + \beta_4 X_{i,t-1} + \alpha_i + n_t + \varepsilon_{i,t} \quad (3)$$

Appendix IV shows the results obtained adopting the same IV estimator used in the previous sections. The results are overall consistent to the ones from the dynamic model specification. The socioeconomic controls are mostly uninfluenced from the different specification. The key electoral variables of the model seem to behave in a way similar as before. Yet, the statistical significance of the electoral terms is further reduced: after the inclusion of the full list of controls, neither AKP, nor its squared term are significant at a standard confidence level.

4.5. Discussion

Overall, the results suggest the existence of a positive, inverted-U shaped relationship between the provincial partisan closeness to the central Government and the rate of per capita GVA growth. They also provide preliminary evidence that such relationship is – at least partly – driven by the heterogeneous distribution of State goods across provinces, as put forward by Bugra & Savaskan (2012)'s theoretical argument. At the same time, however, the magnitude of such influence is small, not significant in our third specification, and in any case considerably less relevant than the one of the other socio-economic controls. Once the potential endogeneity between votes and regional

growth is controlled for, the causal effect of the Government's preferential treatment to supporting constituencies in driving faster regional economic performance is even smaller. Such result is relevant as it shows that, while there are still modest signs of the preferential treatment hypothesis, much of the correlation between votes and regional growth in the baseline specification is actually driven by reverse causality. In other words, the correlation we uncover in the baseline specification is likely to be driven by the electoral support given by fast-growing provinces to the central Government party – which confirms earlier research on the link between economic growth and electoral volatility (Hazama, 2009) – and only partially by faster growth rates triggered by the preferential treatment of politically aligned constituencies.

The results' implications are threefold. The first concerns the academic and policy debate about distributive politics. While the amount of research asking whether and how political actors use their control over government resources to strengthen their electoral advantage has experienced a literal 'explosion' in recent years (Golden & Min, 2013), almost no studies have so far answered the 'so-what' question of how distributive and 'allocative games' may also influence economic outcomes. If earlier studies uncovered clear signs of strategic manipulation over the allocation of Turkey's public investment (Luca & Rodríguez-Pose, 2014), the good news emerging from the current research is that the final impact of votes – via distributive politics – on economic performance is significantly small, and in any case much less relevant than the one of the other socio-economic controls.

Second, results can also inform regional development theory and policy, both in Turkey and in other countries. Confirming earlier attempts to measure the impact of electoral factors on regional development (Rodríguez-pose, 1998), our results suggest that regional economic growth is largely explained by standard socioeconomic factors. Interestingly, the most relevant predictor of Turkey's per-capita Gross Value Added growth is human capital, whose effect is significantly higher than the one of all other variables. Confirming preliminary findings put forward by Filiztekin (2009), such result is relevant in that it contributes to overcoming the lack of knowledge stressed in the literature about the role played by education and human capital in Turkey's economic performance (Altug et al., 2007). Such results carries relevant implications not only for the academic research but also for policy. Although recent public expenditure on

education has increased, Turkey still ranks at the bottom of the OECD members' list both in terms of education attainment as well as public education expenditure (Bardak & Majcher-Teleon, 2011). Under this light, our results suggest that an increase in the public education expenditure would bring not only social but also significant economic benefits. The importance of increasing public investment in education is even higher considering that Turkey has not yet achieved full literacy, and education attainments still lags behind many comparator countries. For example, in 2009 the rates of population aged 15-64 with Lower secondary (ISCED 0-2), Upper secondary (ISCED 3-4) and Tertiary (ISCED 5-6) education were respectively 70.8/19.2/10.0 in Turkey while 27.6/53.2/19.2 in Bulgaria, 39.8/40.2/20.0 in Greece and 31.5/46.4/22.1 in the EU-27 average (ibid.).

