Pork and Turkey: Distributive Politics in the Allocation of Public Investments into Turkish Electoral Districts 1987–2004

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Abstract

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Keywords: Pork Barrel; Turkey; Individual Legislator Characteristics

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1.   INTRODUCTION

The geographic distribution of public investments has been examined not only in the context of economic efficiency and equity but also with respect to political motivations. The US, with its long history of the single-member district system and powerful individual legislators, has led these examinations (Gamm and Huber 2002). Many congressional studies have explored the perceived link between legislator characteristics and pork barrel politics, voter responses to such activities, and the legislators' resulting re-election chances (see, among others, Ferejohn 1974, Feldman and Jondrow 1984, Stein and Bickers 1994, and Alvares and Saving 1997).

The past decade witnessed a proliferation of studies analyzing pork barrel politics in other countries. This meant that the distributive politics theories have been investigated in different institutional settings, such as multi-member (vs. single-member) districts, proportional vs. majoritarian electoral systems, and coalition vs. single party governments; see, among others, Golden and Picci 2008 for Italy, Leigh 2008 for Australia, Cadot et al. 2006 for France, and Samuels 2002 for Brazil. More common topics of analysis across the US and non-US contexts include the role of partisan governments (right-wing vs. left-wing, or Democratic vs. Republican), swing vs. core voters, and socio-economic factors in pork barrel politics.

Using a unique province-level annual panel dataset that covers 67 electoral districts over the period 1987 to 2004, this study investigates the role of political factors in geographic allocation of public investments in Turkey. The Turkish setting offers several distinguishing advantages to enhance the understanding of distributive politics. First, Turkey implements a closed-list proportional representation (CLPR) electoral rule, so this paper is one of the first to examine distributive politics in this particular setting.[1] The conventional wisdom is that the

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[1] A notable exception is Calvo and Murillo (2004), who explore the partisan ties in the electoral market in Argentina, a country with the CLPR rule.

CLPR rule is associated with little pork because MPs hold no incentives to pursue personal votes due to party/leader domination over the list of candidates for elections. We document significant evidence against this commonly held presumption. Second, given that under CLPR and, more generally, under proportional representation, ruling parties and the government are focal actors in pork barrel politics, we explore the role of government type, partisan attitudes, and core vs. opposition support in distributive policies. Third, the Turkish case itself. Little is known about the legislator nomination process during elections and the surrounding parliamentary landscape in Turkey, a traditional NATO ally that exhibits zigzags in domestic and international politics raising doubts about its commitment to historical Western linkages.

The first motivating factor above is worth an elaboration. It is well-established that elected officials face strong re-election motives,[2] and electoral rules influence the level of pork-barrel activity (Lancaster 1986). The single-member district (SMD) system, in which *the* winner in an electoral district is determined by the plurality of votes, encourages politicians to obtain personal votes, thereby generating strong incentives to pursue pork barrel politics. Conversely, in a multi-member district (MMD) system, where the winne*r*s are generally decided according to proportionality, the type of party list determines the level of pork barrel activity. The MMD system is associated with two types of party list; open list proportional representation (OLPR) where voters rank the candidates of a party during the elections, and closed list proportional representation (CLPR) where voters vote for a list that was pre-decided by a leader or the party. Thus, under OLPR, legislators still hold strong incentives to attract personal votes with extensive pork barrel engagement that follows, whereas under CLPR, legislators' incentives to pursue personal votes are much weaker and pork barreling is limited.

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[2] See the recent evidence by Hessami (2018) who, using German municipal-level data, finds that elected mayors have stronger electoral incentives than do appointed mayors in that they attract more grants in election years.

In contrast to this conventional wisdom, this paper argues that incentives for pork barreling still exist under CLPR. We argue that the reelection motive of legislators is not less prominent under CLPR and that legislators would have incentives to maximize their chances for reelection. We provide not only formal evidence for our argument but also a supportive anecdote obtained from an interview with a prominent official of the ruling AKP in Turkey relating to the determination of party lists in the two general elections (2007 and 2011). To measure the individual legislator characteristics important in pork barrel activity, we construct an unusually rich panel data set that includes an array of personal attributes of approximately 2,000 distinct Turkish MPs over the five legislative periods from 1987–2004. We aggregate these data to electorate level to determine which legislator characteristics are associated with pork barreling in a given electoral district.[3]

Our exploration yields illuminating results on the major role played by distributive politics in public investment allocations in Turkey. First, the composition of legislator characteristics in an electorate such as seniority, area of education, and former profession, is significantly associated with the level of public investments into an electorate. This provides evidence for our hypothesis of the presence of pork barreling under CLPR. Next, we present a number of other political characteristics relevant to governments and constituencies that play important roles in pork-barrel politics. For example, single-party governments uniformly make more investments across electoral districts. Additionally, a stronger right-wing representation in the cabinet means more public investments across provinces, but with proportionately more allocations made to right-wing constituencies. Moreover, electorates with a stronger, smaller

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[3] All provinces in Turkey except Istanbul, Ankara, and Izmir correspond to a distinct electoral district. These three provinces have 2–3 electoral districts due to their large populations (and essentially for administrative ease of handling the elections). For the purposes of this paper, the electoral districts in each of those provinces are merged into one, given that the economic variables such as GDP are only available for the province as a whole.

opposition party representation are targeted with more allocations. Furthermore, politically fractionalized electorates and those with higher voter turnout rates attract more allocations. Finally, there is some evidence for the prominence of economic factors in that crisis years witnessed lower amounts of investments but that electorates with larger populations attracted higher allocations in Turkey.

Taken together, this is the first study to offer a detailed analysis of distributive politics in Turkey around a firmly rooted hypothesis on pork-barrel presence under the CLPR rule and using hand-collected data on individual characteristics of approximately 2,000 Turkish MPs in the period 1987-2004. Further, we present several findings related to other nation- or province-level political factors that are at play in the distribution of public investments across electoral districts. Luca and Rodriguez-Pose (2015) come close to our study in that they investigate distributive politics and regional development in Turkey between 2005 and 2012. Their focus is on how provincial economic development and socioeconomic factors predict the geographic distribution of public investments. They find that while political influence mechanisms may be relevant in the distribution of public investments, the state tends to favor more developed provinces rather than channeling the resources to poorer ones.

2. RELATED LITERATURE

2.1 Theories of Distributive Politics

Distributive policies are political decisions that favor a certain geographic constituency. The projects are financed through generalized taxation and thus by electorates that cannot benefit from the offered services (Weingast, Shepsle and Johnsen 1981). Distributive politics models advocate that elected officials distribute public benefits strategically to get reelected. The models are examined in two broad categories. Congressional studies, also called "free

competition models", emphasize *individual legislator* characteristics and the incentives that they face for reelection. It is argued that distributive politics arises in this setting due to competition among powerful individual legislators such as committee chairs, members of committees, and senior and experienced congressmen.[4] The second group of models is known as "discretionary allocation models", focusing on the incentives of *political parties* to secure more seats in the next election (Jarocińska, 2008: 4-5). These are party-based models and assume that the ruling party uses its distributive power to maximize the probability of obtaining the majority seat in the legislature. It is argued that party leaders have strong command over the rank-and-file members and, hence, the distribution of pork. It is also widely held that parties in power are more effective in pork barreling than are those in opposition due to the informational advantages that the former have, leading them to reap disproportional benefits of the distributions.

Partisan attitudes have also been identified as a significant factor in distributive politics.[5] Partisan bias in federal outlays, distribution of sports grants, allocation of fiscal resources, and expenditure choices has been shown to be prevalent in various countries, including the US, Canada, Australia, and Argentina (Thompson 1986, Alvarez and Saving 1997, Denemark 2000, Kneebone and McKenzie 2001, and Calvo and Murillo 2004). Partisan ties can also be ideological in that right- vs. left-wing governments can favor constituencies with their own leaning in economic decision-making (see Arin and Ulubasoglu 2009).

