State Capacity and Political Participation:

The Long Shadow of Ottoman Legacy[1]

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This draft: December 17, 2021

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Abstract

What are the historical legacies of the early 19th century on state modernization and capacity-building efforts, and did they produce any unintended consequences? We focus on the Ottoman *Tanzimât* reforms –an attempt to modernize the bureaucracy and build fiscal (and military) state capacity following the Napoleonic paradigm– and explore their legacy on political participation in the modern Greece. We first show that the presence of an Ottoman administrative headquarter (*sanjak*) –the basis of the *Tanzimât* reforms– within current Greek NUTS-3 regions is associated with higher levels of public sector employment even to this day. We then exploit the retrospective revision of Greece's past public finances in 2010 as a natural experiment; this changed voters' expectations about future public sector job creation *differentially* across high and low public sector regions, leading to a larger decline in the turnout in the former. We link this differential decline in political participation to the Ottoman legacy of bureaucratic reforms as this effect is driven by those NUTS-3 regions that used to host Ottoman administrative hubs. We provide suggestive evidence of a possible mechanism based on voters' ego-tropic motivations: the expectation of deeper public spending cuts (due to the surprise revelation of past deficits) weakened the historically strong party-voter linkages (dating back to the 19th century) and reduced political participation. In contrast, we find no evidence that other socio-tropic factors can account for the differential change in the turnout across the two groups of regions. Our findings highlight that, in addition to civic-duty motivations, electoral participation and political engagement is also a strategic decision driven by ego-tropic motivations (at least for some voters). The normative implication is that higher voter turnout need not always be a sign of a robust and functioning polity.

Keywords: imperial legacy, Ottoman reforms, party-group linkages, state capacity, turnout

1 Introduction

Empires used to be common-place and, given that they were usually autocratic, did not hesitate to leave a long-lasting mark on the lives of their subjects. Historically being multi-ethnic and heterogeneous structures, they have striven to build centralized state capacity and institutions. As a result, imperial institutional structures have had many effects and left legacies that carry over to the present day: from growth and trade (see e.g., Gokmen et al. 2020) to economic development (Dalgaard et al. 2018, Grosjean 2011a), and even the cultural transmission of norms and values (Becker et al. 2016, Grosfeld and Zhuravskaya 2015, Grosjean 2011b). But how do such multi-ethnic structures affect contemporary political outcomes? Does their impact live to this day in politics and attitudes relevant to politics? What are their historical legacies, if any, when it comes to civic engagement and political participation? Or, in other words, how likely is that current symptoms of democratic backsliding (e.g., patronage, clientelism and the decline of civic capital) are due to historical persistence?[1] Answering these questions matters –even more so today– because civic engagement and voter participation is linked to key outcomes, such as economic performance (Mueller and Stratmann 2003) or the quality of democratic institutions.

The degree of civic engagement in formal political processes and the level of voter participation in elections are key to determining both the degree of democratic legitimacy and performance of a polity (Blais 2005) and also influence the quality of political institutions and governments alike. Yet, what drives voters to participate is still an open question, both theoretically and empirically. Is voting simply a habitual behavior (Aldrich and Montgomery 2011), or do economic conditions play a significant role (Kinder and Kiewiet 1979; Rosenstone, 1982; Kiewiet 1983; Kinder et al. 1989) in determining whether citizens will show up in the voting booths? Moreover, if economic conditions do play an important role in determining voter turnout, what is the link through which they operate? For instance, is it via trust (Hansen and Rosenstone, 1993) or via the "strong party-group linkages" (Powell 1986, p.21-22) and the strategic behavior of voters and parties?

More broadly, there is a key distinction between *ego-tropic* –which are mostly, if not exclusively, economic (e.g. Fiorina 1981)– and *socio-tropic* motivations that drive civic participation and

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[1] Becker et al. (2016) find that trust is higher, and corruption is lower in the areas that belonged to the Habsburg Empire. In contrast, Grosfeld and Zhuravskaya (2015) document that none of the three empires that had divided Poland made a difference to modern trust or corruption but they do find differences in beliefs in democratic ideals.

engagement with politics (e.g. Kinder and Kiewiet 1981). As a result, exploring the impact of economic shocks on voters' socio-tropic and ego-tropic motivations to vote in elections and identifying the links through which they operate can have important implications to understanding what drives electoral participation and civic engagement in a democracy. Moreover, it can have some implications in the design of policies aiming at increasing the level of voter participation in electoral processes. Especially in advanced industrialized democracies, which exhibit a declining trend in voter turnout, the exploration of those links can shed some light on declining civic engagement in electoral politics.

In this paper, we focus on the long-term impacts of Ottoman institutions of the 19th century, namely, those of military district headquarters, *sanjak*s, in the newly conquered areas in the Balkans. Greece gained its independence from the Ottomans in 1830 and went on to expand gradually at the expense of the Ottoman Empire up until the early 20th century. Given its resource constraints, the pre-existing administrative infrastructure was mostly kept intact, which motivates our interest in studying the legacy of *sanjak*s. We are primarily interested in the impact that these early institutional reform efforts and attempts to build a Western-inspired bureaucratic capacity –to transform a multi-ethnic empire into a modern (bureaucratic) state— have had on contemporary political outcomes (see e.g. Charnysh 2015; Johnson and Koyama 2017). That is, we study the long-run impact of imperial state capacity building (see e.g. Cantoni et al. 2019).

In the early 19th century, Ottomans introduced large-scale administrative reforms (*Tanzimât*), inspired by the Napoleonic Code, as an attempt to catch up with the Western military powers of the time. The goal was the ability to limit their escalating interference in the affairs of the Empire, especially in its European provinces. This ambitious project was a military-induced modernization effort to build an up-to-date, European-inspired, and centralized bureaucratic machinery and to break away from the pre-existing feudal structure, which was linked with the gradual decline of the Empire that had seen its position weaken vis-à-vis its Western competitors. In competing with the old, local (feudal) power structures (*Millet* system) over the loyalty of a heterogeneous population, the newly founded bureaucracy had to cultivate the linkages between its subjects and itself (e.g. through the provision of targeted goods) in order to increase the legitimacy of the central administration and, consequently, the Ottoman rule. An important consequence was the expansion of the public administration and the growth in state capacity, which also resulted in the provision

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of rents in these local hubs.

These Ottoman structures largely survived in the independent Greece since, being very resource-constrained, it heavily utilized the pre-existing administrative structure, essentially directly inheriting the administrative and civil service structures from the Ottomans (see e.g. Kostis 2005). Greece remained a poor country even after the independence, while the way it gradually acquired an increasing number of regions at the expense of the Ottoman Empire during the late 19th and early 20th centuries further reinforced administrative and institutional continuity.

Our analysis starts by documenting a substantial continuity in the regional variation in the importance of the public sector in the contemporary Greece: the modern era administrative regions that were the former *sanjak* locations still have higher levels of public sector employment (see Table 1). This could have a bearing on political outcomes because of the long-standing Greek practice of rewarding the voters of the winning party with public sector jobs (for a review see e.g., Matakos and Xefteris 2015).[2]

Next, we explore how this administrative legacy maps into a contemporary political outcome, namely voter turnout. We show that, in the 2010 election that took place after Greece's past fiscal deficit has been retrospectively revised by an EU audit (what we call an information shock), the voter turnout decreased substantially more in those NUTS-3 regions that used to host a *sanjak* headquarter within their current administrative boundaries (legacy effect). More specifically, we employ the differences-in-differences approach to document the differential effect that the fiscal shock had on the voter turnout in the former *sanjak* (i.e. "treated") areas –a legacy of the Ottoman state-building reforms that resulted in higher contemporary levels of public sector employment. Our main specification focuses on the so-called *intensity to treat* (ITT) effect based on the fact that *sanjak* headquarter presence within the current administrative boundaries of a NUTS-3 region is a very good predictor of treatment propensity.

We then explore two possible mechanisms that can account for this *differential decline* in the turnout. The first one relies on voters' *ego-tropic* motivations for political participation. There was an expectation that additional cuts in state capacity (and, hence, in the state's ability to distribute

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[2]A common practice followed until recently (which got out of hand in the 2004-2009 period) was to offer to local partisan supporters fixed-term, reversible public sector jobs whose renewal was contingent on re-election of the incumbent party. In this way, voters' and politicians' incentives were aligned, especially at the local level, thus making their contract (jobs for votes) credible. For a formal exposition of the argument see also Robinson and Verdier (2013).

rents) would have a larger impact on the districts where the local employment depended on public sector activity more heavily, which weakened local patronage linkages. As a result, in the areas where political participation is motivated relatively more by such ego-tropic considerations, this anticipated drying up of resources made voters more disengaged from politics and disincentivized voter participation in elections. The second one builds on voters' *socio-tropic* motivations. For example, information about fiscal malfeasance might have caused a decline in political trust which, in turn, might account for the lower voter turnout.

Nevertheless, the relationship between the public sector size and the strength of party-group linkages (and patronage networks) is not a straightforward one, especially since we are not able to measure their intensity directly. Hence, we rely heavily on a historical account that brings those links to the surface to study the link between Ottoman legacies of patronage and the intensity of contemporary party-group linkages. Then, to further focus on our mechanism, we put forward (and test) a series of alternative hypotheses that rely on socio-tropic motivations. By failing to find evidence in their favor, we conclude that our proposed mechanism (operating via party-group links) is the most likely one. Thus, we conclude that the legacy of the Ottoman administrative reforms made a difference to contemporary voting behavior by conditioning voters' response to the unanticipated fiscal shock. As a result, in the areas where political participation was motivated relatively more by ego-tropic motivations, the anticipated drying up of resources because of the fiscal crisis made voters relatively more disengaged from politics.

The implications of our findings regarding civic participation and the robustness of the democratic process are also equally complex: while socio-tropic motivations and political trust might still be key for explaining higher voter participation and engagement, ego-tropic motives, such as rent provision by the state via patronage networks, are also important drivers of turnout. Despite occupying a large part in the scholarly debate (see e.g. Citrin 1974; Rosenstone and Hansen 1993; Hetherington 1999; Powell 1982, 1986)[3], the relative importance of party-voter linkages (voters' ego-tropic motivations) as determinants of turnout is still an open issue. This paper presents suggestive evidence on the relative importance of such linkages (developed between voters and parties) in explaining electoral participation. Moreover, the absence of any meaningful effect of political

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[3]The literature on the determinants of voter turnout spans across decades and we do not attempt to provide a detailed account here. It suffices to stress that the distinction between ego-tropic and socio-tropic motivations for voter behavior occupies a central part in it.

trust (measured in various ways) on voter turnout –while, at the same time, ego-tropic motivations (in part an outcome of historical legacies) appear to be present– implies that, at least in the institutional context of Greece, such motivations are perhaps stronger than socio-tropic ones. As a result, high voter participation can be a signal of both democratic robustness and *simultaneously* backsliding.