Last but not least, the results speak to the debate about the extent to which Turkey is progressing towards the achievement of more democratic and inclusive institutions. Throughout its republican history Turkey has traditionally suffered from fragmented politics and factionalism. Following the economic crisis of 2001, as well as the start of Accession Negotiations to the EU, the country started a series of public reforms inspired by good governance principles (Ozdemir Tsarouhas, 2013) and democratic accountability. The policy path followed by Erdoğan's *Adalet ve Kalkınma Partisi* (Justice and Development Party) succeeding its electoral victory in 2002 has been largely depicted by international media as a commitment to such democratisation process. Yet, the concrete extent of such process is debated. While criticising Erdoğan's recent autocratic stance, Acemoglu (2014) shows optimism about Turkey's long-term democratic prospects. In the economic realm, Acemoglu & Robinson (2013b) go further by hypothesising that the beginning of the AKP government in 2002 may have witnessed an opening of economic opportunities to Anatolian entrepreneurs with conservative and religious backgrounds, thus broadening the geographical and social basis of entrepreneurship (Acemoglu & Robinson, 2013b). In opposition to Acemoglu's view, some commenters have recently argued that optimistic narratives about Turkish reforms fail to uncover a *de-facto* institutional deterioration. According to Meyersson & Rodrik (2014), for example, rather than strengthening democratic institutions the shift of powers from the former Kemalist non-confessional elites to the new Islamic-based Erdoğan's party have simply produced different, and in some ways more pernicious, non-democratic structures. Although in a very preliminary way – given the scope for misspecification in a simple political economic regional growth model –, our findings seem to support

Acemoglu (2014)'s view and the claims that the 2000s marked a period of substantial political inclusiveness (Acemoglu & Robinson, 2013b). Unfortunately the available data does not allow us to carry out the analysis for the most recent years, during which tensions between the supporters and the opponents of the government have escalated and the autocratic and confrontational tone of Prime Minister Erdoğan have increased dramatically. Yet, if drawing strong conclusions from our limited evidence is probably incorrect, it is at least fair to say that our results provide a picture of Turkey's economy where partisan factionalism has modest effects and does not topple standard drivers of regional growth. Under such light the strongly confrontational and repressive stance adopted by the Prime Minister in recent years may mark a lost opportunity to capitalize any positive societal achievements obtained during the 2000s.

5. Conclusion

The analysis of institutions in ensuring the efficient functioning of markets and in consequently fostering economic development has become a key topic in the literature on economic growth and development [see for example Rodríguez-Pose (2013) for a review]. In spite of such burgeoning interest, the research specifically exploring the impact of political institutions on regional economic development has been significantly scarcer. In particular, almost no studies have so far explored how votes and partisan articulations may impact on local and regional economic development, through their effect in influencing distributive politics. To bridge such gap the article tested the literature prediction according to which, in countries lacking inclusive institutions (Acemoglu & Robinson, 2012), the economic performance of regions and constituencies politically close to strong central governments may benefit from a preferential treatment in the management of State resources, and may thus experience faster economic growth (Bugra & Savaskan, 2012). The analysis defined a political economy model of regional growth and tested it to Turkey's 81 provinces over 2004-2012. The empirical strategy was first based on a Fixed Effect estimator. To rule out the potential risks of reverse causality and omitted variable bias, we then adopted a shift-share Instrumental Variable strategy inspired by the work of Bartik (1991).

The results of the analysis lead to both good news and bad news. The bad news is the fact that pork-barrelling and the partisan closeness to the central Government seem

effectively to influence sub-national economic growth. Compared for example to the case of France studies by Cadot et al. (2006), who did not find *any* effect of pork-barrelling on the final economic performance of French regions, our results partly confirm the concerns put forward in Turkey by Bugra & Savaskan (2012) and Heper & Keyman (2006). The good news emerging from the research is that the impact of votes on economic performance is significantly small and in any case considerably less relevant than the one of the standard socio-economic variables. Furthermore, after controlling for the potential reverse causality between dependent and explanatory variables the causal effect of electoral politics appear even smaller. In other words, the correlation we uncover in the baseline specification between votes for the Governing party and regional economic performance is likely to be driven by the electoral support given by fast-growing provinces to the central Government and only partially by faster growth rates triggered by the preferential treatment of politically aligned constituencies. Although drawing strong conclusions from our limited evidence is probably incorrect, it is fair to say that our results provide a picture of Turkey's economy where partisan factionalism has modest effects and does not topple standard drivers of regional growth. Our findings seem to support Acemoglu (2014)'s view and the claims that the 2000s marked a period of substantial political inclusiveness (Acemoglu & Robinson, 2013b). Under such light the strongly confrontational and autocratic stance adopted by the Prime Minister in recent years (Meyersson & Rodrik, 2014) may mark a lost opportunity to capitalize any positive societal achievements obtained during the 2000s.