Another focal point of interest has been "swing" vs. "core" voters. Some studies argue that public resources are allocated disproportionately to "swing voter" districts (see Dixit and Londregan 1996 for the US, Denemark 2000 for Australia, Case 2001 for Albania, Dahlberg

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[4] See Mayhew (1974), Ferejohn (1974), Johnston (1979), and Weingast, Shepsle and Johnsen (1981). Barry (1965) argues that 'strong' committee members or committee chairmen are prominent pursuers of pork barrel.
[5] Cox and McCubbins 1986; Levitt and Snyder 1997; Dixit and Londregan 1996; Stein and Bickers 1994, 1995.

and Johansson 2002 for Sweden, and Kwon 2005 for South Korea), while others argue that "core supporter" districts receive the disproportionate allocations (see Cox and McCubbins 1986 for the US, Milligan and Smart 2005 for Canada, and Jarocińska 2008 for Spain). It is generally held that risk-averse politicians favor their own supporters over opposition voters.[6]

2.2. Pork Barrel Politics and Re-Election

Although the US-related literature has investigated extensively legislators' chances of reelection as a result of pork barrel politics, it is not clear whether the connection is firm. Levitt and Snyder (1997) find that an expenditure of $100 per individual or a public expenditure of $50 million per electoral district leads to an increase of approximately 2% in votes (see also Alvares and Saving 1997). However, using data from 1976, 1978, and 1980, Feldman and Jondrow (1984) find no relationship between increased expenditure and re-election. In the context of Italy and France, Golden and Picci 2008 and Cadot et al. 2006, respectively, find a strong effect of resource allocations on re-election of influential politicians. It would be plausible to posit that varying chances of re-election due to pork do not mean that legislators will not be engaged with the 'homestyle politics', and it is likely that their re-election motives and efforts will be maintained regardless of posterior outcomes.

2.3.   Electoral Rules and Pork Barrel Politics

It is widely held that electoral systems and rules affect distributive politics through influencing the politicians' and voters' incentives.[7] Lancester (1986, p. 72) provides a chart of electoral systems and the expected level of homestyle. The intensity of pork barreling is

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[6] Another theory which is highly related to pork barrel politics is the opportunistic political business cycles theory. Supporting this link, Schady (2000) and Kwon (2005) find that public expenditures increased in pre-election periods in Peru and South Korea, respectively. Horiuchi and Saito (2003) show similar effects in the context of Japanese reforms during 1991-94.

[7] A large body of literature connects electoral rules to economic outcomes. See Milesi-Ferretti, Perotti and Rostagno (2002) on public spending, Lizzeri and Persico (2001) on public goods, and Chang (2005) on corruption.

strongest in the SMD system and decreases over the spectrum of MMD-PR, MMD-PR (large districts), and at-large systems.[8] In an SMD system, the plurality of votes required for an electoral district encourages legislators to pursue their interests independently, while in an MMD system, legislators rely on the party for ballot access. Given that several MPs are to be elected per district, this typically generates the free rider and accountability problems (Hillman 2009). As a result, pork is expected to be less extensive in the MMD system. Likewise, majority/plurality, multi-member plurality, single transferable vote, and mixed systems are associated with different levels of pork barrel politics. See Lancaster and Patterson 1990, Stratmann and Baur 2002, Herron 2002, and Pekkanen et al. 2006.[9]

The level of pork is also expected to differ across different rules *within* the MMD system. The proportional representation (PR) system generally specifies two different party lists in elections: OLPR and CLPR. Under OLPR, candidates' ranks are determined during the elections by preferences specified on the electoral ballot, whereas under CLPR, voters vote for a list that was pre-decided by a leader or the party (Pereira and Renno 2003). Thus, it is argued that OLPR stimulates competition among the candidates of the same party for a higher rank on the ballot, thus generating incentives to attract public resources to their districts. When the list is closed, legislators have no incentive to obtain personalized support in their districts (Shugart, Valdini and Suominen 2005, and Sieberer 2010). Overall, the link between legislators and voters is considered to be weak under CLPR.

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[8] The SMD system is often associated with a majoritarian electoral system and MMD with a proportional representation system.

[9] A further dimension is introduced by Golden and Picci (2008), who argue that in the SMD system, if the governing parties are strong in a locality, marginal districts will get more public expenditures, whereas if they are weak, safer districts will receive more. See also Herron (2002) for an earlier separation along these lines.

3. THE TURKISH CONTEXT

3.1. Closed-List Proportional Representation and Pork Barrel Politics

We hypothesize that pork will be a part of intra-party politics under CLPR, rather than being non-existent or weak due to the assumed shallow competition among candidates over the electoral ballot. While we agree that the PR systems are characterized by party-domination[10] and a relatively strong focus on national issues, we also emphasize that the legislators' desire to get reelected is not less prominent under the CLPR system. A common fact in party-based systems is that the MPs who want to get reelected use pork barrel projects as a means of remaining visible to the party leadership. Experience shows that invisibility in this setting means death. This argument is consistent with Besley (2006), who, in the context of political agency models, argue that elected public officials have strong incentives to exert efforts to get re-elected, which would make them appealing to voters. The party center is more likely to nominate such "entrepreneurial" MPs in the upper ranks,[11] while inactive MPs are more likely to be eliminated from the party list. We have obtained anecdotal evidence supporting this point through an interview with a very high-ranking official of the ruling AKP in Turkey, who had significant influence on the party list in the 2007 and 2011 elections. His views have also been corroborated by three other opposition MPs.[12]

More formally, the ruling AKP obtained similar numbers of parliamentary seats in the 2002, 2007, and 2011 elections (between 326 and 367 of 550). Remarkably, around one-third of the MPs from each of the previous periods were not re-nominated for the 2007 and 2011 elections. Similarly, of the 177 MPs elected in 2002 of the main opposition party, center-left

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[10] The possibility of MPs behaving against the party lines under the PR rule has been raised by Denemark (2000), Herron (2002), and Haspel, Remington, and Smith (1998), though in relation to mixed systems.

[11] Another reason for MPs having greater chances of re-nomination is having fully obeyed the party discipline, but this does not necessarily preclude pork barreling.

[12] The transcripts from inteviews with the party official and the other MPs are available upon request.

CHP, only 53 were re-elected in 2007 of the 112 seats that the party secured. Over our sample period, of the 52 MPs of the center-right DYP elected in 1987, only 16 were reelected in 1991, when the party obtained a total of 177 seats. Likewise, of the 99 MPs of the center-left SHP elected in 1987, only 27 were reelected in 1991, when the party obtained 88 seats. The MP profiles of the other parties that were represented in the parliament in any two subsequent periods are similar. Our argument is that high MP turnover cannot be explained by party politics alone and that "entrepreneurship" is likely to be a critical component of re-nomination.

Another reality is that some MPs attract a block of votes due to their personal reputation and that they may be "bought out" by the party center via public investments into their districts.[13] Another closely related feature of the CLPR system is the MPs' tendency to change parties very frequently (see Kunicova and Rose-Ackerman 2005 for Brazil). The presence of too many parties in this system provides the MPs with opportunity to switch parties to maximize their objective functions. Kunicova and Rose-Ackerman argue that candidates with local powerbases may be able to demand rents and projects for their districts. These points have also been verified by our anecdotal evidence in the case of Turkey.

In summary, we argue that rank on the party list is not completely exogenous to the candidate under CLPR because their re-nomination is linked to visibility and "entrepreneurship". Thus, MP characteristics are likely to be relevant for measuring the associated pork barrel engagement.

3.2. Budget Allocations and Pork Barrel Lobbying in Turkey

Pork barrel politics is closely related to the budget process. Ferejohn (1974) mentions the importance of the distribution of power between legislatives and executives over

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[13] In the context of Turkey, for instance, the MPs of the south-eastern provinces tend to exhibit this feature more often. These legislators generally tend to be the leaders of the prominent clans in the semi-feudal region.

budgetary allocations. Factors such as the authority of the legislative branch to make changes to the budget, the involvement of committees in the distribution of allocations, and the efficiency of executives in the allocation of allowances are all critical for transferring resources to different electoral districts.

In Turkey, the Planning and Budgeting Committee (PBC) has the authority to prepare and amend the budget draft, which is then approved by the legislature to get into effect. Proposals from the floor involving changes in budgetary allocations are constitutionally banned. Hence, any change, and therefore any lobbying, needs to be made beforehand. The Cabinet has a strong say over the allocations, given that the majority of the PBC members and the rank-and-file MPs are from the governing parties. Further, the prime minister, ministers, interest groups, bureaucrats, and other political actors may attempt to change the allocations in line with their own interests. All of these factors make the budget a political document.