Our work also contributes to the study of the Greek society and the role historical legacies have played in its shaping. Voter turnout in Greek elections (national and local) has always been very high, exhibiting little variation, until the public debt crisis struck the economy in 2010. This large economic shock also affected the *aggregate level* of trust in the party-system (see Figure A.1). Subsequently, the voter turnout also collapsed. Our work attempts to shed new light on the link that connects economic adversity and political participation via a historical lens. In doing so, it highlights the catalyzing role that party-group linkages traditionally played in the modern Greece and also assesses the relative strength of ego-tropic versus socio-tropic motivations in explaining political behavior.

Finally, our work joins a nascent literature that documents –albeit in a totally different context– the "double-edged"nature of early 19th century institutionalization efforts in other European countries (see e.g. Cirone 2020). Instead of cultural reasons, we document that clientelism and patronage arose as an *unintended* side effect of this modernization attempt. This also represents an additional new insight in understanding a key feature of the modern Greek state and society.

2   Literature Review

This study also fills in an important gap in the study of historical legacies of state capacity-building efforts and their repercussions on current nation state (for a similar argument, see also Cantoni et al. 2019). Empires that have been ethnically diverse institutions used to be common-place and due to their autocratic structure, they did not hesitate to leave a long-lasting mark on lives of their subjects. As a result, empires and their institutional structures have had many effects and legacies from growth and trade (e.g. Gokmen et al. 2020) to economic development (Dalgaard et al. 2018, Grosjean 2011a), and also the cultural transmission of norms and values (Becker et al. 2016; Grosfeld & Zhuravskaya 2015; Grosjean 2011b).

While we demonstrate how this severe adversity due to a fiscal crisis in Greece influenced the electoral turnout in Greece, we focus on the imperial legacy mechanism. In this way, we answer another important question and we show how civic engagement, political participation, and the quality of democratic institutions have been negatively influenced due to this historical persistence. Similar research had been conducted for understanding the legacy of Habsburg Empire; Becker et al. (2016) demonstrate how trust is higher, and corruption is lower in the areas that belonged to Habsburg Empire in their analysis of several Eastern European countries -that shared the common imperial institution for a century.

In contrast, Grosfeld and Zhuravskaya (2015) focus on Poland and document that none of the three empires that had divided Poland made a difference in trust and corruption; however they do find differences in beliefs in democratic ideals. In the existing literature on historical legacy, Charnysh (2015), and Johnson and Koyama (2017), they make connection between institutional reforms as state-building efforts and the contemporary political outcomes. Cantoni et al. (2019) also link fiscal capacity-building efforts in the Holy Roman Empire with economic growth and state survival. Similar to this literature, we elaborate a mechanism between the institutional reforms in the 19th century in the Ottoman Empire and the translation of these reforms into Greece's administrative infrastructure and thereby this state-building legacy on contemporary political outcomes.

3 Institutional Background

3.1 Link Between Modern-Day Public Sector Size and Ottoman Reforms

There is a close connection between the existence of an Ottoman military district (known as *sanjak*) head-quarter and the public sector size within the administrative boundaries of a current NUTS-3 region (*nomoi*). To understand why, we need to look at the early years of Ottoman presence in the Balkan peninsula. As Inalcık (1954) shows, the method of Ottoman conquest had two stages: an indirect one, where the aim was to establish suzerainty, and a direct one that eliminated native dynasties and applied the *timar* system, aiming at gradual assimilation.[4] The procedure after the conquest was as follows: first, the invading Ottoman army was withdrawn and small garrisons were

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[4] *Timar*s were distributed to the elite Ottoman cavalry aristocrats, thus imposing a feudal system of governance, much like in many European medieval states.

placed in fortresses of strategic *geographical importance* (*hisar-eri*) in order to minimize both the size of the occupying forces and the risk of resistance emerging from local population (an optimal on-the-spot allocation of military resources). For this reason, *timar*s that were stationed near such fortresses (*hisar-eri*) constituted the centers of Ottoman military and administrative command and later evolved into *sanjak* headquarters.

Despite the fact that *sanjak*s were chosen by Ottomans for military and geographical reasons, one could still worry (for the purposes of our argument) that the location choice could be determined by other factors, in particular by proximity to major economic resources. We elaborate why this is highly unlikely: Ottoman military headquarters within the region that constitutes the modern Greece were chosen by Ottomans for geographical and strategic reasons to serve the Empire's military needs and to maximize efficient allocation of military resources (Inalcık, 1954). However, the Ottoman elites did not take into account whether the conquered territories were part of an economic hub or not; instead, the most important factor in determining the pattern of *sanjak*s was the existence of former lordships and the pre-Ottoman feudal administrative structure (Imber, 2002, p. 185).

The Ottoman conquest method was based on maintaining pre-existing structures to a great extent while introducing changes only in a slow and non-revolutionary manner (Inalcık, 1954). This non-revolutionary method of conquest was maintained throughout the Ottoman history. In fact, *sanjak*s even preserved the names of dynasties that had ruled there before the Ottoman conquest, as well as the old administrative boundaries (Gök, Qasimov, and Kimya, 2021).[5] In addition to preserving names, the previous dynasties' administrative units and boundaries contributed to formation of *sanjak*s.[6]

In general, the *sanjak* formation pattern both in the Anatolian territories, and also in the European territories (that is, in Rumelia) of the Ottoman empire followed a similar pattern of capitalization of previous administrative legacy. For instance, in Rumelia, *sanjak*s retained the names

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[5]For example, *sanjak*s of Karesi, Saruhan, Aydın, Menteshe, Germiyan, Hamid and Teke reserved the names of the pre-conquest dynasties (Imber, 2002).

[6]For instance, the province of Konya was a merger of four different pre-Ottoman Anatolian Selcuk beyliks (small principalities): 1) Teke, 2) Hamidids 3) Karaminidis 4) Eshrefids. Each *beylik*'s administrative unit paved way to the creation of *sanjak*s. For example, the Teke beylik led to the formation of Sanjak of Adalia and Sanjak of Alaha while the beyliks of Hamidis and Eshrefidis provided the bases for the Sanjak Buldur and the Sanjak of Isparta. Finally, the Karamanidis beyliks provided initial setting for the creation for Sanjak of Konija, Sanjak of Nigded and Sanjak Ermenek.

of previous principalities, such as the Dukakin Sanjak in northern Albania that was reminiscent of the pre-Ottoman rule of the Dukagjin ('Duke John') clan. In addition to retaining territorial names, in Rumelia, Ottomans frequently kept former fief holders in power after the conquest of a particular territory (e.g. in Southern Albania the existence of Christian fief holders was recorded according to the 1431 cadastral survey). Thus, Ottomans sought to assimilate conquered territories via a mix of survivors from old regimes, new settlers, and deportees from other conquered regions (Imber 2002, p.186).

Moreover, conquered lands usually preserved their pre-Ottoman administrative boundaries and they were entrusted to a regional commander (*sanjak bey*) according to the size and importance of the region. In practice, *sanjak*s were the real administrative and military unit of the Ottoman Empire. Larger administrative units of the Ottoman Empire (*eyalet-i* and *vilayet-i*) consisted of several *sanjak*s put together.

The Ottoman conquest method sought to retain pre-existing structures without abrupt changes (Inalcık, 1954), which continued throughout the Ottoman history. In turn, this very high degree of administrative continuity between pre-Ottoman and Ottoman entities implies that *sanjak* boundaries –and, importantly, their capitals– survived without many changes throughout the centuries, and, hence, they are very unlikely to have been related to contemporary (i.e. 19th century) economic and social fundamentals (e.g. proximity to resources).

In the mid-18th century, technology developed during the industrial revolution began to make its impact on military and naval warfare (Kennedy, 1989). The uneven patterns of the industrial and technological change coupled with changes in the financial sector, triggered by increased industrialism, caused major shifts in the balance of power among great powers of that time (English, Austrian, Russian and Ottoman Empires). As a result, steam engines and machine-made tools gave Europe a decisive military advantage over less technologically and financially advanced empires (e.g. the Ottoman Empire, Russia). A consequence of the Industrial Revolution was that the United Kingdom became the unchallenged global superpower and threatened the Ottoman dominance in the Eastern Mediterranean region. By the late 18th century, the Ottoman Empire was rapidly losing some of its European territories. In the eve of the 19th century, the need for military modernization and re-organization became more obvious than ever before (Inalcık and Quataert, 1994).

In this challenging military and political context induced by the Western powers, the Ottoman

Empire needed to incorporate new reforms into her archaic administration and state capacity. Thus, Sultan Mahmud II initiated his reform program (*Tanzimât*) of centralization and westernization of the Ottoman military structures in 1826 (Inalcık and Quataert, 1994; pp. 761-69), and the *Tanzimât* period lasted until 1876. The *Tanzimât* reforms aimed to rejuvenate declining Ottoman institutions and to strengthen declining military forces. While the explicit reasoning was military, the main underpinning goal was to strengthen tax collection and build a centralized fiscal capacity to tackle external challenges.[7] The reforms were based on Ottoman intellectuals visiting Europe and European experts advising sultans. Ottoman Pashas (e.g. one of the most prominent ones, Resit Pasa), intellectuals went to Europe, especially to Paris, and introduced their newly acquired knowledge on French administrative design into the Ottoman institution. Equally, Western bureaucrats and military experts from France and Austria replaced Sultan's officials in charge of *sanjak* headquarters. These top-down reforms aspired to change societal structure and norms. As a result, the scope, the responsibilities, and the sheer size of the Ottoman state grew in an unprecedented manner. By the end of the 19th century, the state employed more than one million civil servants, a figure double what it had been half a century earlier (Quataert, 2005).

Successful military modernization and re-organization thus required significant state resources; this, in turn, forced Ottomans to improve their fiscal and administrative capacity so as to be able to finance and expedite their military re-organization. Yet the existing Ottoman administrative structure was not capable to deliver on this goal efficiently. Hence, while they still continued to serve the Empire's military needs to optimize the allocation of military resources (Inalcık, 1954), the role (and administrative function) of *sanjak*s changed drastically during the era of the reforms. As a result, in the localities chosen by the Ottomans as military headquarters of their feudal districts (*sanjak*), bureaucracy grew at a much faster speed and the number of civil servants in those regions grew very fast. At the end of the *Tanzimât* period, the sheer size and scope of Ottoman administration has grown enormously (Quataert, 2005).