Interestingly, the research also uncovered that across the socioeconomic variables human capital – measured as percentage of the workforce with upper secondary education – appears as the most relevant predictor of per-capita Gross Value Added growth. Although recent public expenditure on education has increased, Turkey still lags behind and ranks at the bottom of the OECD members' list both in terms of education attainment as well as public education expenditure (Bardak & Majcher-Teleon, 2011). Under this light, compared to the current focus mostly based on the provision of infrastructures and incentives to regions and businesses, regional development policies should provide a much stronger focus on education and human capital accumulation. An increase in the public education expenditure would bring not only social but also significant economic benefits.

A few caveats are in point. First, while partisanship and support to the central governing party should provide a good proxy for the key socio-political divisions likely to influence the business environment and regional economic performance in contemporary Turkey, there may be other political dimensions as much as relevant as partisan articulations in influencing regional economies. Bugra (1998) and Bugra & Savaskan (2014) have for example clearly pointed to the role of business associations as one of those key societal fault-line markers. While data constraints on business associations is a serious empirical impediment, further quantitative research on them would ideally complement to a great extent our findings based on partisanship. Second, our quantitative research design – as well as many similar works from the literature on the politics of economic growth – is able to capture average effects across regions, but risks to fall short in uncovering non-formal channels through which politics may influence regional economies, such as clientelism and patronage. Further research is therefore needed to explore the idiosyncratic forms of preferential treatment and clientelism which may influence economic development through non-territorial, personal channels – as the recent corruption scandals and patronage networks uncovered in 2013 and involving the Prime Minister R.T. Erdoğan suggest.

Appendixes

Appendix I. Variables: review of main hypotheses and their operationalization

Variable	Description	Unit	Source
Gross Value Added	Per capita gross value added (GVA) at 2012 prices.	Ln, TL at 2012 prices	TURKSTAT Regional Database
AKP	Percentage of votes to the central governing party (AKP) in national elections (2002, 2007, 2011)	%	TURKSTAT Regional Database, High Council for Elections (YSK)
Public investment	Per-capita fixed capital investments in transport and communication infrastructure allocated to each province	Ln, TL at 2012 prices	Own calculation on data from the Ministry of Development
Investment incentives	Number of investment incentive certificates annually awarded to private firms per 1000 inhabitants	Ln count	Own calculation on data from the Ministry of Economy
Entrepreneurship	Net annual variation in regional economic units per 1000 inhabitants	Count	Own calculation on data from TURKSTAT Regional Database
Human capital	Percentage of economically active population (Labour force) aged 15 years old and over with upper secondary education (ISCED 3-4)	%	TBV (Labour Force Survey Statistics)
Manufacturing	Employment by economic activity (NACE Rev. 1) [15 years old and over] : Manufacturing (%)	%	TURKSTAT Regional Database
Rurality	Percentage of population living in rural district within each province	%	TURKSTAT Regional Database
Private investment	Annual variation in per-capita total private investment in tangible goods	TL at 2012 prices	Own calculations on data from TURKSTAT Regional Database