3.3. Political Climate, Voter Profile, and Economic Factors in Turkey

Turkey has held generally free elections since 1950. The democratic process saw short pauses due to military coups. However, the armed struggle in the Kurdish-dominated south-east and the government's recent domestic and foreign policy choices pose challenges for the country. Linked to our core objective in this paper, the Turkish government - historically and over the sample period - has exhibited variations in right- vs. left-wing tendencies or single-party vs. coalition cabinet structures. It is plausible to expect that these governmental attributes would be associated with varying levels of public investments across provinces.[14]

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[14] The following parties formed the government over the sample period (with their Turkish acronyms): 1987–1991: ANAP (center-right) single party; 1992–95: DYP (center-right) – SHP (center-left) coalition; 1996–June 1997: RP (center-right) – DYP (center-right) coalition; July 1997–1998: ANAP (centre-right) – DSP (center-left) – DTP (center-right) coalition; 1999–2002: DSP (center-left) – MHP (nationalist-right) – ANAP (center-right) coalition; 2003–2004: AKP (center-right) single party.

Voter preferences are also quite dispersed across Turkey. While western provinces are more liberal, eastern provinces are relatively conservative. Large cities in the west host cosmopolitan voters due to huge migrant stocks. Certain provinces are well-known to be strongholds of a particular political party and are politically cohesive. These strongholds may be associated with right- or left-wing ideologies.[15] Other provinces host a voter profile that may exhibit swings of differing degrees during elections. Voter turnout rates also differ across provinces. Factors behind varying voter turnout rates include demographic factors, such as education, ethnicity, age structure; attitudinal and behavioral factors, such as access to political information, strength of partisanship, and feelings of civic duty; and physical factors, such as weather and the proximity to polling locations (Fowler, Baker and Dawes 2008).[16]

Turkey is also a dynamic emerging market economy. The period 1987–2004 witnessed an average growth rate of 4.1%, deepening industrial base, and booming trade. However, this period also saw financial crises in 1994, 1999, and 2001, each of which was characterized by severe recession, hyperinflation, and skyrocketing interest rates. The demographics also differ across provinces. Western provinces are socio-economically more developed, while eastern provinces feature high unemployment and low income levels. Accordingly, the latter are supported by the government's "prioritized development" program, under which they receive higher public investments and benefit from an incentives scheme to attract more private sector investments.

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[15] Turkey's voter profile is generally 70% right-wing and 30% left-wing. In the *political sense*, right-wing parties in Turkey have commonalities with Democrats in the US or the Labor Party in the UK, promoting outward-oriented politics, while left-wing parties generally advocate nationalist views. In the *economic policy* sense, the right- vs. left-wing definition in Turkey generally matches that of the West, in that right-wing parties are more pro-capital, liberal, and reformist, and left-wing parties are more pro-labor, statist, and redistributive.

[16] One prominent issue with voter turnout in Turkey is related to the Kurdish southeast, which has long been crippled by separatist political and military struggles. There are sometimes initiatives to boycott the elections.

4.   EMPIRICAL ANALYSIS

4.1.   Specification

Our general empirical formulation is as follows:

$$Ln(Inv_{it}) = f(MPC_{it}, LEADER_{it}, PR_{it}, GOVT_{it}, EF_{it}, \varepsilon_{it}),$$

where *ln* denotes the natural logarithm, *Inv* is the amount of public investment allocated to electoral district *i* in year *t*, *MPC* represents the composition of individual MP characteristics in an electoral district, *LEADER* is a dummy that indicates whether the district hosts a leader involved in budget-making, *PR* is a vector of variables gauging the provincial strength of parties, *GOVT* denotes the type of government, *EF* is a vector of economic factors, and ε is an error term with the structure $\varepsilon_{it} = \mu_i + \delta_{it} + v_{it}$, where μ is province-fixed characteristics, δ_{it} is province-specific time trend, and *v* is the random error.

The *MPC* vector includes a range of variables proxying the composition of motives and skills of the legislators and their ability to remain close to the relevant offices to extract pork. To re-iterate our hypothesis, MPs in Turkey, despite the CLPR rule, can still exert influence in the allocation of public investments into electorates. To the extent that i) seniority, ii) gender, iii) education level, iv) area of tertiary degree, v) former profession, and vi) foreign country experience measure the legislators' proximity to the offices of the PM, the ministers, and the PBC chair, these individual MP characteristics can proxy their political influence.[17] To measure their composition in an electoral district, we compute the share of these attributes in the overall MP body for a district. A wide range of bachelor degree areas, such as law, political science, economics, medicine, and engineering, tests whether formal education in a certain field is associated with more lobbying. Former professions are also employed along similar

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[17] Golden and Picci (2008) employ average seniority, the ratio of more to less educated, the male-to-female ratio, and the ratio of professional politicians to others to measure individual legislator characteristics.

lines, including former governor, undersecretary, farmer, academic, CEO, contractor, businessman, and economist/banker roles.[18] Foreign country experience captures the trait of having experienced the outside world.[19] Whether this trait converts into promoting allocations according to economic principles is an empirical question.[20]

LEADER consists of binary variables showing whether the district hosts the seat of i) the PM, ii) any minister, or iii) the PBC chair. These agents may favor their own electorates given the dominant role of the Cabinet and the ruling parties in investment allocations under CLPR.

PR includes party strength in the electorate, specifically i) the strength of the governing party/parties; ii) that of the largest opposition party; iii) that of the other (smaller opposition) parties; iv) the government's relative strength (governing party/parties strength minus that of the largest opposition); v) the representative strength of left- vs. right-wing parties, vi) the fractionalization of political preferences, and vii) the voter turnout rate. These variables test not only the prominence of the ruling parties and the Cabinet in investment allocations under the CLPR rule but also the role of voter preferences and the ideological leaning of the constituencies in attracting public investments. The variables are employed in alternate specifications to prevent multicollinearity. The government's relative strength is used to test how the competition faced by the governing party/parties affects public investments. As noted in section 2.1, ruling parties have strong informational advantages in pork barreling over the

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[18] We have eliminated professions such as lawyer, doctor, teacher, priest, and engineer, because they are directly related to the area of the bachelor's degree, i.e., law, medicine, education, theology, and engineering, respectively (correlations range between 0.70 and 0.90). Multicollinearity among the bachelor's degree areas and professions otherwise utilized in the models appears to be low, with correlations generally hovering around 0 to 0.10.

[19] This experience generally includes a master's/PhD degree abroad, but it also includes exploratory visits that are long enough to be deemed worthy of mention in the MPs' CVs.

[20] Econometrically speaking, a range of MP characteristics in the specification helps us proxy what would normally be omitted variables due to unobserved MP traits such as ability, entrepreneurship, and risk-taking attitude.

opposition. However, if the government faces competition from the opposition in a given province, it may keep public investments flowing to prevent seat losses in that electorate (see Arin and Ulubasoglu 2009 for privatization).

Note that the variables gauging the provincial strength of parties are based on two different indicators: parties' vote shares in the electorate and the number of MPs representing the province in the parliament. The primary motivation behind adopting the latter is that strength based on vote share does not exactly map into parliamentary representation due to the seat allocation rule (D'Hondt) in Turkey. A second reason is that while vote shares are determined every four or five years in elections, presence in the parliament can enable the MPs to engage with the budgetary process annually.

Returning to the *PR* vector, the fractionalization of political preferences and the voter turnout rate in a given province test whether and how political cohesion in a province affects public investments. Provinces where political preferences are aligned with the governing party/parties may be favored if the allocations are made according to core support or neglected if they are made with respect to opposition support. Conversely, electorates with dispersed preferences may be allocated more investments given that they may be considered as swing. A lack of political cohesion may also mean that the MPs of those provinces are less likely to able to lobby collectively, and therefore, such electorates may attract fewer projects. All of these factors suggest that the link between political cohesion and the amount of public investment is an empirical question. Analogous to the distinction made above, fragmentation in provincial political preferences is measured by fractionalization in the vote shares of each party and in parliamentary seats. The voter turnout rate (in the previous election) tests whether expressing political choices over the electoral ballot affects the levels of public investment. Various afore-

mentioned motives underlying voter turnout, as well as the turnout rate itself, may force the government to pay special attention to such electorates (see also Smart and Milligan 2005).

