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Religiosity, Employment, and Horizontal Inequalities in Turkey

Cem Oyvat (University of Greenwich)
Hasan Tekgüç (Kadir Has University)
Alper H. Yagci (Boğaziçi University)

Abstract

In societies that are horizontally fragmented between identity-based social groups, electoral competition is often motivated by the desire to use public office to advance group interests (Alesina et al., 1999, Bates, 1983, i Miquel, 2007). We focus on the case of Turkey to study group favoritism in such a context. Rigorous individual-level empirical study of this question has so far remained limited since official household income surveys in Turkey do not include questions about religion and religiosity. We fill this gap by exploiting individual-level polling data that spans the available 2012-2018 period in pooled cross-sectional fashion, and analyzing whether age cohorts that joined the labor market before and after AKP came to power experience varying outcomes in employment and income depending on their religion and religiosity. We find that under AKP rule pious Sunnis displayed significant improvement in the ratio of those in public sector employment (especially for women) and private high-status jobs (especially for men). In fact, for the youngest cohorts, the gap between pious Sunnis and others in public employment has already closed. Finally, gaps in income per capita between pious Sunni and others are narrowing only for the youngest cohorts. Our findings suggest that AKP governments use public employment to reward like-minded groups.

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Corresponding author

Cem Oyvat, Senior Lecturer in Economics, University of Greenwich, Department of Economics and International Business, Old Royal Naval College Park Row, SE10 9LS, London, United Kingdom, e-mail: c.oyvat@greenwhich.ac.uk

1. Introduction

In societies that are horizontally fragmented between identity-based social groups, electoral competition is often motivated by the desire to use public office to advance group interests (Alesina et al., 1999, Bates 1983, i Miquel 2007). Office holding politicians' ability to direct state resources to the favored group, however, will be limited when the state does not have access to substantial natural resource or foreign aid rent. Furthermore, politicians may not prefer to engage in costly resource distribution if they can take the political support of their in-group for granted due to alignment on non-economic goals. Lastly, distribution will be difficult if social groups are not distinguished from each other with visible identity markers.

We focus on the difficult case of Turkey to study group favoritism in a context marked by relatively permeable group boundaries and a diversified non-resource economy. The chief politically salient cleavage of interest in Turkey is one that runs between secularism and Sunni Muslim piety. Grievances of the pious constituency against a perceived secular establishment has been an important part of the discourse espoused by Tayyip Erdoğan's Justice and Development Party (AKP after its Turkish initials). Since the party came to power in 2002 it has been widely argued that the relationship between these groups and state power has changed, with concomitant economic outcomes (Buğra and Savaşkan, 2014). In this paper we empirically analyze whether AKP's time in office has actually been associated with a relative improvement in the education, employment and income status of pious Sunnis.

Rigorous individual-level empirical study of this question has so far remained limited since official household income surveys in Turkey do not include questions about ethnicity or religiosity. We fill this gap by exploiting the Barometre series of KONDA—a respected private polling company, which surveys representative samples of Turkey's adult population monthly. We pursue an innovative analysis strategy by exploiting individual-level survey data that spans the available 2012-2018 period in pooled cross-sectional fashion, and investigate whether age cohorts that joined the labor market before and after AKP came to power in 2002 experience varying outcomes in employment and income depending on their religious affiliation.

Public sector recruitment in Turkey is highly structured: recruits in 2000s are mostly university graduates who have to take Civil Servant Selection Exam (KPSS). KPSS tends to preclude the first-time recruitment of older people since fresh university graduates excel more easily in this competitive academic exam. As a result, most public employee recruits are in their

early twenties. We use this institutional constraint to construct our empirical strategy given that our data is only from the AKP period (i.e. we do not have surveys from pre-AKP period). If AKP is showing preferential treatment to its core constituency, public employment for pious Sunni cohorts whose early twenties correspond to AKP's term in office shall increase compare to others as well as earlier pious Sunni cohorts. This is indeed what we find.

For older cohorts, being pious Sunni (PS) is associated with lower education; as well as lower employment and income. But for younger cohorts who likely entered labor market under AKP, being PS became an advantage for women, especially born in 1990s, and (less) for men too in the public sector. For high-status private sector jobs, being a pious Sunni became advantageous only for men. There is some evidence for closing of income gaps between poorer PS and others, but only for younger cohorts. All cohort differences hold with education controlled, despite closing of education gap as well.