While the *Tanzimât* reforms ranged from the military domain to education, we focus only on the reform of provincial administration that influenced the design of *sanjak*s in the 19th century. The 1864 Vilayet Law (Provincial Reform law) had paved the way to changes in provincial administra-

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[7]For a similar argument regarding the state capacity-building efforts in the Holy Roman Empire of the Germanic Nations as a response to external military threats see also Cantoni et al. (2019).

tion. Resit Pasa, one of the leading Ottoman intellectuals of 19th century, provided different levels of authority to provincial governors in line with their needs (Ulusoy, 2009). As a result, the provincial law, influenced by the French system of departments, was implemented. The law divided larger units into smaller ones within a hierarchical setting; hence larger units (*sanjak*s) were organized into *kaza*s, *nahiye*s, communes and villages (*köy*). In addition, this reform allowed the governor's office's separation into departments of civil, financial, police, political, and legal affairs (Ortayli, 1983). One of the motives of these administrative reforms was to remove disparities across different ethnic groups under the Ottoman Empire to prevent any potential rebellion. Another one was to link the periphery as firmly as possible to the center and to create a more efficient (centralized) tax collection system (Shaw 1975, p. 462).

The *Tanzimât* reforms failed to appeal to ethnically diverse societies under the Ottoman regime; however, these institutional reforms coincided with the independence of these ethnic groups that have been under Ottoman control for centuries. Among them, the newly formed Greek nation-state gained its independence from the Ottomans in 1830 but initially consisted only of Peloponnese and some islands. The country kept expanding throughout the 19th and early 20th centuries (1881-1913) at the expense of the Ottoman Empire by gradually annexing the seceding lands of the Empire.

Given the very primitive resources and administrative capabilities of the Greek state, the creation of a viable military machine and of an effective bureaucracy, once more, had to rely on pre-existing structures (Petropoulos 1968) In fact, the effort to organize the Greek state as a modern western state percolated from the top to bottom (Kostis 2005) much like in the case of Ottoman administrative reforms (Quataert 2005). Moreover, there was a large degree of institutional continuity between the new Greek state and the Ottoman empire (Kostis 2005; Petropoulos 1968). Hence, the nascent Kingdom of Greece built upon the existing infrastructure that was introduced during the *Tanzimât* reforms era which, for their most part, coincided with the expansion of the Greek state at the Ottoman's expense. The result of this process was for the Greek state to rely extensively on the administrative and institutional infrastructure built during the Ottoman era, sometimes changing only the names of the "old" institutions and administrative centers into Greek, but maintaining their previous functions, structure and (even) composition (Kostis, 2005).[8]

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[8]For example, the Ottoman-era *Assembly of Notables* became the new Greek Parliament, and it continued to be occupied by the same families.

An additional factor contributing to the continuity was that Greece relied on foreign powers regarding military and financial aid, infrastructure, and state-building. For the purpose of our analysis, it should be noted that both Ottoman administrative reforms and Greek state-building were inspired by the Napoleonic Code and were led by foreign experts. As a result, since the re-organization of the Ottoman state was taking place in parallel with the creation of the Greek state infrastructure, the Greek state relied on the same administrative and institutional structures –most of which were developed during the *Tanzimât* era– that it had inherited from the Ottomans.

Until very recently, scholarly studies on Greece and the formation of its nation-state have often overlooked the role of the Ottoman heritage in the creation of its institutions. Kostis (2005) argues that, while Greece adopted liberal Western institutions, it did not disconnect from the oriental past of the Ottoman era. He also adds that, even though there was a new institutional framework as a result of the Greek independence, the structures of power remain intact at the local level and took a highly complex form/status, characterized by patronage exchanges. As a result, the newly adapted Westernized institutions were nothing more than the old, pre-existing Ottoman institutions renamed. This very high degree of institutional continuity also implies that many Ottoman bureaucratic practices were transmitted to the newly formed Greek administration. Inevitably, this also included many practices (e.g. patronage links) relating to public finances and civil services.

In particular, Kostis (2005, p.31) highlights how retaining the tax policies –and the practices surrounding them– of Ottoman administration maintained the legacy of the Ottoman past, crystallized during the *Tanzimât* period, in the newly-independent Greece. The logic of Ottoman taxation (that continued in the Greek nation-state) was to collect an increasing amount of taxes from the pre-existing tax base rather than to spur the economic growth and to enlarge the tax base, which would have yielded more revenues, despite the poverty of the country. However, this is a zero-sum approach to taxation (and fiscal policy), so individuals had an incentive to seek rents, that is, to try to be among the few beneficiaries by becoming civil servants. Additionally, Greek parties had an electoral incentive to appeal to voters (locally) by promising them coveted civil service jobs, which allowed the patronage relationships to continue.[9]

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[9]Formally, in such situations characterized by low productivity, and where distributive politics are a zero-sum game, the provision of rents via public sector employment is the only credible strategy that "ties the continuation utility of a voter to the political success of a particular politician" (Robinson and Verdier 2013).

3.2 Political Dynamics in the Modern Greece

Since 1974, Greece has had a stable bipartisan political system dominated by two political parties (the centre-right New Democracy and the centre-left *PASOK*) which used to alternate in office. As a result, there were no coalition governments. The number of parties contesting elections and represented in the Parliament remained relatively stable over the years[10]. The two major parties (the *PASOK* and the New Democracy) would get around 80 percent of the votes. Moreover, voter turn-out ranged historically between 75 and 80 percent.

Apart from its bipartisan nature, another key characteristic of the Greek party-system is clientelism. Historically, patronage and clientelism were a defining feature of the political competition in Greece. But, even in the post-1974 (democratic) era, party-voter linkages remained a dominant feature of the party-system. For years, the two major parties used their influence in the administration to favor their clientele by offering public sector appointments and other privileges. Consequently, public sector appointments were primarily made according to the partisan affiliation and political favoritism, in a complete absence of meritocracy. The introduction of the independent *Supreme State Council for Personnel Selection* [Anotato Simvoulio Epilogis Prosopikou - ASEP] sought to stop the practice of viewing the public sector as the winner's electoral prize. But even after the introduction of the *Council*, numerous attempts to circumvent and curtail its jurisdiction were made.[11] In reality, the practice of non-meritocratic public sector appointments –and the resulting patronage relations– never subsided; it was simply transformed and dislocated from the central government to regional administrations, which acted as the long arm of central government (when politically aligned). Greek local authorities remained financially and politically dependent on the national political parties, which reduced the level of their autonomy to a simple mid-term ballot opportunity. Hence, partisan favoritism passed from elected MPs to elected local politicians (e.g. mayors and regional governors) but the clientelistic nature of the Greek political system remained largely unchanged.

In such a context, economic adversity, such as the one experienced during the European debt crisis, can affect electoral participation and voter turnout via trust or via rent-seeking expectations

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[10] In addition to the two major ones, there were on average three to four smaller parties. Their combined vote shares never exceeded 20 percent.

[11] For example, a series of legislative initiatives excluded SOEs and other forms of state-financed employment from the Council's purview.

mediated by party linkages, especially in the regions with a larger public sector, given that the chances of finding government employment are higher there. In the 2010 elections, there was a sharp, more than ten percentage point, decline in the voter turnout, and this also coincided with a large decline in trust (Figure A.1). Moreover, it appears that this decline was more substantial in the regions where the share of public sector of total employment was larger (Figure A.2). Hence, stylized evidence suggests that economic adversity, in the form of the debt shock, has had a differential impact on these regions. In this context, the European debt crisis that struck Greece and forced the state to engage in extensive public spending and public sector job cuts can be used to examine the impact of those cuts on voter turnout, both via ego-tropic and socio-tropic channels.

The revelation of the actual data on Greek public finances for the 2006-08 period occurred in the mid-2010. The first revision took place in the period from May-September 2009 and was related to the FY2009 deficit. In contrast, the second revision (May-September 2010) was mainly due to *falsified* information on the deficit of the Greek central government for FY2006-07 that the authorities had kept secret from voters and markets. Hence, the second revision was not an outcome of current political actions; it was retrospective as the deficits uncovered were dating back to 2006 and 2007. What was new was the public revelation of this information that occurred just days before the November 2010 elections. This is why we refer to this second revision as a pure *information shock* regarding past economic performance, which did not alter the current economic fundamentals. Hence, we can exploit the action of the Greek Government to misrepresent fiscal information and its discovery to identify the causal link that runs from expected spending cuts to electoral participation and voter turnout. This is because the retrospective revision of past fiscal performance constitutes a natural experiment –a pure information shock– that we can leverage for identification.

4   Data and Empirical Strategy

In this section we provide details on our data, our working hypotheses, and our empirical strategy. The main analysis takes place at the NUTS-3 level.

4.1 Data Description

The voter turnout, our key variable of interest, and other electoral data were retrieved from the Greek Ministry of Interior. Data on the voter turnout were reported at the NUTS-3 level while we aggregated it to the periphery level (NUTS-2). We have also supplemented our data on the voter turnout with a series of economic and socio-demographic variables at the NUTS-3 level for reasons of consistency with our main unit of analysis. Data on labor force composition as well as economic and socio-demographic characteristics at the regional level were retrieved from the EU Labor Force Survey (LFS) and the 2010 Eurostat Regional Yearbook. Data on regional unemployment rates were retrieved from the Greek statistical agency HELSTAT. Our sample spans from 1996 until 2010, but data on regional unemployment at the NUTS-2 and -3 levels are reported only starting from 1999.

In order to explore the legacy of the early Ottoman reforms for modernizing the state and its civil service on the modern-day levels of public sector employment in Greece, we need to exploit a critical component of that reform effort that will allow us to relate it to the institutional set-up during the Ottoman era and the modern Greek State in the early 19th century.[12] That is, we will use the presence of an Ottoman administrative district (known as *sanjak*) capital within the current administrative boundaries of a NUTS-3 region in Greece (prefecture or *nomos*) in order to see if it correlates with that region having a larger public sector size nowadays.