Turning to the government-related variables, the *GOVT* variable denotes, in alternative models, i) coalition vs. single-party government and ii) left- vs. right-wing government in year *t*. The core hypothesis here is that the Cabinet is a prominent actor behind the investment decisions and that its type may play a role in the allocations. It is expected that single-party governments can overcome the consensus problem and thus make more investments. However, coalition governments, despite better reflecting the popular opinion, may not necessarily be able to agree on projects. In the absence of agreements, projects may disappear from the scene altogether, resulting in fewer investments. One may plausibly counter, however, that the coalition parties, instead of fighting, may opt to please each party's constituency and, hence, may pragmatically allow all of the proposed allocations. The net effect is an empirical issue.

The Cabinet may also exhibit ideological bias in the allocation of investments. Right- vs. left-wing denomination captures the partisan approach to resource allocation. Right-wing governments are believed to place greater emphasis on economic development with a pro-capital attitude, while left-wing governments are pro-labor and possess a redistributive stance. The relative effect of this contrast on public investments is an open question. We utilize the interaction terms between the right- vs. left-wing government and the provincial representation of right- vs. left-wing parties to examine electoral district targeting based on ideology.

Finally, EF_{it} includes i) provincial population and GDP, ii) prioritized development province indicator (binary), and iii) dummy variables indicating whether the country had a financial crisis or an election in year *t*. Economic determinants of regional allocations typically follow a government's planning problem that is based on efficiency-equity grounds, generally

providing solutions that depend on regional population and income.[21] Thus, population and income in a regression capture the economically optimum levels of investment into a district. Crucially, this modelling approach captures the *deviations* from economically optimum levels, which are likely to be due to political factors (Bordignon et al. 2001).

4.2. Econometric Methodology

Our baseline estimation methodology is OLS, with province fixed effects and province-specific time trends controlled. The fixed effects regression eliminates unobserved time-invariant effects related to provinces, thereby addressing selection that occurs due to time-invariant factors underlying the economic and political determinants of public investments, such as geography, topography, and climate. The fixed effects regression can also address, if not entirely eliminate, slow-moving factors that are unlikely to change in the sample period (e.g., more liberal electorates produce highly educated MPs, which may, in turn, underlie the lobbying or permanent regional differences such as the socio-cultural and political factors associated with the Kurdish-dominated region).[22] Moreover, controlling for province-specific time trends isolates the long-term trajectory of both the dependent and independent variables, enabling us to capture the out-of-trend deviations specific to each province, thereby facilitating a more reliable attribution of the effects to the explanatory variables.[23]

We also take into account the cross-sectional dependence in public investments, given that investment in one electorate may affect the allocations into others. In terms of political factors, this is the very issue about pork: funds are taken away from one electorate and expended on another, given the budget. Additionally, the economies of the Turkish provinces

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[21] See Oates (1972), Castells and Sole-Olle (2005), and Cadot et al. (2006).

[22] However, the downside of the fixed effects approach is that it ignores the cross-province variation. We refer to the nature of pork barreling here: projects are attracted to a specific geographic constituency (Stein 1995). Hence, the relationship between public investments and political factors *within* a province over time is a more relevant variation in this setting.

[23] We do not control for year-fixed effects, instead we directly control for nation-wide shocks, such as crisis years.

are relatively conjoined, in that production, consumption, transportation investments are inter-linked. Formal tests of spatial dependence indicate the presence of the problem,[24] and our analysis therefore employs the Driscoll-Kraay (1998) standard errors. Our panel is balanced and contains a relatively large T compared to many other studies, indicating that the nonparametric correction to the time series covariance matrix estimator should be reliable.

We also check the robustness of our models with respect to the specification. The model of regional investment may involve a lagged dependent variable because most projects would be undertaken over a period of more than one year. We employ the system GMM estimator to estimate this possible model. In a series of analyses, while autocorrelation is generally not a problem, overidentifying restrictions turns out to be an issue. As a solution, we employ the long-difference estimator of Hahn et al. (2007). In this case, the overidentification problem is overcome if the differencing is done over four lags. We elect not to pursue the long-differencing approach for two reasons. First, differencing over four lags means that we lose several periods in the analysis. Second, the parliament and the government are likely to change over a four-year period. Thus, the consequences of differencing over that period are not clear in terms of the effects captured. The implication of not utilizing a dynamic term, conversely, is that the relationships captured are long term. That is, our models capture pork barrel projects in their entirety, rather than only certain portions undertaken in a given year.

5.   DATA

The public investment data have been compiled from public investment reports published by the State Planning Organization (SPO) for the period 1987–2004.[25] These

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[24] The tests are based on Pesaran, Frees, and Friedman-type tests and uniformly indicate the presence of spatial correlation in the models. Failing to account for the problem would provide overly-optimistic standard errors.

[25] Consistent data for province-level investment are available in the SPO's public investment reports for the period 1980–2004. However, province-level GDP data are only available after 1987, limiting our analysis to the period

investments are the provincial allocations into sectors such as education, health, agriculture, manufacturing, mining, construction, energy, transport, communications, and tourism, as funded by the central government. Project types include schools, hostels, hospitals, roads, power plants, and irrigation channels. Provincial GDP and population and the information on being a prioritized development province [26] are collected from the SPO and the Turkish Institute of Statistics (with the Turkish acronym TUIK). The individual characteristics of approximately 2,000 MPs are obtained from their CVs, which were published in the albums of the Turkish Grand National Assembly. Data on party vote shares and parliamentary seats are obtained from TUIK. Table 1 includes the variable definitions.

Of particular interest is the MP profile in the Turkish parliament. During the sample period, the average MP age was 47, and the average number of re-elections was 1.67. Two-thirds of the MPs had bachelor degrees. Of those, 22% studied engineering, 20% law, 18% economics, 10% medicine, 6% political science, and 5% theology. The MPs' former professions were 26% director in a public institution, 18% CEO, 15% businessman and contractor, 16% lawyer, 8% academic, 5% journalist, 5% farmer, and 2% imam/preacher. In addition, about 2% were female, while 87% of the MPs had no foreign experience.

6. EMPIRICAL RESULTS

6.1. Composition of Individual MP Characteristics in an Electorate

Table 2 presents the estimation results, indicating some very robust effects concerning the composition of individual MP characteristics in electoral districts as predictors of pork barrel activity.

1987–2004. The figures have been converted into real investments using the GDP deflator. The SPO also published another set of investment figures for the period 1999–2007 based on different project classification criteria and including the investments into multiple provinces. We elect not to use these data for theoretical reasons because pork barrel projects tend to be highly particularized for a specific constituency (Stein 1995).
[26] The feature of being a prioritized development province changes over time.

Average seniority. The regressions demonstrate that average seniority is significantly associated with higher amounts of public investments into an electoral district. Controlling for various factors, an average number of reelections for MPs in a district higher by one more legislative period is associated with 0.2%–0.3% more allocations annually into that district.

Average Age and Gender Ratio. Holding average seniority constant, age is estimated to be insignificant. However, this insignificance occurs because province-specific time trends in the specification capture most of the variation in age. Once these trends are removed, average age becomes a very robust predictor of pork barrel activity (unreported). Interestingly, a younger MP composition attracts more investments, suggesting that their reelection motive is stronger and leading them to be more engaged in lobbying for projects.[27] More female representation in a district is associated with more allocations, but this effect is generally insignificant. This lack of significance may reflect the patriarchal nature of Turkish society.

Education Level. It is widely held in the literature that more educated legislators are engaged in more pork barrel activity. Tables 2 confirms this conjecture. We find that districts that are strongly represented by MPs with master's/PhD degrees receive significantly more allocations (bachelor's education is the base). In contrast, those with a high school diploma attract significantly fewer investments. This result is also observed for holders of primary school education, but the coefficients are statistically insignificant.