Appendix II. Summary statistics

Variable	mean	sd	min	max
GVA growth	0.04	0.05	-0.10	0.16
GVA	9.36	0.39	8.55	10.14
AKP	45.04	14.81	6.50	84.82
Public investment	3.03	1.42	0.00	9.21
Investment incentives	-3.17	0.63	-6.91	-1.70
Entrepreneurship	1.01	2.56	-6.28	6.87
Human capital	0.20	0.04	0.10	0.31
Manufacturing	20.96	9.44	4.70	46.30
Rurality	37.85	13.68	1.01	70.08
Private investment	728.11	3006.66	-20214.25	17152.98
N	648			

Appendix III. Pairwise correlations among variables

	GVA growth	GVA	AKP	Public Inv.	Investment incentives	Entrepren.	Human capital	Manuf.	Rurality	Private Inv.
GVA growth	1									
	0.000									
GVA	-0.093**	1								
	0.017	0.000								
AKP	-0.078**	0.071	1							
	0.047	0.054	0.000							
Public investment	0.016	0.101**	0.205**	1						
	0.678	0.006	0.000	0.000						
Investment incentives	0.221**	0.437**	0.248**	0.156**	1					
	0.000	0.000	0.000	0.000	0.000					
Entrepreneurship	0.280**	-0.009	-0.103**	-0.015	0.019	1				
	0.000	0.816	0.009	0.701	0.625	0.000				
Human capital	0.034	0.599**	-0.051	0.117**	0.143**	0.022	1			
	0.389	0.000	0.173	0.002	0.000	0.577	0.000			
Manufacturing	-0.044	0.659**	0.026	0.0191	0.303**	-0.050	0.521**	1		
	0.295	0.000	0.507	0.628	0.000	0.207	0.000	0.000		
Rurality	0.0465	-0.437**	-0.137**	-0.230**	-0.272**	0.032	-0.448**	-0.555*	1	
	0.269	0.000	0.000	0.000	0.000	0.414	0.000	0.000	0.000	
Private investment	0.2560**	0.101**	-0.037	-0.036	0.124**	0.233**	0.032	0.118**	0.004	1
	0.000	0.005	0.352	0.363	0.002	0.000	0.413	0.003	0.916	0.000

Standard errors below correlation coefficients, ** p<0.05

Appendix IV. Multivariate regressions of the per capita Gross Value Added growth rate: Instrumental Variable estimates including the dependent variable in levels instead of first difference (2004-2012). All explanatory variables are lagged by one year.

VARIABLES	(1) GVA growth	(2) GVA growth	(3) GVA growth	(4) GVA growth
AKP	-5.77e-05 (0.000689)	0.00129 (0.000954)	0.000523 (0.000924)	-0.00112 (0.000832)
AKP^2		-4.09e-05*** (9.42e-06)	-3.56e-05*** (8.99e-06)	-1.19e-05 (7.85e-06)
Public inv.			0.00785*** (0.00163)	0.00440*** (0.00137)
Inv. incentives			0.0259*** (0.00401)	0.0150*** (0.00339)
Entrepreneurship				0.00299*** (0.000869)
Human capital				0.488*** (0.0831)
Manufacturing				0.00680*** (0.000721)
Rurality				0.00549*** (0.00137)
Private inv.				1.77e-06*** (5.51e-07)
Constant	9.257*** (0.0235)	9.266*** (0.0239)	9.358*** (0.0290)	8.899*** (0.0562)
Observations	648	648	648	648
Number of id	81	81	81	81
First stage F	15.13	13.24	13.79	13.54
Prov FE	yes	yes	yes	yes
Year FE	yes	yes	yes	yes