The data on trust come from the Eurobarometer surveys from 1996 and onwards. However, due to the small sample size for the Greek section of the Eurobarometer (approximately 1,000 individuals were surveyed periodically) and the large number of peripheries at the NUTS-2 level (12), disaggregation was not always possible. The resulting sample base at the NUTS-2 level would have been too small to conduct any meaningful statistical analysis. As a rule of thumb, we decided to merge any region with a sample size of less than 50 respondents with a neighboring one.[13] As a result, some recalculations were necessary. Finally, the Eurobarometer survey changed the major sub-sample units for which it reported disaggregated data in 2006. For the reasons of consistency, we recalculated those values using past methodology as a reference point. Reporting data on trust

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[12]See Table A.1 for a complete list of all the Ottoman-era *sanjak*s that were stationed in what currently are NUTS-3 regions within the modern Greece.

[13]Because of this, we have excluded two regions from our analysis (Aegean islands and Ionian islands) and we merged Western and Central Macedonia.

at the NUTS-3 level (prefecture) would have been pointless due to an insufficient sample size.[14] Consequently, for some of our robustness checks, we will have to confine ourselves to the NUTS-2 sample with a total of 90 observations. Introducing economic controls further reduces our sample size to 70 observations (we lose two electoral contests in 1996 and 1998).

4.2 Working Hypotheses

Before delving into our empirical analysis, it is worth outlining our two working hypotheses that are motivated by the institutional and historical context presented earlier. They help us organize our results around them.

Hypothesis 1 *A decrease in expected public spending and in availability of public sector jobs is associated with a decrease in voter turnout. Moreover, the regions with a higher share of public sector employment are more adversely affected by such cuts.*

Our first hypothesis explores the direct link between anticipated economic adversity and voter turnout. By economic adversity we mean the expected cuts in public spending and public sector job creation that voters rationally anticipated as a result of the fiscal derailment that started in 2005 but was only revealed in public in 2010, culminating into the debt crisis that resulted in massive austerity (actual and expected) under the auspices of the troika[15]. As a result, we hypothesize that the expectation of weaker public spending and public sector job creation decreased the incentives of ego-tropic (rent-seeking) voters to participate in elections and express their support for the parties. We also hypothesize that the regions with a larger share of public sector employment before the onset of the crisis were disproportionately affected by the expected fiscal cuts since slashing the size of the public sector would have a more negative impact on those areas. Hence, we expect that the size of public sector acted like a catalyst that exacerbated the effect of economic adversity on the turnout.

Hypothesis 2 *The differential (more negative) impact of public spending cuts on voter turnout in the regions with higher economic reliance on government spending and public sector jobs is due to the prevalence of stronger party-voter linkages that can be traced back to the historical legacy of Ottoman state building.*

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[14]With the exception of Athens and Thessaloniki, no other region would have had the necessary sample size in order to conduct any meaningful statistical analysis.

[15]The IMF, the EU, and the ECB

Our second hypothesis explores the link of the differential impact that expected public spending cuts had on the regions with more public sector employment where the decline in the turnout was larger. H2 puts forward the transmission mechanism of the Ottoman state-building legacy: voters' relatively stronger ego-tropic motivations in the former *sanjak* regions. Testing the latter part of H2 (the link between Ottoman *sanjak*s and current levels of public sector size) is more straightforward. Yet the first part of this hypothesis (testing the mechanism) is far more challenging since such linkages can be very difficult to observe and even harder to quantify and measure. As a result, to fully test this part of H2, we follow a process of successive elimination of alternative (competing) explanatory stories before we present evidence in favor of our preferred interpretation. First, we examine a competing explanatory link (trust) which, nonetheless, appears to move in parallel across the two groups of regions (see Figure A.3). After concluding that it is unlikely to account for the effect we document, we turn our attention to a series of alternative explanations (e.g. education/income) and we argue that the differential decline in the turnout was caused by stronger and more salient party-group linkages in those "treated" regions.

4.3 Empirical Strategy

Our key identifying assumption is the following. Although the economic crisis affected all the regions, the information shock had a differential impact on those regions that used to rely more on public sector jobs. The rationale is that the revelation of the new information generated an expectation that the state's ability to generate jobs and transfer resources to voters and local authorities, [16] was going to be severely undermined for many years to come. Furthermore, the regions with a larger public sector would be disproportionately affected by these spending cuts, hitting local voters. As a result, we should expect that the negative impact of economic adversity on the turnout would be exacerbated there. In fact, as data reveal (Figure A.2), the voter turnout decreased more sharply (by three percentage points more) in the regions with a larger public sector. In order to study this relationship econometrically, we estimate the following differences-in-differences model:

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[16]Most of the funding towards Greek local administrations (80%) comes from direct central government subsidies and EU structural funds. Local authorities in Greece have a very limited capacity in generating and raising revenues to finance their operations.

$$\text{voter turnout}_{rt} = \alpha + \delta \text{HIGH PUBLIC SECTOR}_r * year_{2010}$$
$$+ \beta \text{HIGH PUBLIC SECTOR}_r + \gamma year_{2010} \tag{1}$$
$$+ (\text{controls})_{rt} + \varepsilon_{rt}.$$

Here r stands for a region (either NUTS-3 or NUTS-2, depending on the specification), and t refers to an election year. HIGH PUBLIC SECTOR$_r$ equals one if the region in question has a share of public sector employment that is above the national average. The coefficient of interest is, therefore, δ.

5   Results

The main analysis focuses on the NUTS-3 regions as this allows us to exploit variation in the presence of Ottoman administrative/military headquarters during the 19th century –this is not possible using the NUTS-2 data as every periphery contains multiple NUTS-3 regions and thus each NUTS-2 region contained at least one *sanjak*. The NUTS-3 analysis enables us to explore the association between more robust clientelistic linkages in the regions with a higher public sector employment and the legacy of early Ottoman state-building reforms.[17] However, before presenting results related to testing H1 and H2, we first focus on establishing the empirical relationship between the presence of *sanjak* capitals and modern public sector size.

5.1   The Link Between Ottoman Institutions and Greek Administration

Given the institutional inertia described earlier, the NUTS-3 regions that housed Ottoman administrative district (*sanjak*) headquarters within their boundaries were more likely to be chosen as government hubs and administrative centers in the young Greek state, simply because of the pre-existing infrastructure. And, indeed, a presence of an Ottoman administrative headquarter within the boundaries of a NUTS-3 region increases the chances of this region being an administrative center (see Table 1). This is, so to speak, our intensity to "treat" (ITT) effect –that is, the predicted

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[17]Note that the analysis at the NUTS-3 level means that we do not have to be concerned about commuters confounding the results as commuting between NUTS-3 regions is rare; almost all public sector employees come from the local pool.

Table 1: Predicting the size of Greek public sector: Correlation of being a former *sanjak* headquarter region and being NUTS-3 region with a large public sector

Dependent variable	Large public sector region	
	(1)	(2)
Sanjak HQ region	0.539***	0.409***
	(0.123)	(0.151)
Home of Regional Govt HQ		X
R-squared	0.292	0.360
Observations	432	432

Note: Sanjak HQ region is a dummy variable. Standard errors are clustered at the NUTS-3 level. *** p<0.01, ** p<0.05, * p<0.1

probability that a NUTS-3 region is *high public sector* (i.e. treated) as a function of being home to a *sanjak* headquarter in the past. Furthermore, public sector employment was historically larger in the administrative centers in Greece, so there is a key continuity between the empirical legacy and the present-day public sector size. Other than that, the two groups of regions seem to *differ only* in the level and the growth rate of the public sector (Tables A.2 and A.3). Moreover, there were parallel trends prior to the information shock (Figure A.4).

5.2   Public Sector Employment and Turnout

We have already discussed how the information shock had a stronger impact on the regions with a larger share of public sector by shifting voters' expectations on the severity of public spending cuts. As a result, we should be able to find a differential impact of expected cuts on voter turn-out on those regions by interacting our post-shock year dummy (*Year 2010*) with the *sanjak* variable. Clearly, as Figure A.4 suggests, the fall in voter turn-out was more substantial in the regions where there used to be a *sanjak*. In fact, voter turn-out in the treatment regions converged to that of the controls.

Table 1 shows that a NUTS-3 region is more likely to have a larger share of public sector employment nowadays if an Ottoman military center was stationed within its boundaries. Recall that of those 48 NUTS-3 regions, 23 used to house a *sanjak* within their boundaries.[18]

[18]For a summary of key statistics of regions that hosted (or not) a *sanjak* see Table A.3 that shows that, with the exception of public sector size, the two groups of regions do not differ substantially across an array of key economic and demographic characteristics.

Table 2: Difference-in-differences at NUTS-3 level

Dependent variable	Turnout			
	(1)	(2)	(3)	(4)
Large public sector region*2010	-2.419**	-2.419**	-2.702***	-3.413***
	(0.978)	(0.980)	(0.932)	(0.810)
Local elections dummy		X	X	X
Lagged Rae index (%)			X	X
Economic control variables				X
Observations	432	432	336	240
R-squared	0.210	0.212	0.237	0.277

Note: All the specifications control for the year 2010 and being a large public sector region. Local elections took place in 1998, 2002, 2006, and 2010. The lagged Rae index measures electoral fractionalization and is the index value in the preceding elections. Economic control variables are the regional unemployment rate and the log of regional GDP per capital. Standard errors are clustered at the NUTS-3 region level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

5.3 Results at the NUTS-3 Level

Tables 2 and 3 contain the estimates of our basic model under various alternative specifications. In all of them, our parameter of interest, the coefficient on the interaction term between large public sector regions and the post-shock (*year 2010*) time variable is always negative, large in magnitude (ranging from -2.4 to -3.4 percentage points, equal to the one-third standard deviation change), and statistically significant. In all these estimates, we see that the areas with a larger public sector have a *differentially* lower turnout in 2010, thus yielding strong support for our H1.

The negative coefficient strongly confirms our second hypothesis that the expected public spending and government job cuts (less expected rents) led to a decline in the turnout which was larger (by up to three and half percentage points) in the treatment regions. The point estimate on the coefficient can be interpreted as saying that, from the 12 percentage points of the observed decline in the turnout in those regions, almost one fourth of it can be attributed to the catalytic role of the public sector. That is, in the regions with a large public sector share, the decline in the turnout was about 25% larger than the respective figure in the control regions, and this difference can be attributed to our proposed mechanism. Hence, we conclude that the effect is not only statistically but also politically significant, implying that the size of the public sector acted as a catalyst that exacerbated the negative effects of economic adversity on turnout (H1). In sum, our empirical findings yield strong support in favor of our first hypothesis. Yet, the task of identifying the causal

Table 3: Difference-in-differences at NUTS-3 level

Dependent variable	Turnout			
	(1)	(2)	(3)	(4)
Sanjak HQ region*2010	-1.710*	-1.710*	-1.826**	-1.616*
	(0.960)	(0.961)	(0.924)	(0.874)
Local elections dummy		X	X	X
Lagged Rae index (%)			X	X
Economic control variables				X
R-squared	0.124	0.126	0.148	0.175
Observations	432	432	336	240

Note: All the specifications control for the year 2010 and being a sanjak HQ region. Local elections took place in 1998, 2002, 2006, and 2010. The lagged Rae index measures electoral fractionalization and is the index value in the preceding elections. Economic control variables are the regional unemployment rate and the log of regional GDP per capital. Standard errors are clustered at the NUTS-3 region level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

link (or links) through which public sector size affects voter turnout and whether such links are a result of a historical legacy are still open questions. We turn our attention to H2 next.