Area of Bachelor's (Undergraduate) Degree. Both the education levels and the specific bachelor's areas are interpreted with respect to the base "other bachelor's degree areas". Our estimations show that stronger representation by MPs holding a bachelor's degree in theology or political science or, to some extent, in law is associated with lower levels of public

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[27] Unreported regressions show that an electoral district where the average MP age is 10 years younger receives about 0.3% more investments per year.

investments into a province. Playing with the base category in different models (unreported), it is found that an MP composition with engineering, economics, or medical degrees exhibit a higher tendency for pork barrel activity than does that with law, education, theology, or political science degrees. These results are not terribly surprising because engineering graduates might pursue roads and bridges; medical graduates might pursue hospital and other health-related investments; law graduates might be willing to see more rules-based allocations; theology and education graduates (e.g., former imams and teachers) might be passive actors of lobbying; and political science graduates might center their interests on different domains than public investments.

Former Profession. Electorates that are strongly represented by former governors are robustly and positively associated with higher levels of public investment. The associated coefficient shows that this particular feature is remarkably the strongest indicator of pork-barrel among all individual MP characteristics. Compared to other professions, being a former economist/banker, farmer, journalist, or merchant is associated with significantly higher levels of public investment in a district. In contrast, districts that are strongly represented by former contractors receive lower amounts of public investments. This finding may sound surprising, but it might suggest that former contractors may be involved with lobbying during the tender process rather than the allocation process or that these contractors may target nation-wide projects rather than projects for their own constituency. Finally, electorates represented more strongly by former academic, accountant, undersecretary, director in a public institution or CEO, are generally attract insignificantly different level of public investments.

Foreign Experience. Provinces that are strongly represented by MPs who have experience with living in foreign countries or visiting such countries for reasonably long

periods of time are robustly associated with lower amounts of public investments. This finding may indicate that such MPs find politically motivated factors counter-productive and do not pursue pork barrel activities.

Overall, this body of evidence constitutes a strong empirical support for the link between the CLPR electoral rule and pork barrel engagement.

6.2. Leaders

Turning to other prominent factors in pork barrel activity in Turkey, Table 2 documents that electorates that hold the prime ministers' seat are generally associated with higher levels of public investment. Where significant, this effect corresponds to a 0.3% higher annual public investment into the district. However, cabinet ministers and the chair of the PBC do not seem to be associated with a different level of public investments into their own electorates.

6.3. Provincial Representation

When investigating the effects of provincial representation, we first employ the provincial vote share of each party as the measure of local party strength. As noted in section 4.1, this metric is more likely to capture the supply side of pork barreling. Model 1 in Table 2 shows that the central government allocates higher amounts of public investment into provinces that strongly support the government parties vis-a-vis opposition parties, and Model 2 reports that provinces that have greater support for (smaller) opposition parties (i.e., those other than the major opposition party) receive more allocations compared to those that support the government parties. This finding suggests that governments might be considering the voters of the largest opposition party to be a difficult group to attract and that the supporters of the smaller opposition parties can be easier to manipulate such that higher investments into those electorates may be rewarding. Model 3 shows that the government's relative strength in

the province (i.e., the vote share of the government parties minus that of the major opposition) is not significantly related to the amount of allocations. This result is anticipated because a larger gap between the government parties' vote shares and that of the major opposition party may lead the government to believe that their votes in that province are relatively secure (see, however, our related finding below based on MP shares). Model 4 shows that while political cohesion based on vote share fractionalization is not significantly related, voter turnout is a strongly significant and positive predictor of the amount of allocations.

Using provincial representation in the parliament as the measure of local party strength, the principal finding is that the major opposition party is associated with lower amounts of investment compared to governing and smaller opposition parties (Models 5 and 6). In a similar vein, a larger gap between the parliamentary seats of the governing and major opposition parties for a given district results in a higher amount of allocations into that district (Model 7). These findings seem to suggest that MPs of the governing parties use their informational advantages to extract more investment allocations overall, compared to the major opposition MPs. Finally, as found above, MP fractionalization is insignificant, but turnout rate is positive and strongly significant (Model 8).

An important conclusion that can be drawn from these results is that the government targets core and smaller opposition constituencies by allocating more public investments into those electorates. However, this finding does not answer whether the type of government, such as right- vs. left-wing, makes any difference to public investments or whether the government targets any group based on partisanship ties. These questions are explored below.

6.4. Type of Government

Focusing on the type of government, Table 2 shows that cabinets with stronger right-wing tendencies are associated with uniformly higher amount of public investments across the country. Although the statistical significance of this effect is slightly beyond the conventional levels in most models (see below, however), where significant, our estimates imply that a government fully composed by right-wing parties would make a 0.6% higher investment in a given year across all provinces.

Table 3 keeps the same specification as in Table 2 but changes the type of government to a coalition cabinet. Table 3 documents a robust and statistically significant difference between coalition and single-party cabinets in that, across a range of specifications, single-party governments make uniformly more public investments across all electoral districts. This difference is estimated to be in the order of a 0.3% higher investment in a given year. Table 3 also shows that when the government type is defined as coalition vs. single-party, other GOVT and PR-related variables retain analogous effects as in Table 2. The only exception is that the political cohesion based on vote share is associated with negative amounts of investments.[28]

6.5. Ideological Bias

Next, we analyze ideological bias in Table 4 by adopting interaction terms between the right-wing government indicator and provincial representation in otherwise analogous model specifications as before. In addition to parties with well-defined ideological leanings of right- vs. left-wing, our dataset includes small parties whose leaning is undefined (with a mean vote share of 9% in our sample). Using vote shares to measure party strength, Model 1 yields

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[28] All other results regarding *MPC*, *LEADER*, and *EF* are qualitatively and mostly quantitatively analogous to those in Table 2. As our preliminary analysis indicated nonlinearity for voter fractionalization and government's relative strength, their quadratics are added to the model (our analysis indicated no other non-linearity in Table 3 or 2). However, the non-linearity for these two variables seems to arise due to a few outliers in their distribution. Hence, the linear term predominantly explains their relationship with the dependent variable.

$$\frac{\partial \ln(inv)}{\partial Rightwing\_Govt} = 0.653 + 1.197 * Voteshare\_Right - 4.574 * Voteshare\_Undefined$$. With

strongly significant coefficients, this derivative implies that first, regardless of the political leaning in an electorate, a government composed of right-wing parties annually allocates 0.65% higher public investment. Second, all else being equal, right-wing governments' public investments into provinces tend to be higher with stronger rightist support in the electorate. Overall, considering the mean right-wing vote share of 65% (and that of undefined leanings to be 9%), a fully right-wing cabinet makes, on average, a 1% higher investment per annum to support its ideological constituency. [29] This result strongly confirms that right-wing governments provide core support based on ideological ties.

Model 2 offers another substantive finding. In an effect that is significant at 5%, right-wing governments allocate higher investments into electorates where ideological cohesion is stronger, as shown by the related interaction term between right-wing government and bi-partisan vote share (i.e., total right-wing share and total left-wing vote share) fractionalization. That is, right-wing governments target ideological strongholds, whether right or left.[30] Such a strategy is consistent with the twin objective of supporting the core ideological constituency and breaking up the opposition strongholds on the part of the right-wing governments.

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[29] With the maximum right-wing vote share of 91% in our sample (Rize province in 1995-1999), this amount increases to a 1.7% higher allocation per year. Consider also the derivative $$\frac{\partial \ln(inv)}{\partial Voteshare\_right} = 1.2 * Rightwing\_Govt$$. This derivative suggests that pure right-wing support does not attract investment into an electorate but does so only when the government is right-wing.

[30] The Turkish political landscape features more right-wing strongholds than left-wing. The former are typically in Central and Eastern Anatolia (such as Konya, Kayseri, Erzurum, Malatya, and Yozgat provinces), while the latter are in Western and North-Eastern Turkey (including provinces like Izmir, Mugla, Eskisehir, and Edirne). Some Kurdish provinces (such as Bitlis and Urfa) can also be considered right-wing strongholds, but this designation depends on which party the local feudal leader leans towards during an election.

Considering MP share to be a measure of party strength, Model 3 yields only weakly significant results on the core support based on partisan ties, but Model 4 strongly documents the ideological cohesion of parliamentary seats for an electorate matters for public investments. More specifically, the coefficients in $\frac{\partial \ln(inv)}{\partial MPFrac\_Wing} = -1.876 + 2.023 * Rightwing\_Govt$ imply that an ideologically cohesive (fractionalized) MP profile on the floor is associated with a lower (higher) amount of public investments under a left-wing government, whereas a fully right-wing cabinet nullifies this effect.