Robust, clustered standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0

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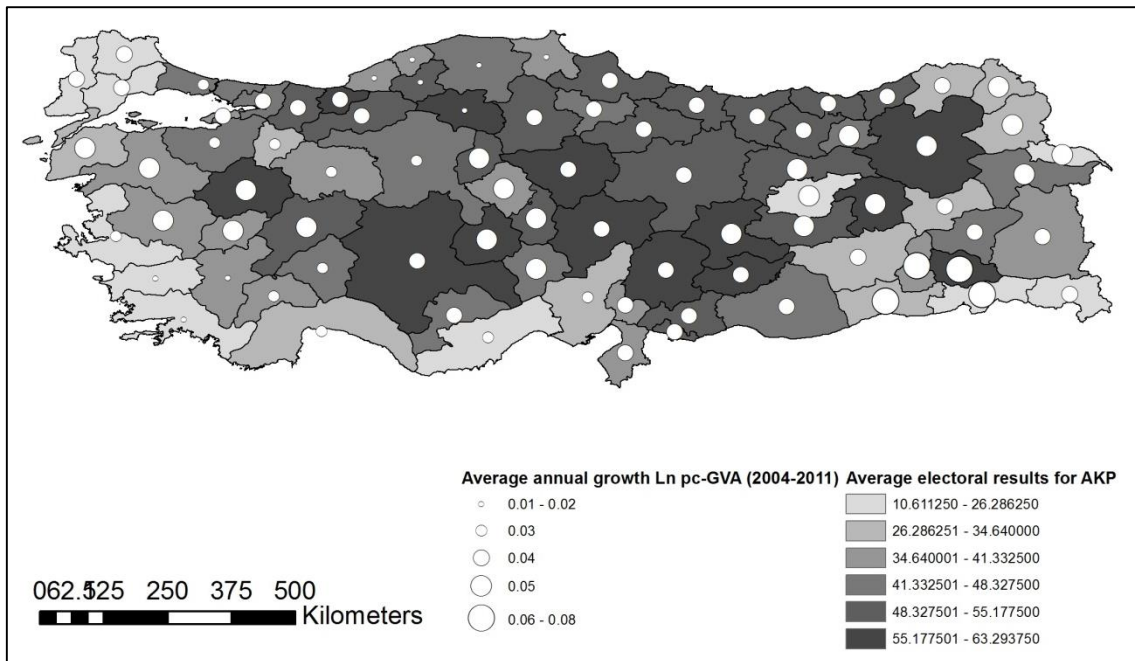
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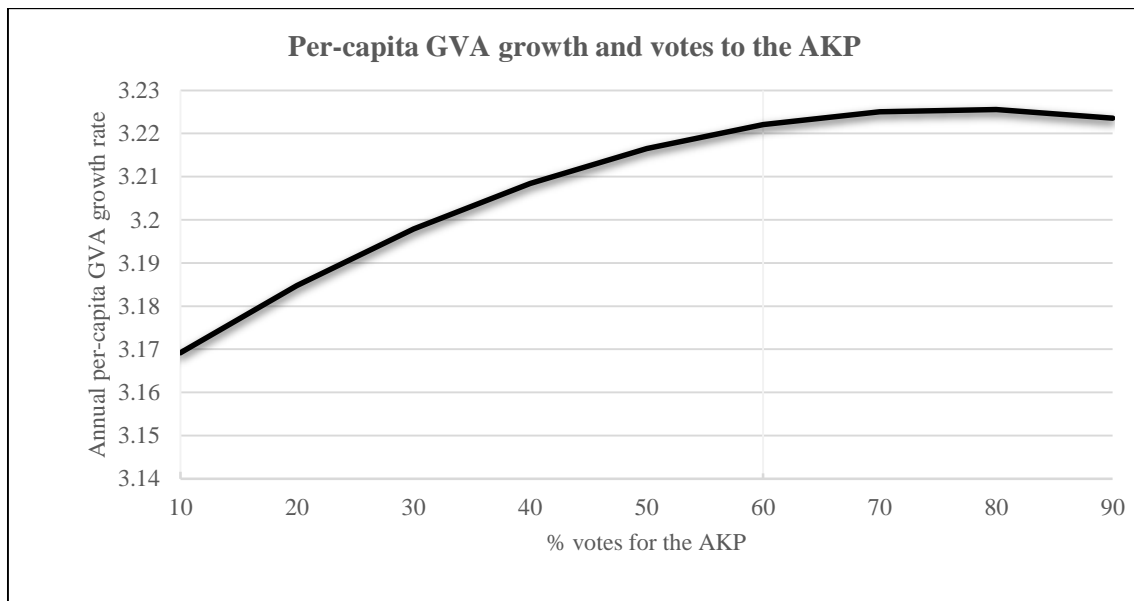
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Figure I. Average AKP results and annual growth rates of GVA (2004-2012).