In Table 3, we run the ITT version –so to speak– of our DiD specification based on the regressions presented in Table 2; that is, we consider the presence of a *sanjak* headquarter as an indication of a region having a larger public sector size and, hence, interact it directly with the time dummy. This is, in other words, the way we operationalize the legacy of the Ottoman reforms. Clearly, *sanjak* areas have a lower turnout in 2010; the interaction term is negative and significant across all the specifications, but the effect is smaller in magnitude (about half of what we found before) and less significant than when using the large public sector region. We interpret these results, taken together with those in Table 1, as yielding sufficient support for H1 and H2.

In order to study H2 further and to consider the connection between the Ottoman bureaucratic legacy and modern party-voter linkages, we next examine a series of alternative hypotheses regarding the possible mechanisms. Our aim would be to eliminate other possible transmission mechanisms of this 'Ottoman legacy' that we have identified above.

5.4 Alternative Hypotheses

Our main, second, hypothesis states that expected cuts in public spending and job-creation caused a differential response in the regions where the size of the public sector is large, due to stronger and more resilient clientelistic links between voters and parties. Before examining its validity, we will

first examine some alternative hypotheses that might explain this phenomenon. We examine them one-by-one.

Alternative Hypothesis 1: Trust (socio-tropic motivations)   One potential explanation for a significantly larger decline in the turnout in the regions with a larger public sector share could be a differential change in trust. As we have discussed before, trust is a significant determinant of civic engagement with political processes (see e.g., Levi 2003) and, subsequently, electoral participation (see also Figures A.1 and A.5). If in the former *sanjak* regions trust declined more, this could potentially explain our finding. Perhaps in those regions voters had placed more hopes on the government and the parties concerning their job prospects and personal welfare through higher public spending, subsidies and job-creation. Hence, the revelation of the truth about the bad condition of public finances could have triggered a wave of mistrust against the current and the past governments and the party-system as a whole. To the extent that this effect was stronger in the treatment regions, it could have caused a larger decline in trust, which, in turn, could be responsible for the differential decline in the turnout. Yet, we find no evidence in the data (Figure A.3) of a differential change in trust among the two groups of regions over the period of interest. That is, trust cannot constitute a valid alternative explanation.[19]

Alternative Hypothesis 2: Education (and other socio-economic factors)   One of the most consistently documented relationships in the field of political behavior is the close association between educational attainment, especially at the tertiary level, and formal political participation like turnout. A number of studies over the past half century have found that educated citizens are more likely to vote in elections and participate in the campaigns of political parties (see Campbell et al., 1960; Hillygus, 2005; Nie et al., 1996; Schlozman, 2002; Wolfinger and Rosenstone, 1980; Rosenstone and Hansen, 1993). The reason is quite clear as, according to scholars, education helps citizens to acquire the skills, resources and knowledge that are necessary for them in order to participate in the political discourse and communicate their concerns to politicians (Verba et. al, 1995). Furthermore, as Rosenstone and Hansen (1993, p. 136) argue that "[...] well educated

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[19]Additionally, in the section that follows, we will present results of our main specification at the NUTS-2 level where we can explicitly control for trust and we find no evidence of a differential change between high and low public sector regions.

citizens have the skills to understand the abstract subjects of politics, follow the political campaigns and to *search for and evaluate information* about the issues, the platforms and the candidates."

It is this last part that is the most relevant to our study. Since we have argued that the falsification of Greek fiscal data constituted a large-scale information shock on the expectations of voters vis-à-vis future public spending and job cuts, it could be the case that more educated voters were both better informed about the matter and also more able to process the information and adjust their expectations accordingly. As a result, to the extent which the size of public sector employment in a region can be a proxy for a better educated workforce, it might be the case that our estimates capture the *effect of education* on political participation. However, a look in Table A.3 reveals that, once we proxy for the current size of the public sector by exploiting the existence of a *sanjak* within their boundaries and compare them across, the two groups of regions (treatment-*sanjak* and control) had almost identical levels of secondary and tertiary education in 2009.[20] Moreover, it is very unlikely that educational attainment levels within each region varied significantly in the last couple of years meaning that, even if there were some differences among the two groups, there were most likely time-invariant and hence picked up by fixed effects (much like all other time-invariant or very slowly evolving control variables).

Finally, to further strengthen our point, recent empirical evidence that came to surface supports our hypothesis and questions the large and direct effect of education on turnout (Berinsky and Lenz, 2011). They find very little reliable evidence that education significantly increases participation rates. In fact, their findings indicate that education may not be the great "game-changer" when it comes to electoral participation. Instead, it may be a proxy of pre-existing conditions. One of those, as we argue, might be the presence of party-group linkages and networks.

In our robustness checks, we take two steps to take education into account. First, we add region fixed effects to account for differences in educational achievement, given that we do not have a time series data on education at the NUTS-3 level. In addition, three years of data on educational achievement available at the NUTS-2 level suggests that educational achievement is quite time-invariant. The results remain similar (the upper panel in Tables A.4 and A.5).

As another robustness test, we exclude the metropolitan regions of Athens and Thessaloniki as

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[20]In fact, the two groups of regions have also statistically indistinguishable income levels which is also a proxy for many other socio-economic indicators.

the level of educational achievement is higher there than in the rest of the country while the results are robust to this modification (the lower panel in Tables A.4 and A.5).

5.4.1   Legacies of Party-Group Linkages

With all the above in mind, the last plausible transmission channel still remaining on the table is that the size of the public sector acts as a proxy of stronger and more resilient clientelistic links. The rationale is that, in these regions, it made sense for the citizens to invest in building closer relations with political parties because the expected pay-off of those relations was larger; it was also an incentive-compatible strategy for politicians and voters alike (Robinson and Verdier 2013). That is, the expectation of higher rent extraction (e.g. obtaining a public sector job) mobilized voters to participate in the elections and to vote for the dominant parties in the anticipation of securing some sort of a preferential treatment by the state. As a result, stronger linkages between voters and parties were forged in these regions since the market for buying political support was more active. Hence, in the presence of the shock, the expectation was that the treatment regions were going to be more adversely impacted by the anticipated cuts in government spending and job-creation. The outcome was that the turnout declined by almost 3.5 percentage points more, as our empirical findings suggest. Our explanation is that this was due to the fact that the clientelistic basis of the Greek party-system was severely undermined as public spending became scarce and unavailable.

5.5   Robustness Checks

As a robustness check, we control for the past support of the New Democracy (ND) that was the incumbent party until 2009, prior to *PASOK* coming to power. We do this in order to guard against the possibility that the observed decrease in the turnout was driven by disappointed New Democracy supporters, given that the retrospective revision of public deficit/debt figures uncovered fiscal malfeasance relating to ND's tenure. However, Tables A.6 and A.7 are robust to this control.[21]

5.5.1   Results at the NUTS-2 Level

We report the results of our baseline estimation at the NUTS-2 level in Tables 4 and A.8. The purpose of conducting the analysis at the NUTS-2 level is the ability to use the trust data and

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[21]We thank an anonymous referee for suggesting the inclusion of this control.

Table 4: Difference-in-differences at NUTS-2 level

Dependent variable	Turnout						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Large public sector region*2010	-0.269	-1.442	-3.152	-3.122	-3.049	-3.856	-6.203**
	(1.829)	(2.152)	(2.902)	(3.016)	(3.113)	(3.146)	(2.297)
Trust in party-system		0.077		0.066	0.059	0.083	0.159
		(0.043)		(0.047)	(0.054)	(0.075)	(0.092)
Trust in party-system * large public sector region		-0.049		-0.014	-0.012	0.013	-0.112
		(0.047)		(0.055)	(0.056)	(0.086)	(0.113)
Trust in government			0.092	0.036	0.037	0.063	0.013
			(0.054)	(0.056)	(0.055)	(0.055)	(0.032)
Trust in government * large public sector region			-0.100	-0.090	-0.089	-0.126	-0.076
			(0.071)	(0.087)	(0.089)	(0.079)	(0.073)
Local elections dummy					X	X	X
Lagged Rae index (%)						X	X
Regional unemployment rate							X
R-squared	0.236	0.355	0.340	0.361	0.362	0.409	0.511
Observations	117	90	90	90	90	90	90

Note: All the specifications control for the year 2010 and being a large public sector region (coefficients not reported in the table). The lagged Rae index measures electoral fractionalization and is the index value in the preceding elections. Local elections took place in 1998, 2002, 2006, and 2010. Standard errors are clustered at the NUTS-2 region level. *** p<0.01, ** p<0.05, * p<0.1

to further explore the alternative mechanism detailed above. Looking at Table 4, once controlling for the two trust variables (trust in government and trust in the party-system) we see that the areas with a larger public sector have a markedly lower turnout in 2010 –result is significant at the 5% level in the fully saturated model in column 7. Furthermore, looking at Columns 4 through 7 (Table 4), one can see that trust in government plays no role in explaining the differential decline in voter turnout since the coefficients on the interaction terms (*trust*highps*) are never statistically significant at any conventional level –this is true for both measures of trust we use (in government and the party-system). As far as time-invariant results are concerned, we find again no evidence of a relationship between measures of political trust and voter turnout. Thus we conclude that we find no support for our first alternative mechanism.

Looking at Table A.8 we see again that the areas with a larger public sector have a lower

turnout in 2010. Moreover, the *year 2010* dummy gets a substantial negative coefficient,[22] while *large public sector region*2010* is negative, but the results of the simple model fail to be significant at the conventional level. We attribute this to imprecision (a smaller sample size) and the omission of the trust variables (contrast this with the fully saturated model).