2. Theoretical Background

A wide and growing literature studies how identity-based group competition affects economic and political outcomes. There is evidence suggesting that ethno-linguistic or ethno-religious diversity adversely affects economic growth (Easterly & Levine, 1997, Montalvo & Reynal-Querol, 2005a, Alesina et al., 2003; Alesina & La Ferrara, 2005), quality of government (La Porta et al., 1999; Casey & Owen, 2014), schooling (Alesina et al., 2003; Casey & Owen, 2014), and chances for violent conflict (Esteban & Ray 1999, Montalvo & Reynal-Querol 2005b). Although linguistic divides are generally seen as the hallmark of ethnic identity, Fox (1997: 17) finds that "most definitions of ethnicity include religion" and finds that 37 percent of conflicts between ethnic groups involve religious grievances as a cause. Reynal-Querol (2002) estimates that religious differences are a social cleavage more important than linguistic differences in the development of civil war.

The literature on identity-based group competition points to lack of cooperation between groups for public goods provision as a chief mechanism that links diversity to undesirable economic and political outcomes (Alesina et al.,1999, Banerjee et al., 2005, Habyarimana et al., 2007, i Miquel 2007; Desmet et al., 2012). An instrumentalist tradition (Bates, 1983; Chandra, 2004) argues that ethnic identities provide a suitable basis for competition over political goods because they are useful boundary-enforcing devices to prevent leakage of spoils to the outgroup.

For Ghana, Collier and Garg (1999) document that ethnic and kin relations are rewarded with higher wages in the public sector. Studying 18 African countries, Franck and Rainer (2012) find that ethnic groups enjoy increases in schooling and literacy rates and reductions in infant mortality above the rates that apply to the general population when the national leader is their co-ethnic. Moreover, for 140 multi-ethnic countries, De Luca et al. (2018) find that political leaders' ethnic homelands have significantly greater nighttime light intensity and regional GDP compared to other ethnographic regions of the same country.

However, the salience of group identity is contextual and should not be taken for granted. When more than one marker defines a group, group identity is stronger; whereas cross-cutting social identities may reduce the political salience of category distinctions (Dunning & Harrison, 2010; Mancini, 2016; Roemer et al., 2007). Group boundaries can also change over time through processes of differentiation and assimilation (Horowitz, 1985), so not all boundaries are equally effective ways of enforcing group membership. Markers that are more easily observed from the outside—like skin color—will give rise to more impermeable group boundaries and more intense competition (Caselli & Coleman, 2013). Some studies point to a growing divide within Western nations between very religious segments of the population and segments removed from religion, with a concomitant tribalization in political and lifestyle choices (Putnam and Campbell, 2010; van der Brug, et al., 2009; Wilkins-Laflamme, 2014). Unless these religious divides are reflected in markers such as dress codes, for example, we can predict that their impact on political competition will remain limited.

Furthermore, even where groups are more decisively delineated, the efficacy of public resource distribution to co-ethnic and co-religious groups by office holders is not guaranteed. First, office-seeking politicians are not incentivized to allocate resources to their core group if, due to taste alignment and better monitoring within group, the political return to allocation is greater elsewhere (Kasara, 2007; Casas, 2020). Secondly, even where the politicians prefer to further their group's interests, how effectively this can be done via public policy depends on the economic structure. An illustrative case is Malaysia, where governments tried to promote ethnic-Malay population through public sector jobs but because export promotion for the private sector implemented during the same period generated the largest income growth effect for non-Malay groups, between 1970 and 2010 the policy mix had modest effect in closing the income gap faced by Malays (Saari et al., 2015). This suggests that group favoritism via government largesse will

be less effective where economic activity is not dominated by appropriable rents, most typically generated by natural resource extraction.