To summarize the evidence presented so far, right-wing governments target voters, specifically both the right-wing voters in any electorate, as well as the ideological strongholds. However, left-wing governments target neither the right-wing nor the left-wing voters. This finding may suggest that right-wing parties in the government hope to earn votes from any ideology, whereas left-wing parties may think that voters are already loyal ideologically, such that left-wing constituencies can be retained easily but right-wing votes cannot be attracted under any circumstance; thus, voter targeting is not something worth pursuing.

6.6. Economic Factors

Table 2 shows that among the economic factors, the population of a province is the most important factor related to the level of provincial public investment. Our estimates imply that an increase in the provincial population of 1% increases the annual public investment by up to 1.7%, depending on how political factors are defined in the model. An additional important factor is the crisis year. Crisis years are uniformly negatively related to the level of public investments across the provinces (note that crisis year is a national variable). Crises seem to hamper the allocations by approximately 0.2% across provinces in the relevant year. Likewise, the income of the province is negatively related to the level of public investment, but

this effect is significant at only approximately 20%. The negative coefficient may imply that as provincial income increases, private sector investments become more prominent. Prioritized development province is estimated using uniformly positive coefficients, implying that such provinces annually receive 0.2% higher allocations from the central government; however, the effect again falls short of being significant. Finally, there is no statistically significant evidence for a change in public investments across all districts during election years.[31]

Appendix A1 reports the results only with economic factors ignoring the political factors and using a range of error term assumptions (i.e., pooled regressions, and fixed effects regressions without and with Driscoll-Kraay standard errors). Focusing on columns (8) and (9) that adopt comparable fixed effects regressions to Table 2 where cross-sectional dependence is accounted for, we find that identifying statistically significant effects of log population and crisis years are only possible when political factors are modeled in the regression.

6.7. Sensitivity Checks

In unreported regressions, we conducted several robustness checks. These include repeating the estimations by excluding the three major cities (Istanbul, Ankara, and Izmir) from the sample, by removing each of the seven geographical regions one at a time to observe whether any region is driving the results (including the provinces of the Kurdish-dominated south-east), and by excluding the top and bottom 10% of the investment observations in case of outliers. None of these perturbations alter the main thrust of our findings regarding political factors.

7.   CONCLUSIONS

Following a series of examinations centered on the US, theories of distributive politics have recently been applied to other countries. Common topics of analysis across both US and

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[31] It is possible that the election period features a greater increase in transfer and personnel payments that is in line with the opportunistic political business cycles theory, rather than projects that are subject to pork barrel. Note also that we are looking at particularized investments only and therefore ignore multiple-province investments.

non-US settings have included party- vs. individual-based incentives in the pursuit of pork barrel activities, the link between electoral rules and pork barrel activity, partisan/ideological bias in the allocation of investments, and support for core vs. swing voters in public investments.

This paper investigates distributive politics in the context of Turkey. Using an unusually rich panel data set that covers the detailed individual attributes of nearly 2,000 MPs over the five legislative periods during 1987–2004, as well as an array of political and economic variables across 67 electorates, the paper makes three important contributions to the literature. First, this paper is one of the first to analyze pork barrel politics under a closed-list proportional representation (CLPR) electoral rule, which Turkey implements. Several arguments posit that, in contrast to other electoral rules such as the single-member district or open-list proportional representation, in which legislators have strong incentives to garner personal votes, the CLPR is associated with weak pork barrel activity due to party or leader domination in investment allocations and nomination of the MPs for elections. We hypothesize that the underlying motive of legislators in pursuing pork, i.e., reelection, is not less prominent under the CLPR electoral rule. The paper utilizes the individual characteristics of approximately 2,000 distinct Turkish MPs in a model of provincial public investment to empirically test the existence of pork barrel under the CLPR rule. The second contribution of the paper is to explore government-related incentives and ideological ties in pork barrel. These explorations include an examination of the behavior of single-party vs. coalition governments, right- vs. left-wing dominated cabinets, and core vs. opposition support in public investments. Finally, the analysis of Turkey itself is important. Little is known in the formal academic

literature about the parliamentary landscape and the legislator nomination process in Turkey, a traditional Western ally that could suffer from zigzags in domestic and international relations.

Controlling for economic factors, political factors appear to be extremely important in the allocation of public investments into electorates in Turkey. We obtain several conclusive results. First, the composition of legislator characteristics in an electorate such as seniority, education, and former profession, is documented to be significantly related to the amount of public investments into their electorates. Thus, our hypothesis as to the presence of pork barrel activity under CLPR is supported by the data. Second, single-party (vs. coalition) governments are found to make uniformly more investments across electoral districts. Third, a stronger right-wing (vs. left-wing) representation in the cabinet results in more provincial investments across the country, but with proportionately more allocations made to right-wing constituencies. Additionally, electorates with *smaller* opposition constituencies are targeted with more allocations. Electoral districts where the largest opposition party is stronger are not targeted. Finally, we find that politically fractionalized electorates and those with higher voter turnout rates attract higher levels of public investments.

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Table 1. Variable Names and Definitions	
Variable Name	**Variable Definition**
EF: Economic Factors	
Log Population	Log population of the province
Log GDP	Log GDP of the province
Prioritized Development Province	1 if a development priority province, otherwise 0
Crisis Year	1 if country in crisis, otherwise 0 (national variable)
Election Year	1 if country has election, otherwise 0 (national variable)
LEADER: Leaders	
Prime Minister Seat	1 if the prime minister represents the province, otherwise 0
Minister Seat	Number of ministers representing the district
Chair of the Planning and Budget Commission	1 if the chair of the planning and budget commission represents the province, otherwise 0
GOVT: Type of Government	
Coalition Government	1 if the government is a coalition government, otherwise 0 (national variable)
Right-Wing Government	Share of ministries held by right-wing parties in the government (national variable)
Left-Wing Government	Share of ministries held by left-wing parties in the government (national variable)
PR: Provincial Representation	
Government's Relative Strength in a Province	Two measures: 1. The total vote share of the government party (parties) in the province minus the vote share of the major opposition party in the province; 2. the same with the share of MPs in total number of MPs in the province
Representative Strength of a Party in a Province	Two measures: 1. party's vote share in the province in the previous elections; 2. the number of MPs of the party in the province, as obtained in the previous elections.
Right-Wing Representation in a Province	Two measures: 1. total vote share of right-wing parties in the province; 2. share of right-wing MPs in the total number of MPs in the province
Left-Wing Representation in a Province	Two measures: 1. total vote rates of left-wing parties in the province; 2. share of left-wing MPs in the total number of MPs in the province
Voter Fractionalization in a Province	Two measures: 1. Herfindahl index obtained from vote shares; 2. Herfindahl index obtained from the share of MPs out of the total number of MPs
Voter Turnout Rate	The rate of participation in previous elections
MPC: Individual MP Characteristics (*all the MPC characteristics below except the first three are utilized in the regressions as "share in total number of MPs" to represent the composition of MPs in the province***)**	
Female/Male Ratio	Ratio of female to male legislators in the province
Average Seniority	Average number of re-elections in a given legislative period (considering also individual reelection histories of the MPs before the sample period)
Average Age	Average MP age in the province
Education Level	Primary School, High School, University, Master's/PhD Graduate
Area of Bachelor's Degree	Theology, Law, Economics, Political Science, Medicine, Education, Engineering, Other
Former Profession	Former Businessman, Academic, Contractor, Journalist, Farmer, Economist/Banker, Accountant, Governor, Undersecretary, CEO, Director in the Public Sector, Other
Foreign Experience	1 if been abroad for reasonably long, otherwise 0

	Right-Wing vs. Left-Wing Governments							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Dependent Variable: Log(Provincial Public Investment)							