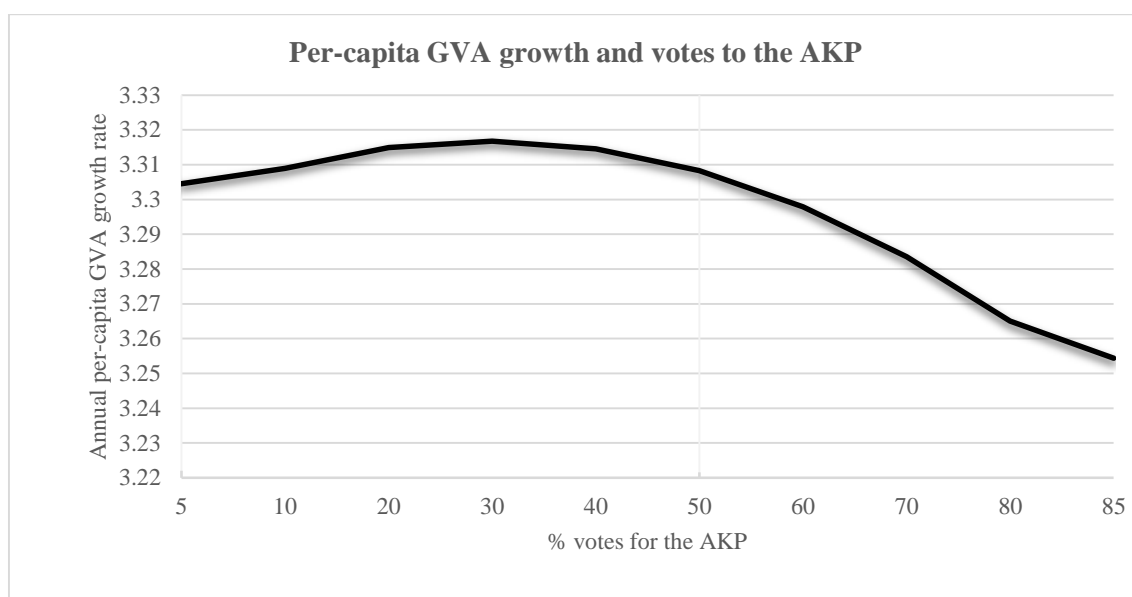
Source: own elaboration

Figure II. Fitted line of the relationship between % of votes for the AKP and the annual per-capita GVA growth rate (2004-2012): robust FE estimates from column 2 of Table II.



Source: own elaboration

Figure III. Fitted line of the relationship between % of votes for the AKP and the annual per-capita GVA growth rate (2004-2012): IV estimates from column 2 of Table IV.



Source: own elaboration

Table I. The link between public central Infrastructure Investment and Investment Incentives and votes for the national Government: robust Fixed Effects estimates (2004-2012). All explanatory variables are lagged by one year.

VARIABLES	(1) Infrastructure investment	(2) Infrastructure investment	(3) Investment incentives	(4) Investment incentives
AKP	0.0343** (0.0133)	0.0265** (0.0117)	0.0200*** (0.00682)	0.0168*** (0.00511)
Constant	1.399*** (0.489)	-16.33 (10.02)	-3.819*** (0.229)	-5.456 (5.363)
Observations	648	648	648	648
R-squared	0.068	0.097	0.376	0.407
Number of id	81	81	81	81
Prov FE	yes	yes	yes	yes
Year FE	yes	yes	yes	yes
Controls	no	yes	no	yes

Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Controls include: Per capita GVA growth, Manufacturing employment, Human capital, Entrepreneurship, Rurality, Private investment.

Table II. Multivariate regressions of the per capita Gross Value Added growth rate: robust Fixed Effects estimates (2004-2012). All explanatory variables are lagged by one year.