Finally, there could be a concern due to the fact that we are using observations both from national and regional elections. Greek regional elections have a strong flavor of national mid-term elections. For instance, all the major parties that are represented in the Parliament officially endorse candidates for each regional electoral competition both at the NUTS-2 and -3 levels. Moreover, in most of the cases those candidates are high-profile party members, so it is easy for voters to identify local election candidates with national parties. Figures A.6 to A.8 compare the (parallel) trend of voter turnout among national and local elections both within (Figure A.6) and across (Figures A.7 and A.8) the two groups of regions. We can see that there is *no significant difference* in the pre-trend of the turnout. Nevertheless, in all of our specifications we use a *local elections* dummy to account for possible unobserved heterogeneity.

6 Discussion and Concluding Remarks

So far, we have found strong empirical support for the hypothesis that expected cuts in public spending are associated with a lower turnout, especially in the regions with a larger public sector. Our findings also suggest that the link between trust in the party-system and turnout is rather weak –if it exists at all. Taken together, our findings suggest that economic adversity affected voter participation in a more ego-tropic (and opportunistic) way by making expected economic transfers (public spending and public sector job-creation) more scarce. The link that we identify between the size of the public sector and the voter turnout confirms our initial hypothesis that public sector acts as a catalyst that exacerbates the impact of economic adversity (positive or negative) on electoral participation. In our case, the information shock updated voters' expectations on the scale of spending and job cuts for the worse. Thus, a larger public sector size magnified the negative impact of the shock on the turnout. The evidence presented yields very strong support for this finding.

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[22]While not reported here, in all the specifications, the coefficient on *year 2010* (the post-shock dummy) is very negative and statistically significant capturing the negative impact of expected spending cuts and economic adversity on the turnout.

Our second finding is more in line with the literature and the rationalistic rent-seeking incentives of voters who show up in polling stations expecting some clientelistic benefits from voting. Hence, economic adversity and expectations of anticipated spending cuts (and thus less rents) affected the turnout negatively through this link. This finding is consistent with similar findings in the literature (e.g. Rosenstone, 1982; Wolfinger and Rosenstone, 1980). What is important (and novel) are two facts that we bring into surface. First, we document the catalytic role that public sector size played in exacerbating this relationship between expected cuts and turnout that we documented above. Second, we show that the presence of such a link is, in fact, an unintended consequence of the Ottoman state modernization and capacity building efforts that took place in the 19th century; a legacy of Greece's Ottoman past.

With respect to the relative magnitude of the documented effect we conclude that, at least in the case of Greece, the relative size of the public sector seems to play a more drastic role in determining political behavior and turnout. This might come as no surprise, given the clientelistic nature of the political system and the strong rent-seeking behavior that voters exhibit. Collecting all the evidence together, we conclude that the expected reduction in public spending had an undisputed negative impact on voter turn-out operating (mostly) via the following link: expected public spending cuts which had a larger impact on the regions with larger public sector. On a more normative account, our findings highlight that, in addition to civic-duty and other psychological motivations, electoral (and political) participation is a strategic decision driven by instrumental (ego-tropic) motivations for a substantial fraction of voters. This, in turn, implies that higher voter turnout is not on its own account always a sign of a robust and functioning polity; citizens' motivations and the links via which they operate –some of them extending for centuries back in history– seem to matter a great deal.

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A Appendix: Figures and Tables

A.1 Figures

Figure A.1: Parallel trends between trust in party system and voter turnout.

Source: Greek Ministry of Interior and own calculations
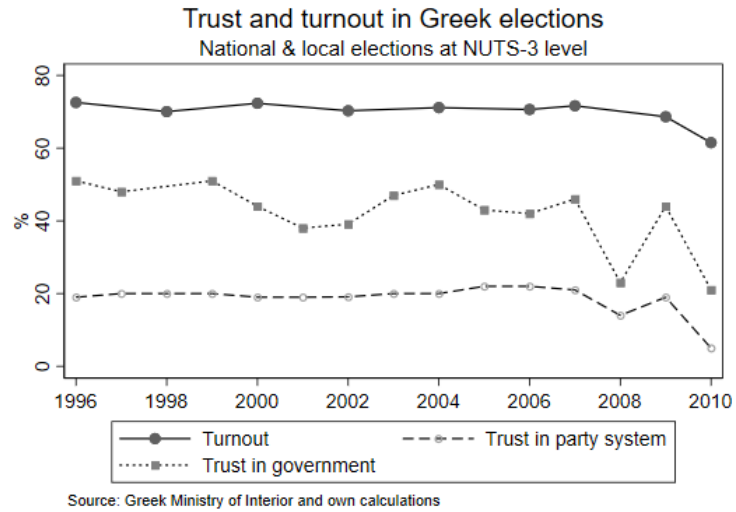
Figure A.2: Larger decline of turnout in large public sector regions.

Source: Greek Ministry of Interior and own calculations
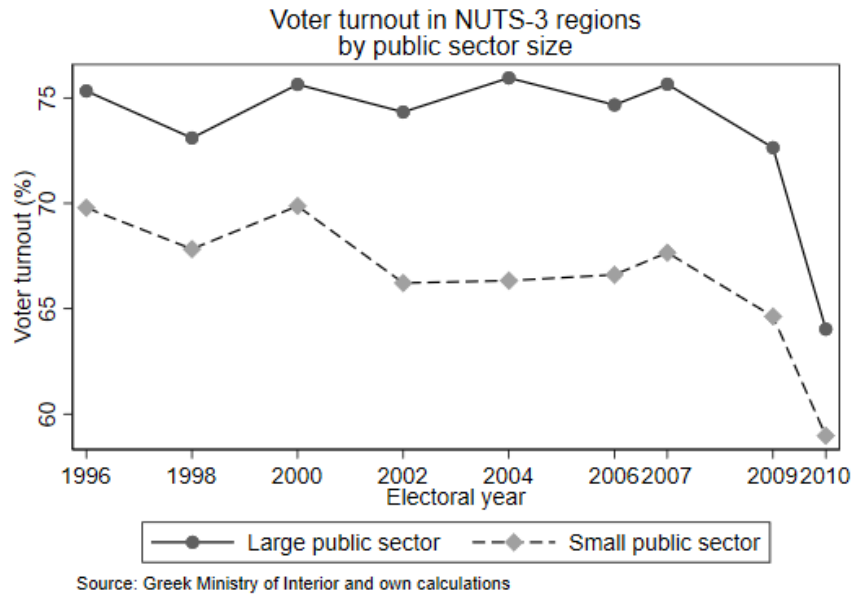
Figure A.3: Parallel movement of trust in party-system across large vs. small public sector regions (NUTS-2) prior and post to the information shock (09/2010).
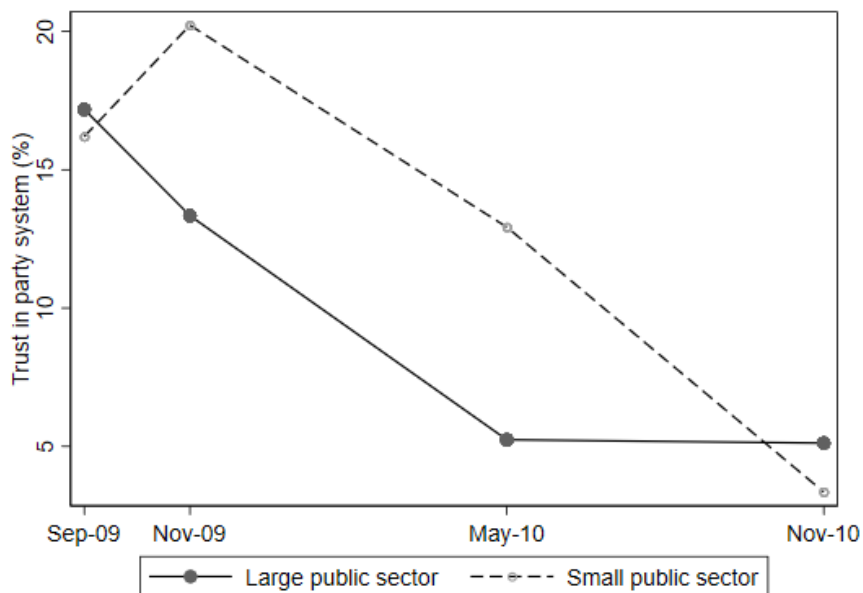
Figure A.4: Differential impact of the information shock on large public sector regions.
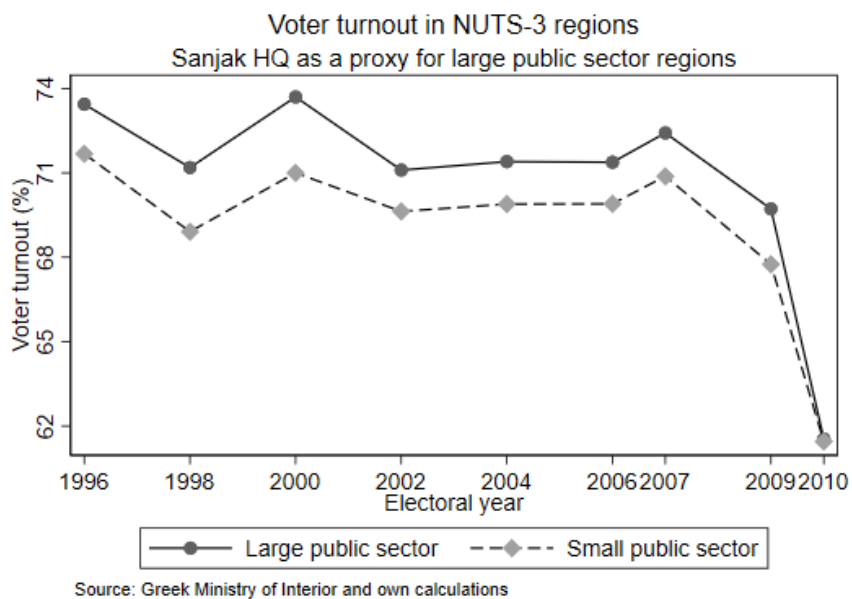
Figure A.5: Correlation between trust in party system and voter turnout.
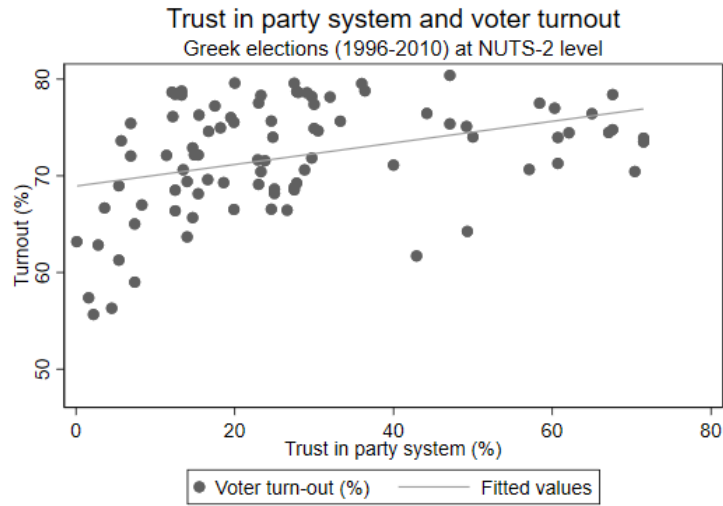
Figure A.6: Parallel trends between national and local elections.
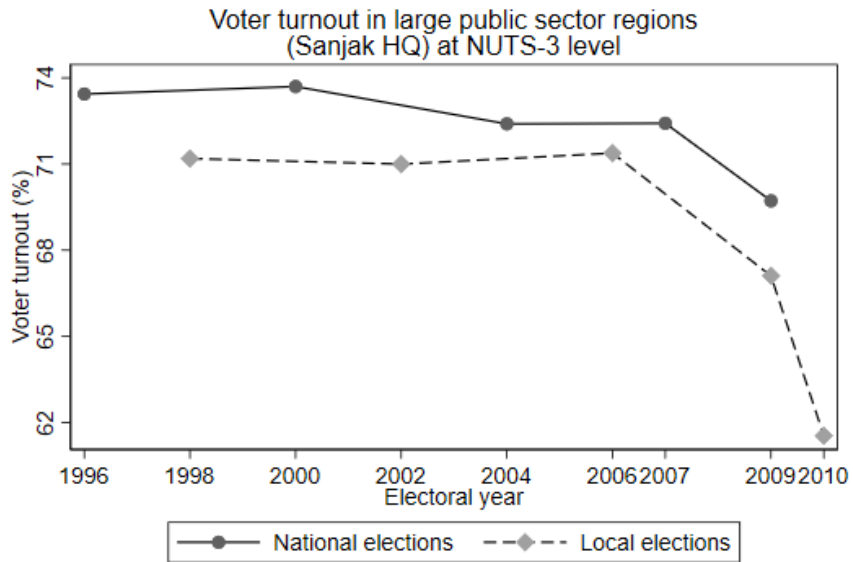
Figure A.7: Parallel trends between large vs. small public sector regions.