MP Composition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Avg. Seniority	0.192**	0.185**	0.166*	0.112*	0.157*	0.144*	0.150*	0.106*
	(2.305)	(2.204)	(1.860)	(1.781)	(1.897)	(1.805)	(1.766)	(1.844)
Average MP Age	-0.00495	-0.00592	-0.00103	-0.00388	0.00278	0.00153	0.00250	-0.00394
	(-0.770)	(-0.900)	(-0.152)	(-0.594)	(0.393)	(0.190)	(0.392)	(-0.536)
Female/Male Ratio	0.472	0.417	0.395	0.567*	0.301	0.268	0.273	0.516
	(1.375)	(1.237)	(1.056)	(1.759)	(0.800)	(0.681)	(0.711)	(1.565)
Primary School Graduate (SMP)	-0.238	-0.335	-0.226	-0.124	-0.320	-0.322	-0.334	-0.145
	(-0.589)	(-0.865)	(-0.577)	(-0.280)	(-0.837)	(-0.828)	(-0.878)	(-0.321)
High School Graduate (SMP)	-0.705**	-0.721**	-0.766**	-0.554*	-0.865**	-0.932***	-0.912***	-0.522*
	(-2.573)	(-2.566)	(-2.676)	(-2.036)	(-2.783)	(-3.069)	(-2.920)	(-1.787)
Master-PhD Degree (SMP)	0.721***	0.573***	0.748***	0.735***	0.768***	0.697***	0.732***	0.683***
	(4.891)	(3.735)	(4.706)	(5.340)	(5.371)	(5.940)	(4.891)	(5.250)
Theology Graduate (SMP)	-1.580***	-1.595***	-1.566***	-1.289***	-1.471***	-1.508***	-1.478***	-1.308***
	(-4.731)	(-4.989)	(-4.686)	(-3.801)	(-4.345)	(-4.222)	(-4.490)	(-3.618)
Law Graduate (SMP)	-0.183	-0.382*	-0.138	-0.146	-0.132	-0.201	-0.169	-0.155
	(-1.013)	(-2.050)	(-0.681)	(-0.719)	(-0.627)	(-1.075)	(-0.806)	(-0.811)
Economics Graduate (SMP)	0.0720	-0.0472	0.0158	0.151	-0.0736	-0.123	-0.110	0.192
	(0.412)	(-0.247)	(0.0909)	(0.876)	(-0.427)	(-0.756)	(-0.639)	(1.120)
Pol. Sci. Graduate (SMP)	-1.016***	-1.164***	-0.962***	-0.680***	-0.905***	-0.956***	-0.925***	-0.693***
	(-5.068)	(-5.795)	(-4.431)	(-2.973)	(-4.430)	(-4.868)	(-4.196)	(-3.301)
Medicine Graduate (SMP)	-0.133	-0.241	-0.152	-0.190	-0.156	-0.241	-0.201	-0.202
	(-0.752)	(-1.295)	(-0.835)	(-1.031)	(-1.013)	(-1.700)	(-1.234)	(-1.148)
Education Graduate (SMP)	-0.105	-0.189	-0.133	-0.156	-0.178	-0.217	-0.204	-0.165
	(-0.434)	(-0.680)	(-0.516)	(-0.466)	(-0.629)	(-0.754)	(-0.703)	(-0.494)
Engineering Graduate (SMP)	0.443*	0.285	0.398	0.133	0.315	0.312	0.305	0.142
	(1.943)	(1.076)	(1.704)	(0.540)	(1.270)	(1.273)	(1.271)	(0.598)
Former Businessman (SMP)	0.536	0.437	0.587	0.668*	0.578	0.518	0.543	0.668*
	(1.466)	(1.182)	(1.568)	(1.765)	(1.531)	(1.434)	(1.460)	(1.819)
Former Academic (SMP)	-0.0729	-0.0403	-0.0937	-0.559**	-0.130	-0.108	-0.123	-0.559**
	(-0.249)	(-0.134)	(-0.333)	(-2.267)	(-0.463)	(-0.372)	(-0.428)	(-2.196)
Former Contractor (SMP)	-0.640**	-0.743**	-0.650**	-0.488*	-0.648**	-0.653**	-0.649**	-0.502*
	(-2.500)	(-2.863)	(-2.489)	(-1.773)	(-2.303)	(-2.352)	(-2.317)	(-1.810)
Former Journalist (SMP)	0.847**	0.644	0.817**	0.835**	0.734**	0.756**	0.737**	0.879**
	(2.453)	(1.711)	(2.407)	(2.705)	(2.333)	(2.266)	(2.383)	(2.756)
Former Merchant (SMP)	0.391*	0.305	0.438*	0.536**	0.521**	0.491**	0.516**	0.463*
	(1.834)	(1.375)	(2.040)	(2.269)	(2.329)	(2.140)	(2.344)	(2.108)
Former Farmer (SMP)	0.792**	0.907***	0.777**	0.496	0.773**	0.689**	0.726**	0.531
	(2.765)	(3.462)	(2.750)	(1.409)	(2.689)	(2.452)	(2.448)	(1.609)
Former Economist/Banker (SMP)	0.779**	0.589	0.750**	0.0927	0.716**	0.620**	0.661*	0.0438
	(2.450)	(1.576)	(2.265)	(0.387)	(2.297)	(2.154)	(1.986)	(0.183)
Former Accountant (SMP)	0.374	0.345	0.420	0.0215	0.453	0.449	0.454	-0.0448
	(0.837)	(0.802)	(0.978)	(0.0551)	(1.118)	(1.073)	(1.119)	(-0.117)
Former Governor (SMP)	1.824***	1.895***	1.785***	1.159**	1.732***	1.720***	1.719***	1.161**
	(4.226)	(4.321)	(4.119)	(2.503)	(3.908)	(3.916)	(3.930)	(2.650)
Former Undersecretary (SMP)	-0.0638	-0.189	-0.0522	-0.290	0.0410	0.0507	0.0600	-0.352
	(-0.168)	(-0.474)	(-0.130)	(-0.774)	(0.121)	(0.157)	(0.176)	(-0.894)
Former Director (Public) (SMP)	-0.139	-0.129	-0.141	-0.0120	-0.108	-0.170	-0.137	-0.0197
	(-0.742)	(-0.665)	(-0.725)	(-0.0515)	(-0.523)	(-0.806)	(-0.682)	(-0.0843)
Former CEO (SMP)	-0.0783	-0.0211	-0.0511	0.0617	0.0304	0.0477	0.0498	0.0848
	(-0.381)	(-0.110)	(-0.238)	(0.317)	(0.135)	(0.223)	(0.231)	(0.416)
Foreign Experience (SMP)	-0.578**	-0.447*	-0.607**	-0.389**	-0.562**	-0.549**	-0.549**	-0.347
	(-2.706)	(-2.054)	(-2.772)	(-2.314)	(-2.438)	(-2.619)	(-2.500)	(-1.739)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Leader								
PM Seat (1=Yes)	0.326**	0.240	0.266*	0.274**	0.210	0.193	0.196	0.333**
	(2.157)	(1.416)	(1.794)	(2.422)	(1.533)	(1.427)	(1.445)	(2.375)
Minister Seat (1=Yes)	0.00474	-0.0194	-0.00800	-0.0128	-0.0265	-0.0324	-0.0316	-0.0102
	(0.134)	(-0.508)	(-0.219)	(-0.462)	(-0.723)	(-0.916)	(-0.876)	(-0.381)
PBC Head Seat (1=Yes)	0.00314	-0.0471	0.0103	-0.00328	0.00364	-0.0341	-0.0176	-0.0150
	(0.0116)	(-0.174)	(0.0370)	(-0.0131)	(0.0131)	(-0.130)	(-0.0634)	(-0.0583)
Government								
Right Wing Govt.	0.566	0.346	0.684	0.581	0.663	0.670	0.662	0.603*
	(1.272)	(0.963)	(1.450)	(1.654)	(1.471)	(1.522)	(1.488)	(1.797)
Provincial Representation								
Govt Parties (VS)	-0.00577**							
	(-2.705)							
Main Opposition Party (VS)		-0.00640						
		(-1.164)						
Other Parties (VS)		0.0117***						
		(3.819)						
Govt's Rel. Strength (VS)			-0.000888					
			(-0.496)					
Voter Fractionalization (VS)				0.968				
				(1.222)				
Voter Turnout Rate				0.0476***				0.0450***
				(4.067)				(4.132)
Govt Parties (SMP)					0.217			
					(1.214)			
Main Opposition Party (SMP)						-0.335**		
						(-2.249)		
Other Parties (SMP)						-0.0482		
						(-0.181)		
Govt's Rel. Strength (SMP)							0.156*	
							(1.761)	
MP Fractionalization								0.0321
								(0.179)
Economic Factors								
Log Population	1.741***	1.796***	1.776***	0.864**	1.764***	1.724***	1.739***	0.932**
	(3.017)	(3.050)	(3.046)	(2.388)	(3.254)	(3.197)	(3.295)	(2.705)
Log GDP	-0.241	-0.220	-0.258	-0.146	-0.237	-0.253	-0.242	-0.149
	(-1.545)	(-1.594)	(-1.528)	(-1.030)	(-1.324)	(-1.422)	(-1.395)	(-0.993)
Prioritized Dev. Province (1=Yes)	0.326	0.310	0.284	0.0642	0.223	0.258	0.235	0.0792
	(1.139)	(1.255)	(1.011)	(0.230)	(0.841)	(1.002)	(0.853)	(0.292)
Crisis Year (1=Yes)	-0.201*	-0.159	-0.227*	-0.224**	-0.239*	-0.230*	-0.235*	-0.220**
	(-1.750)	(-1.404)	(-1.959)	(-2.561)	(-2.038)	(-2.025)	(-2.022)	(-2.555)
Election Year (1=Yes)	0.0205	0.0250	0.0203	0.0678	0.0323	0.0299	0.0327	0.0601
	(0.182)	(0.265)	(0.166)	(0.550)	(0.273)	(0.253)	(0.277)	(0.492)
Number of Observations	1,206	1,206	1,206	1,206	1,206	1,206	1,206	1,206
Number of Provinces	67	67	67	67	67	67	67	67