In short, given social cleavages that horizontally divide the society, office holders may direct state resources to the favored group, however, their ability to do so will be limited where the cleavages are more permeable and where the state does not have substantial access to appropriable rents. Turkey is a somewhat difficult case considering that its social cleavages between ethno-linguistic and religious communities are short of clear racial divides and it has a diversified economy. In such non-resource-based contexts, the most important policy tool to advance group interests may be job cronyism. Politicians may disproportionately give public jobs to members of their in-group, and they may use their power to cultivate and support a business clientele so that more and better jobs will become available for the group in the private sector too. While the use of patronage jobs in the public sector has recently been studied by Colonnelli et al. (2020) and Mocetti and Orlando (2019), the question of politically motivated distribution of private sector jobs remains understudied. We show that in Turkey the term in office of a religiously conservative party has resulted in occupational gains for pious Sunni individuals in public as well the private sector, however, closing the income gap with the more secular people remained a more elusive task. In the next section we describe the Turkish case in greater detail.

3. Group Competition and Public Policy in Turkey

3.1. Relevant Groups

Two politically salient social cleavages dominate contemporary Turkey, one that runs between secularism and Sunni Muslim piety, and one that runs between the ethnic Turkish majority and the Kurdish minority (Mardin, 1973; Çarkoğlu & Hinich, 2006). Since the coming to power of AKP in 2002, the structure of political power in Turkey has been increasingly shaped by this right-wing conservative party's aspiration to hegemony, in competition with more secular political actors. Even though in its early years the party promised a pluralistic governance vision in line with European Union guidelines, as it consolidated its power its rule has become decisively more authoritarian and its discourse more explicitly associated with the Sunni Muslim conservatism of the country's inner regions. The allegedly lower status accorded to this constituency by Turkey's previously secular establishment generated grievances that have been framed in the party discourse in almost ethnic division terms. Party leader Tayyip Erdogan has repeatedly referred to his people

as "Turkey's blacks," denoting an experience of negative discrimination.[1] As Demiralp (2012) comments, the grievance comes with a baggage of associated characteristics and somewhat visible identity markers:

> *The 'white–black' dichotomy or the Islamism–secularism conflict in Turkey was not merely a clash over religious outlook. Erdoğan was 'black' not just because he was a practising Muslim, but also because he was from provincial Anatolia, namely taşra, the 'inlands'. His Muslimhood was rather a clue, just like his Anatolian accent, body language, expressions, outfits and even physical features, giving away his 'rural', 'common' and therefore 'inferior' status.*

It should be noted that while the association of Islamic conservatism with rural and economically inferior status has been a useful discursive instrument for political mobilization, it glosses over a complex pattern of historical realignments. During the twentieth century Turkey's state-led secularization project had been most successful in the richer, Western coastal provinces with closer commercial relations with Europe; but elsewhere in the country this project found wiling partners in rural pockets of Alevism. Alevis are a heterodox community loosely associated with Shiite Islam. Though originally a persecuted community, Alevis found opportunities for economic mobility with Turkey's industrialization, due in part to their enthusiastic participation in secular education. In our sample, self-identified Alevis have significantly higher household income compared to the Sunni majority[2]—probably a relatively recent turnaround of a centuries-long previous pattern. However, as Buğra and Savaşkan note, with growing AKP power, "the rise of religious conservatism generated feelings of exclusion and marginalization among certain segments of the population. People who constitute a sizable minority, especially those belonging to the heterodox Alevi sect, said to constitute about 20 percent of the population, began to feel that they could no longer live like they used to do in Anatolian provinces as the imprint of Sunni Islam was becoming increasingly strong in daily life and social relations" (2014: 61). Indeed, studies on the Alevi population find widespread experience of discrimination (Erdemir et al. 2010a), including in job interviews and in the workplace (Erdemir et al. 2010b).

In this study we analyze whether AKP's term in office has indeed improved the economic status of the pious Sunnis compared to the most significant out-groups. Based on survey data, we

[1] 'Türkiye'nin Zencileri', *Tempo*, 23 March 2006, https://www.internethaber.com/cumhurbaskani-erdogan-o-zenciler-biziz-video-galerisi-1880050.htm

[2] Average equivalized household incomes for Alevis were, in 2018, 12.8% higher and, in 2013, 7.0% higher than Sunnis according to our calculations from Konda Barometre data.

construct an out-group based on self-reported religiosity and religious sect. For want of a better term, we call this out-group as "seculars," and include anybody who does not identify as a Sunni Muslim (hence all self-reported Alevis) as well as those professing low (or no) religiosity.[3] Hence the in-group consists of pious Sunnis.