Voter turnout in national elections (NUTS-3)
Using Sanjak HQ as a proxy for large public sector regions

Source: Greek Ministry of Interior and own calculations

Figure A.8: Parallel trends between large vs. small public sector regions.

Voter turnout in local elections (NUTS-3)
Using Sanjak HQ as a proxy for large public sector regions

Source: Greek Ministry of Interior and own calculations

A.2 Tables

Table A.1: The Allocation of Ottoman Military District (*sanjak*) Headquarters during the 16th-18th Centuries across the Administrative Boundaries of Modern Greek Regions (*nomos*) at the NUTS-2 Level.

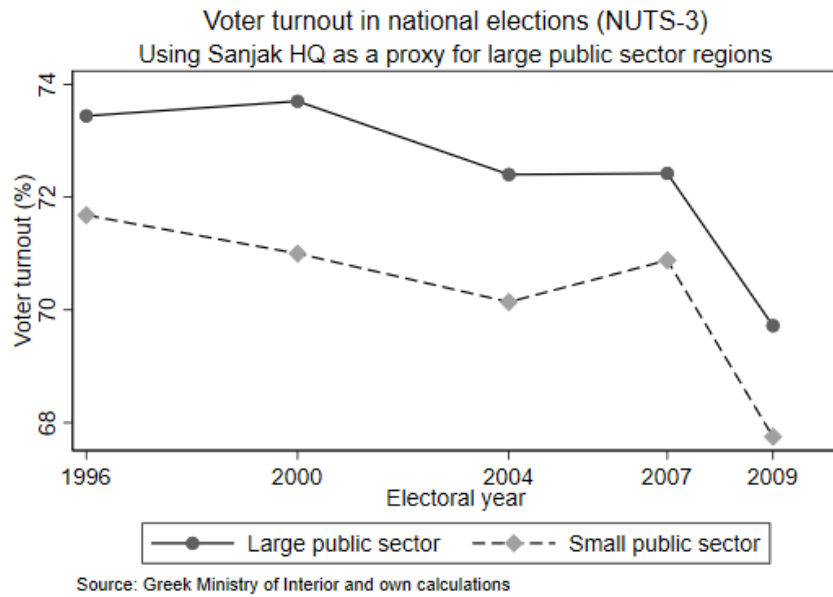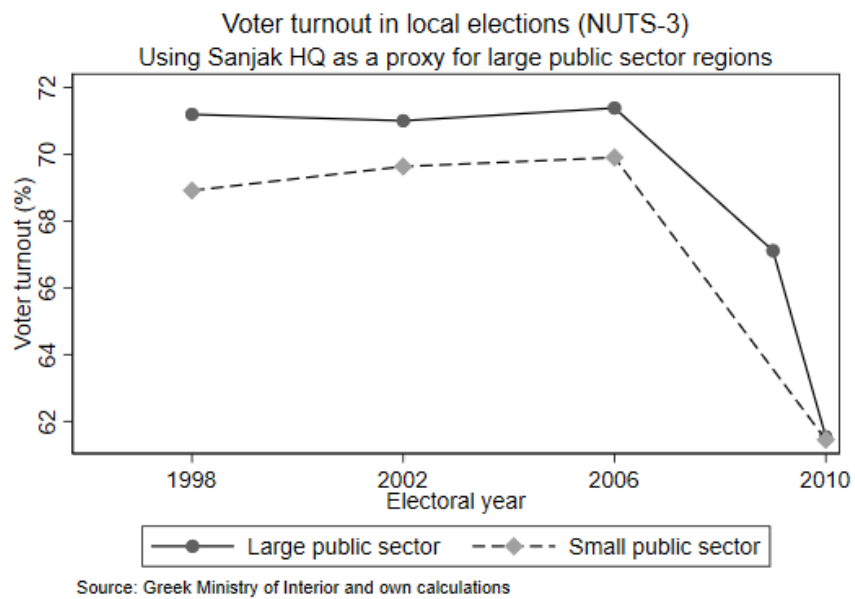| Region Name	(1)	(2)	(3)	(4)	(5)
Nomos	Eyâlet-i or	Sanjak HQ		Modern Capital	Periphery
(NUTS-3)	Vilâyet-i	Ottoman	Greek	(NUTS-3 Region)	(NUTS-2)
Evros	V. Edirne	Dedeağaç	Alexandroupoli	Alexandroupoli	Thrace
Rodopi	"	Gümülcüne	Komotini	Komotini	"
Kavala	V. Sêlanık†	Taszos	Thasos	Kavala*	E. Macedonia
Kavala	"	Kavala	Kavala	Kavala	"
Drama	V. Sêlanık	Drama	Drama	Drama	"
Serres	"	Siriz	Serres	Serres	C. Macedonia
Thessalonica	"	Sêlanık	Thessalonica	Thessalonica	"
Kozani	E. Monastır	Serfiçe	Servia Kozanis	Kozani*	W. Macedonia
Kastoria	"	Kesriyé	Kastoria	Kastoria	"
Ioannina	V. Yanya	Yanya	Ioannina	Ioannina	Epirus
Arta	"	Narda	Arta	Arta	"
Larissa	E. Rumeli	Yenişehir	Larissa	Larissa	Thessalia
Trikala	"	Tırhala	Trikala	Trikala	"
Magnissia	"	Velestinye	Velestino	Volos*	"
Aitolia	V. Morea†	Nafpaktos	Nafpaktos	Agrinio*	W. Greece
Achaia	"	Balıbadra	Patra	Patra	"
Korinthos	V. Morea†	Gördes	Korinthos	Korinthos	Peloponnese
Arcadia	"	Triblıçe	Tripolis	Tripolis	"
Argolida	"	Anabolı	Nafplio	Nafplio	"
Chania	E. Girit	Canea	Chania	Chania	Crete
Heraklio	E. Girit	Candia	Chandakas‡	Heraklio	"
Lesvos	E. Archipelago	Mıdıllı	Mitilene	Mitilene	North Aegean
Lesvos	"	Limna	Limnos	Limnos*	"
Chios	"	Sakız	Chios	Chios	"
Dodekanese	"	Rodoz	Rhodos	Rhodes	South Agean
Kerkyra	V. Yanya†	Kerkira	Kerkyra	Corfu	Ionian

Note: Data compiled from Kiliç (1999), Malte-Brun and Huot (1834), and Skene (1851). Greek *nomoi* (NUTS-3) appearing twice imply that within their administrative boundaries multiple Ottoman military HQ existed. In 1998, Evros and Rodopi have been merged into one single NUTS-3 region. As a result, the actual number of NUTS-3 regions that housed a *sanjak* in their jurisdictions is 23. Eyâlet-i was the major Ottoman administrative district (equivalent to a periphery at the NUTS-2 level). *Vilâyet-i* is a more modern version of the previous structure adapted prior to the Reforms when redistricting took place. † Regions which prior to redistricting belonged to Rumeli *Eyâlet-i* (a large region covering most of the continental Greece and Peloponnese) before it was broken into smaller administrative units (*Vilâyet-i*). ‡ Chandakas is the Byzantine name for Heraklio.

Table A.2: Summary Statistics of Population and Public Sector Employment at the Periphery (NUTS-2) Level (2000-2008)

Region Name	(1)	(2)	(3)	(4)	(5)
Periphery	Capital	Public Sector		Population	No of NUTS-3
(NUTS-2)		Share (%)	Growth (%)	(in 1,000s)	Regions
Thrace	Komitini	25.36	39.57	658	3
Macedonia	Thessaloniki	24.48	18.32	2,001	11
Thessaly	Larissa	26.54	31.29	719	4
Epirus	Ioannina	28.23	13.76	385	4
Ionian Islands	Kerkira	18.59	-2.29	237	3
W. Greece	Patras	25.06	27.71	700	3
Ctr. Greece	Lamia	20.53	29.56	551	5
Peloponnese	Tripoli	21.94	26.70	711	5
Attica	Athens	29.06	3.24	2,792	1
North Aegean	Mytelene	31.89	39.06	250	3
South Aegean	Rhodos	22.12	14.66	305	2
Crete	Heraklio	20.80	17.90	528	4
Greece (Total)	Athens	25.93	14.73	9,845	48

Note: Data collected from HELLSTAT 2011 Census, Greek Ministry of Interior and Public Administration, EUROSTAT 2010 Regional Yearbook and LFS survey (2009). Computation of growth rates in column 3 is from own calculations. We measure the size of the public sector as the share of public sector (central government, SOEs and local government) employment over total employment. Population statistics refer those eligible to vote (> 18 y.o.). Athens Metropolitan region (Attica) is at the same time both a NUTS-2 and -3 region.