Province fixed effects and province-specific time trends are controlled in the regressions.
Base group for education and tertiary areas is Bachelor Degree in Other Areas, and for profession, Other Profession.
MP: Member of Parliament. VS: Vote Share in the province. SMP: Share of provincial seats in the parliament,
representing the composition of the legislators in the electoral district. PBC: Plan and Budget Commission.
Government's relative strength is the strength of governing parties minus that of the major opposition.
Driscoll-Kraay t-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	Dependent Variable: Log Provincial Public Investments							

Coalition vs. Single-Party Governments

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Dependent Variable: Log Provincial Public Investments							
Government								
Coalition Govt. (1=Yes)	-0.293***	-0.209***	-0.341***	-0.294***	-0.322***	-0.351***	-0.325***	-0.304***
	(-2.956)	(-3.738)	(-2.995)	(-3.998)	(-3.266)	(-3.820)	(-3.400)	(-4.039)
Provincial Representation								
Govt Parties (VS)	-0.00439*							
	(-1.831)							
Main Opposition Party VS)		-0.00679						
		(-1.250)						
Other Parties (VS)		0.0101**						
		(2.618)						
Govt's Rel. Strength (SMP)			-0.000836					
			(-0.345)					
Govt's Rel. Strength Sq. (SMP)			2.19e-05					
			(0.575)					
Voter Fractionalization (VS)				-7.926***				
				(-4.979)				
Voter Fractionalization Sq. (VS)				12.58***				
				(5.531)				
Voter Turnout Rate				0.0345***				0.0344***
				(2.967)				(3.288)
Govt Parties (SMP)					0.153			
					(0.841)			
Main Opposition Party (SMP)						-0.330*		
						(-2.036)		
Other Parties (SMP)						0.125		
						(0.454)		
Govt's Rel. Strength (MP)							0.221**	
							(2.565)	
Govt's Rel. Strength Sq. (SMP)							-0.195	
							(-1.502)	
MP Fractionalization								-0.235
								(-1.319)
Number of Observations	1,206	1,206	1,206	1,206	1,206	1,206	1,206	1,206
Number of Provinces	67	67	67	67	67	67	67	67

Province fixed effects and province-specific time trends are controlled in the regressions.

MP: Member of Parliament. VS: Vote Share in the province. SMP: Share of provincial seats in the parliament, representing the composition of the legislators in the district. Government's relative strength is the strength of governing parties minus that of the largest opposition (based on the number of MPs). MP Fractionalization is the Herfindahl-type fractionalization index based on the number of MPs in a province. Driscoll-Kraay t-statistics in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Coalition Gov't is a national dummy while all other independent variables vary by province and year.

Output suppressed: MP composition in the province, leaders' seat, and economic factors are all included in the regressions.

Table 4. Ideological Bias in Public Investments (18., 19., 20., 21. and 22. Legislative Periods)

	(1)	(2)	(3)	(4)
	Dep. Var.: Log Provincial Public Investments			
Government				
Right Wing Govt.	0.653**	-0.769	0.00360	-0.973**
	(2.242)	(-1.261)	(0.00525)	(-2.219)
Ideological Bias				
Right Wing Vote Share in Province	-0.687			
	(-1.469)			
Undefined Wing Vote Share in Province	3.990***			
	(3.838)			
Right Wing Govt*Right Vote Share in Province	1.197***			
	(3.447)			
Right Wing Govt*Undefined Vote Share in Province	-4.574***			
	(-4.938)			
Voter Fractionalization (Wing)		-2.061		
		(-1.599)		
Voter Turnout Rate		0.0421***		0.0396***
		(4.709)		(4.088)
Right-Wing Govt*Voter Fractionalization (Wing)		2.698*		
		(2.108)		
Right-Wing (SMP)			-0.508	
			(-1.174)	
Right-Wing Govt*Right-Wing MPs			0.933	
			(1.628)	
MP Fractionalization (Wing)				-1.876***
				(-4.227)
Right-Wing Govt*MP Fractionalization (Wing)				2.023***
				(3.226)
Number of Observations	1,139	1,206	1,206	1,206
Number of Provinces	67	67	67	67

Province fixed effects and province-specific time trends are controlled in the regressions.
Driscoll-Kraay t-statistics in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Right-wing Govt is the share
of ministries held by right-wing parties in the government (national variable)
Voter Fractionalization (Wing) is a Herfindahl index of fractionalization of total right-wing vote shares
and total left-wing vote shares in an electoral district. Undefined Wing: Neither right, nor left-wing ideology.
MP Fractionalization (Wing) is a Herfindahl index of fractionalization of total right-wing MP seats
and total left-wing MP seats in an electoral district.
Output suppressed: MPC, leaders, and economic factors are all included in the regressions.

Appendix Table 1. Economic Determinants of Public Investments

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dependent Variable: Log Investment								
Log Pop.	0.499***	0.499***	-0.288	-0.236	0.133	0.499**	0.499**	-0.288	-0.236
	(5.382)	(5.346)	(-1.081)	(-0.887)	(0.487)	(2.560)	(2.648)	(-0.684)	(-0.519)
Log GDP	0.459***	0.459***	-0.554***	-0.668***	0.856***	0.459**	0.459**	-0.554	-0.668
	(6.103)	(6.046)	(-4.244)	(-4.954)	(3.662)	(2.446)	(2.582)	(-1.290)	(-1.474)
Prioritized DP	0.236***	0.235***	0.115	0.113	0.593**	0.236*	0.235*	0.115	0.113
	(3.034)	(3.015)	(0.816)	(0.799)	(2.465)	(1.741)	(1.844)	(0.532)	(0.510)
Crisis Year		-0.0349		-0.208***			-0.0349		-0.208
		(-0.469)		(-3.532)			(-0.201)		(-1.376)
Election Year		0.0745		-0.0102			0.0745		-0.0102
		(1.084)		(-0.191)			(0.352)		(-0.0647)
Constant	-6.058***	-6.070***	13.49***	13.85***	-4.887**	-6.058***	-6.070***	13.49***	13.85***
	(-8.559)	(-8.570)	(4.385)	(4.520)	(-2.552)	(-6.472)	(-6.442)	(4.813)	(5.283)
Observations	1,206	1,206	1,206	1,206	1,206	1,206	1,206	1,206	1,206
R-squared	0.365	0.365							

Pooled Estimation		Fixed Effects		Between Effects	Pooled Driscoll-Kraay Std. Errors		Fixed Effects Driscoll-Kraay Std. Errors	

t-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Prioritized DP is a dummy indicator for Prioritized Development Province and varies by province and year.
Crisis Year and Election Year are national indicators.