While AKP government's identification with Sunni piety has been widely recognized, its positioning on the Turkish-Kurdish cleavage axis has varied in time. On the one hand, AKP governments launched unprecedented reforms to recognize Kurdish *cultural* identity, and even experimented with peace talks with the Kurdish armed insurgency organization PKK. However, once the peace talks seemed to reduce AKP's wider popularity across the country, the party shifted to an uncompromising stance towards Kurdish *political* demands and insurgent activity (Arat and Pamuk, 2019). To this day, nonetheless, AKP remains as the second most popular party in the predominantly Kurdish-populated provinces, after HDP—the party associated with the Kurdish political movement. It is therefore not clear what kind of change to expect in terms of the economic status of Kurdish individuals under AKP. In this study we do examine the ethnic Kurds as a separate group and largely find that membership in this group was not associated with significant changes over the baseline trends. In fact, the differences between pious Sunnis and other people also hold within the Kurdish group. We are thus organizing our presentation around the pious-secular cleavage as our chief cleavage of interest, and we will note our findings on Kurds on the side (see Appendix D).

We are not examining the changing economic status of party voters. This is because, first, changing one's vote is easy and it may happen precisely due to the economic changes incurred under the incumbent government—introducing the issue of reverse causation (Yagci and Oyvat, 2020). Secondly, under the secret ballot system that Turkey implements it is relatively easy to pretend to be a pro-incumbent voter if one wants to do so to avoid job market-related and other kinds of policy discrimination. However, social identities come with visible identity markers that are more difficult to change or simulate. We are interested in how people's durable social group identities affect their economic fortunes, which we find a more interesting theoretical question.

[3] In a detailed study of Alevi religious and political identity in Turkey, Çarkoğlu (2005) found that "as the degree of Alevi orientation increases, the degree of religious conservatism as reflected in the faith, attitudes and worship dimensions of religiosity drops significantly," in addition, the tendency to vote for AKP drops substantially. Self-reported religiosity among Alevis seems to have a different social and political meaning than among Sunni people and therefore it makes sense to categorize them together with those with low (or no) religiosity.

3.2. Group Markers and Behavior in the Labor Market

The most visible identity marker associated with the imprint of Sunni piety involves female behavioral and dress code. Whereas in rural areas women of all groups may cover their hair, especially in urban areas women's headscarf signals a pious lifestyle. The secular old guard sought to discourage this lifestyle by negatively responding to the signal: Until reforms enacted in the 2000s by the AKP governments, women wearing headscarves were not allowed to universities and could not be employed as public servants. For males, it is more difficult to tell type from looks unless the females in the household can be observed (the reason why entrance examinations for military schools, for example, involved inspection visits to candidates' home) but facial hair and accessories with religious connotations could provide clues. Another marker visible to government officials as well as potential employers could be given names. Conspicuously irreligious given names—such as Evrim (*Evolution*)—can signal that the individual does not hail from a conservative family background. In addition, certain names associated with the historical rift between the Sunni and Alevi-Shiite traditions are disproportionately preferred by members of particular groups, while others are seen as anathema and never used.[4]