Table A.3: Summary Statistics of Treatment (*Sanjak* Headquarter) and Control Groups (NUTS-2 level)

	(1)	(2)
	Treatment	Control
Annual Income p.c. (HPPP)	19,263	18,637
Education		
Secondary (%)	36.2	35.9
Tertiary (%)	24.1	24.0
Employment shares:		
Agriculture (%)	18.7	20.5
Industry (%)	21.6	20.5
Public sector employees		
relative to all employed in 2000 (%)	21.0	20.1
relative to all employed in 2009 (%)	26.4	22.9
Growth rate of public sector employment (2000-08)	27.9	15.1
Public sector employees		
relative to all Greek public sector employees (%)	80.1	19.9
Unemployment rate (%)	7.8	8.6
Long-run unemployment rate (%)	3.9	4.0
Long-run unemployed	51.5	46.7
relative to all unemployed (%)		
Number of NUTS-2 regions	6	7
Number of corresponding NUTS-3 regions	23	25

Note: Data from HELSTAT Population Census (2011) and Eurostat Regional Yearbook (2010) and LFS Survey (2009). Income is measured in harmonized PPP.

Table A.4: Difference-in-differences at NUTS-3 level

Dependent variable	Turnout			
Specification	Region fixed effects			
	(1)	(2)	(3)	(4)
Large public sector region*2010	-2.419**	-2.419**	-2.608**	-3.298***
	(1.036)	(1.037)	(1.014)	(0.899)
R-squared	0.785	0.788	0.803	0.969
Observations	432	432	336	240
Specification	Athens & Salonica excluded			
	(5)	(6)	(7)	(8)
Large public sector region*2010	-1.709*	-1.709*	-2.078**	-2.863***
	(0.883)	(0.884)	(0.881)	(0.775)
R-squared	0.189	0.191	0.219	0.259
Observations	414	414	322	230
Local elections dummy		X	X	X
Lagged Rae index (%)			X	X
Economic control variables				X

Note: All the specifications control for the year 2010 and being a large public sector region. Local elections took place in 1998, 2002, 2006, and 2010. The lagged Rae index measures electoral fractionalization and is the index value in the preceding elections. Economic control variables are the regional unemployment rate and the log of regional GDP per capital. Standard errors are clustered at the NUTS-3 region level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table A.5: Difference-in-differences at NUTS-3 level

Dependent variable	Turnout			
Specification	Region fixed effects			
	(1)	(2)	(3)	(4)
Sanjak HQ region*2010	-1.552	-1.552	-1.594	-1.561
	(1.065)	(1.066)	(1.035)	(0.953)
R-squared	0.784	0.786	0.802	0.965
Observations	432	432	336	240
Specification	Athens & Salonica excluded			
	(5)	(6)	(7)	(8)
Sanjak HQ region*2010	-1.838**	-1.838**	-1.967**	-1.806**
	(0.882)	(0.883)	(0.848)	(0.782)
R-squared	0.114	0.117	0.141	0.170
Observations	414	414	322	230
Local elections dummy		X	X	X
Lagged Rae index (%)			X	X
Economic control variables				X

Note: All the specifications control for the year 2010 and being a sanjak HQ region. Local elections took place in 1998, 2002, 2006, and 2010. The lagged Rae index measures electoral fractionalization and is the index value in the preceding elections. Economic control variables are the regional unemployment rate and the log of regional GDP per capital. Standard errors are clustered at the NUTS-3 region level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table A.6: Difference-in-differences at NUTS-3 level accounting for the past New Democracy support

Dependent variable	Turnout			
	(1)	(2)	(3)	(4)
Large public sector region*2010	-2.514**	-2.514**	-2.788**	-3.453***
	(1.181)	(1.182)	(1.136)	(1.028)
R-squared	0.210	0.212	0.237	0.277
Observations	432	432	336	240
	(5)	(6)	(7)	(8)
Sanjak HQ region	-1.860*	-1.860*	-1.974*	-1.783
	(1.079)	(1.080)	(1.058)	(1.083)
R-squared	0.125	0.127	0.149	0.176
Observations	432	432	336	240
Local elections dummy		X	X	X
Lagged Rae index (%)			X	X
Economic control variables				X

Note: All the specifications control for the year 2010 and being a large public sector resp. sanjak HQ region. All of them also control for an interaction term that equals the lagged support (in the elections 2009) of the New Democracy in 2010 and zero in all the other years. Local elections took place in 1998, 2002, 2006, and 2010. The lagged Rae index measures electoral fractionalization and is the index value in the preceding elections. Economic control variables are the regional unemployment rate and the log of regional GDP per capital. Standard errors are clustered at the NUTS-3 region level. *** p<0.01, ** p<0.05, * p<0.1

Table A.7: Difference-in-differences at NUTS-3 level accounting for the past New Democracy support II

Dependent variable	Turnout			
	(1)	(2)	(3)	(4)
Large public sector region*2010	-2.431*	-2.431*	-2.712**	-3.407***
	(1.243)	(1.245)	(1.189)	(1.017)
R-squared	0.210	0.212	0.237	0.277
Observations	432	432	336	240
	(5)	(6)	(7)	(8)
Sanjak HQ region	-1.822	-1.822	-1.939*	-1.760
	(1.125)	(1.127)	(1.104)	(1.104)
R-squared	0.124	0.127	0.148	0.176
Observations	432	432	336	240
Local elections dummy		X	X	X
Lagged Rae index (%)			X	X
Economic control variables				X

Note: All the specifications control for the year 2010 and being a large public sector resp. sanjak HQ region. All of them also control for an interaction term that equals the lagged support (averaged over the elections 2006, 2007, and 2009) of the New Democracy in 2010 and zero in all the other years. Local elections took place in 1998, 2002, 2006, and 2010. The lagged Rae index measures electoral fractionalization and is the index value in the preceding elections. Economic control variables are the regional unemployment rate and the log of regional GDP per capital. Standard errors are clustered at the NUTS-3 region level. *** p<0.01, ** p<0.05, * p<0.1

Table A.8: Difference-in-differences at NUTS-2 level

Dependent variable	Turnout			
	(1)	(2)	(3)	(4)
Large public sector region*2010	-0.269	-0.269	-0.181	-0.586
	(1.829)	(1.838)	(1.801)	(1.660)
Local elections dummy		X	X	X
Lagged Rae index (%)			X	X
Regional unemployment rate				X
R-squared	0.236	0.243	0.297	0.342
Observations	117	117	91	78

Note: All the specifications control for the year 2010 and being a large public sector region. The lagged Rae index measures electoral fractionalization and is the index value in the preceding elections. Local elections took place in 1998, 2002, 2006, and 2010. Standard errors are clustered at the NUTS-2 region level. *** p<0.01, ** p<0.05, * p<0.1

B Appendix: How *sanjak* regions are defined

In our sample, we have data on Greek elections (local and national) from 1996 until 2010. In total, we have 423 observations at the NUTS-3 level. There are 48 NUTS-3 regions in Greece. We assign 23 out of those 48 regions (accounting for the 60% of the population) to the treatment group, using the presence of an Ottoman military district headquarters (known as *sanjak*) within the current administrative boundaries of a NUTS-3 region, to identify the historical legacy of late Ottoman period reforms on those regions with respect to the size of the public sector and government employment. The remaining 25 regions are assigned to the control group. In those regions, the main sources or economic activity and employment are non-government related (e.g. tourism and agriculture).

Table A.1 shows a comprehensive list of all the locations that the headquarters of Ottoman military districts (*sanjak*) were stationed within the territorial boundaries of the area that constitutes today modern Greece during the 16th and 17th centuries. One of the first things to observe is the remarkable degree of institutional continuity and similarity, not only at the local level (NUTS-3) but also at the higher ranks of administration (NUTS-2). More than 80% of the headquarters of *sanjak*s were situated in the exact same location as the current prefectural administrative capitals of Greek NUTS-3 regions (*nomoi*), as a comparison between columns 3 and 4 illustrates. Furthermore, comparing columns 1 and 5, it becomes clear that, even at the higher administrative level (*periphery* or NUTS-2), the jurisdictions between Ottoman *eyâlet-i* and *vilâet-i* and Greek *peripheries* are very similar. Most of the Greek prefectures (*nomoi*) that used to belong to the same periphery (NUTS-2) were also Ottoman *sanjak*s that used to belong to the same *eyâlet-i* or *vilâet-i*. Hence, not only the structure and jurisdiction of an Ottoman *sanjak* was similar to that of a modern Greek prefecture but, even at the higher administrative level, there appears to be a major overlap.

Our dummy variable $(Sanjak\_HQ)_s$ takes the value of 1 if an Ottoman *sanjak* was stationed in the region (NUTS-3) s in the past. As a result, all the NUTS-3 regions included in Table A.1 belong to this category. In order to identify the that regions used to house an Ottoman military HQ, we relied on three different sources: Kiliç (1999), Malte-Brun and Huot (1834), and Skene (1851). For the reasons of consistency and historical accuracy, we included a region in the list of Table A.1 only if it appeared as having a *sanjak headquarter* within its boundaries in at least two out of the

three sources mentioned previously. As a result, the *sanjak headquarters* that we list in Table A.1 together with the actual locality that were stationed was cross-referenced across various sources. Furthermore, extra care was taken to identify the exact place where the headquarter was situated since it was very common for places to change names regularly, especially during their transition from the Ottoman Empire to the modern Greek state that was created in 1830 and kept expanding until the beginning of the 20th century. Columns 2 and 3 (Table A.1) list both the original Turkish names of the *sanjak headquarters* and the subsequently adapted Greek names to make sure that we have identified them properly. In sum, we have identified 23 such NUTS-3 regions (prefectures) and we have assigned them to the treatment group. That is, the dummy $(Sanjak\_HQ)_s = 1$ if s is a NUTS-3 region that is listed in Table A.1. Summary statistics for these two groups are presented in Table A.3.