VARIABLES	(1) GVA growth	(2) GVA growth	(3) GVA growth	(4) GVA growth
Lagged GVA	-0.336*** (0.0256)	-0.340*** (0.0248)	-0.369*** (0.0274)	-0.470*** (0.0242)
AKP	0.000810*	0.00194***	0.00166***	0.000973*

	(0.000465)	(0.000494)	(0.000481)	(0.000544)
AKP^2		-1.26e-05*	-1.18e-05*	-7.65e-06
		(7.08e-06)	(6.83e-06)	(6.52e-06)
Public inv.			0.00318**	0.00244**
			(0.00121)	(0.00119)
Inv. incentives			0.00745***	0.00627**
			(0.00282)	(0.00274)
Entrepreneurship				0.00248***
				(0.000674)
Human capital				0.259***
				(0.0876)
Manufacturing				0.00226***
				(0.000768)
Rurality				0.00208*
				(0.00108)
Private inv.				1.47e-06***
				(2.85e-07)
Constant	3.130***	3.151***	3.443***	4.199***
	(0.229)	(0.225)	(0.251)	(0.224)
Observations	648	648	648	648
R-squared	0.634	0.638	0.648	0.686
Number of id	81	81	81	81
Prov FE	yes	yes	yes	yes
Year FE	yes	yes	yes	yes

Robust, clustered standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0

Table III. First stage regression of the endogenous political variable: AKP's electoral results (2004-2012). Results are presented for both the original (column 1) and quadratic term (column 2).

VARIABLES	(1) AKP	(2) AKP^2
GVA	-2.194 (6.948)	-242.6 (636.2)
Public investment	0.128 (0.202)	18.55 (20.37)
Investment incentives	1.438** (0.572)	134.9*** (47.65)
Private investment	1.170 (0.773)	50.22 (73.78)
Human capital	-1.232 (15.93)	-480.6 (1,523)
Entrepreneurship	0.292*** (0.102)	27.43*** (9.258)
Manufacturing	0.00599 (0.111)	9.404 (10.13)
Rurality	0.665** (0.266)	57.86** (26.30)
AKP_IV	1.525*** (0.493)	344.4*** (58.64)
AKP_IV^2	-0.0136*** (0.00299)	-2.152*** (0.395)
Constant	-10.65 (64.51)	-7,567 (5,941)
Observations	648	648
Number of id	81	81
R-squared	0.812	0.752
F-test	12.54	13.54
Prov FE	yes	yes

Year FE	yes	yes
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Robust, clustered standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0

Table IV. Multivariate regressions of the per capita Gross Value Added growth rate: Instrumental Variable estimates (2004-2012). All explanatory variables are lagged by one year.

VARIABLES	(1) GVA growth	(2) GVA growth	(3) GVA growth	(4) GVA growth
Lagged GVA	-0.337*** (0.0278)	-0.353*** (0.0287)	-0.392*** (0.0297)	-0.495*** (0.0337)
AKP	0.000541 (0.000485)	0.00120* (0.000647)	0.000818 (0.000651)	2.11e-05 (0.000676)
AKP^2		-2.03e-05*** (6.41e-06)	-1.88e-05*** (6.36e-06)	-1.16e-05* (6.33e-06)
Public inv.			0.00395*** (0.00117)	0.00294*** (0.00111)
Inv. incentives			0.0109*** (0.00291)	0.00888*** (0.00276)
Entrepreneurship				0.00272*** (0.000700)
Human capital				0.289*** (0.0683)
Manufacturing				0.00219*** (0.000656)
Rurality				0.00305*** (0.00111)
Private inv.				1.71e-06*** (4.44e-07)
Constant	3.155*** (0.257)	3.299*** (0.265)	3.697*** (0.277)	4.431*** (0.302)
Observations	648	648	648	648
Number of id	81	81	81	81
First stage F	13.81	9.38	9.82	13.54
Prov FE	yes	yes	yes	yes
Year FE	yes	yes	yes	yes

Robust, clustered standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0