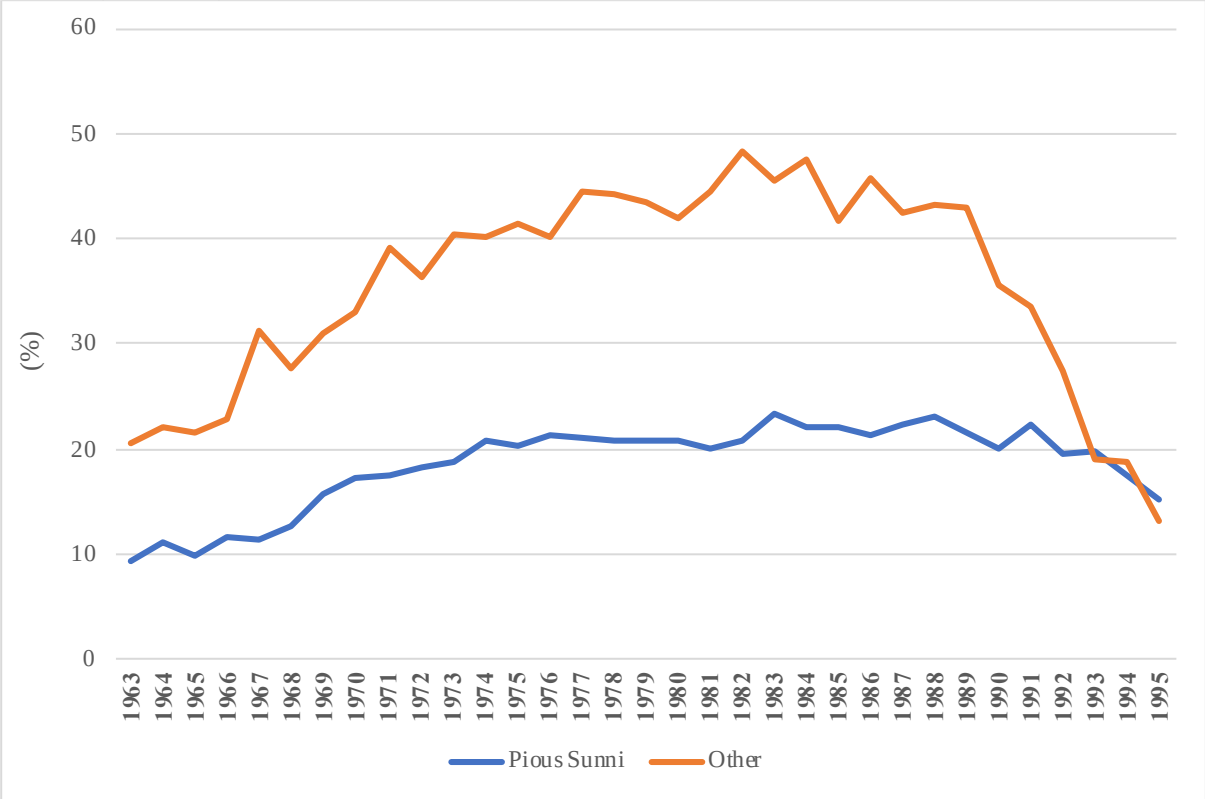
Consequently, group differences are greatest when it comes to the status women. Several empirical studies find that religiosity and associated patriarchal norms significantly reduce women's labor participation. Using indices of religious practices (prayer and fasting), Dildar (2015) estimates that both religiosity and patriarchy significantly reduces women's likelihood of labor force participation in the urban areas. Similarly, Atasoy (2016) uses the number of mosques in the region of birth as an instrument for an individual's endorsement of the idea that women should be "isolated from social and business life," and finds that women endorsing isolation are less likely to participate in urban labor markets. Moreover, Güner and Uysal (2014) find that female migrants from provinces with a higher share of National Salvation Party (MSP) vote in 1973—a party later closed down on anti-secularism charges—have lower likelihood to participate in labor market in 2008.

Figure 1 based on our data also shows that the employment to population ratio in urban areas are lower for pious Sunni women compared to the secular others. For cohorts between 1963 and 1995, the average difference for pious Sunni and other women's employment to population

[4] It is therefore common knowledge that someone called Mervan, Yavuz or Bekir is most likely a Sunni whereas a Zeynel Abidin or Naki would almost certainly be Alevi (Uysal, 2012).

ratio is 17.4 percentage points, although the gap diminishes for younger cohorts. On the other hand, a similar gap does not exist between pious Sunni and other men. Indeed, the employment to population ratio in 1963-1995 cohorts is 4.9 percentage points higher for pious Sunni (81.8% for Sunni Pious, and 76.4% for other men).

Figure 1: Employment to population ratio by birth year (1963-1995) for pious Sunnis and others (seculars) in the urban areas



Note: Authors' calculations based on Konda Barometre Surveys, 2012-18

The headscarf bans in public employment and universities were also important impediments that restricted pious Sunni women's employment. According to a report by AK-DER, 5,000 headscarved women were expelled and 10,000 headscarved women were forced to resign from public institutions between 1998 and 2002 for not following the dress code (cited in Cindoğlu, 2011). However, based on her interviews, Cindoğlu (2011) reports that discrimination against headscarved women also exists in the private sector and even in enterprises owned by pious entrepreneurs. Indeed, headscarved women were mainly employed in small-scale enterprises owned by pious entrepreneurs and were unable to find jobs in major private companies. Moreover, the public sector headscarf ban improved the bargaining positions of pious entrepreneurs and

allowed them to provide worse working conditions and pay lower salaries to headscarved women. Similarly, Uğur (2017) finds that wearing headscarf significantly reduced women's probability of employment in the 2000s even when controlled for education and religious practice, in both public and private sectors. The negative effects of headscarf were larger for women with tertiary degrees.

The AKP government lifted the ban on headscarf in universities in 2010, for civil servants in 2013, for policewomen in 2017 and finally for army officers in 2019 (Çörekçioğlu, 2021). Çörekçioğlu empirically estimates that following the lift of the headscarf bans, female employment significantly improved specifically in municipalities with AKP mayors.

While the headscarf is the most visible identity marker around which policies of negative and positive discrimination can be built, there is a greater policy environment that may facilitate the (re)distribution of resources among identity groups. As a non-resource-based country, discretionary channels of distribution are limited in Turkey, but as we will see that they are not inexistent.

3.3. Policy Tools

AKP government implemented various policies that would support the growth of enterprises owned by the pious Sunni population or located in areas with larger shares of pious Sunni population, presumably generating job opportunities for the in-group through the employment of like-minded people. Chief among the policy tools available to the AKP government is the abuse of public procurement contracts to create and sustain a loyal business clientele. Examining a dataset of 49,355 high-value procurements during 2004-2011 Çeviker Gürakar (2016) finds that politically connected firms win the majority of the procurement contracts awarded through less competitive tender procedures. Since the share of public procurement is about 8.5% of Turkey's GDP, favoritism exercised in this way could have substantial inter-group redistributive effects through firm activity. Another channel is politically motivated lending by public banks. Bircan and Saka (2021) find that there is greater state bank lending in provinces with an incumbent mayor aligned with the AKP. Moreover, political lending affects economic activity in non-aligned provinces significantly negatively. These findings suggest that provinces with a larger share of opposition voters, where pious people are disproportionately few, may be suffering economic setback due to politically motivated redistribution.

Allocation of public investments provides another channel. Examining data for public fixed capital investments in 2005-2012, which stands for roughly 5 percent of Turkey's GDP, Luca and Rodriguez (2015) find that while socioeconomic factors remained the most relevant predictors of investment, the government also channeled public expenditures to reward its core constituencies. Marschall et al. (2015) finds that the government-run public housing agency TOKİ's activity—both in terms of expenditures and number of units built–was concentrated in provinces with AKP mayors. This not only means a greater provision of subsidized public housing in provinces with more pious individuals, but also generates potentially more construction contracts for politically affiliated firms and construction jobs for party supporters.

AKP's trade policies favoring trade with Muslim-majority countries is another channel that pushed the growth of enterprises owned by pious Sunnis. The average share of exports to Organisation of Islamic Cooperation (OIC, Iraq excluded) countries in Turkey's total exports significantly increased from %15.2 in 1998-2002 to %18.3 in 2003-2010, and to 23.5% in 2011-2019.[5] Lo Turco and Maggioni (2018) note that between 2003 and 2009 AKP government signed 10 trade agreements mostly with Muslim countries. They estimate that the firms in the regions with greater share of MÜSİAD (a business organization promoting capitalism with Islamic values) membership were more likely to enter export markets with new regional trade agreements and regional trade agreements with Muslim countries. Moreover, in the same period, firms from provinces with larger share of religious population were more likely to export products to destinations with greater Muslim population.

Policies like public contracts, regional trade agreements and bank credits mostly concern the transfer of wealth among business groups. While this kind of wealth transfer may trickle down to the general population groups, more directly relevant policies to the latter exist. Chief among these is the hiring practices in the public sector. As noted, when AKP allowed women to wear headscarves in public employment in 2013 this opened up a part of the labor market that has better pay and job security than the average job. In addition, discretionary hiring in favor of AKP supporters is another mechanism that may change the composition of public employment in favor of pious Sunnis.

[5] Authors' calculations based on Turkstat (2021). Data on Iraq is excluded due to missing data for 1999-2002. The average share of exports to OIC countries, including Iraq, in Turkey's total exports also increased from %17.8 in 1996-1998 to %21.7 in 2003-2010, and to 29.5% in 2011-2019.

In Turkey, most civil servants are recruited through the centrally administered Public Servant Selection Exam (KPSS). Still, there are mechanisms to allow for favoritism in recruitment. First, KPSS and other public examinations conducted between 2010 and 2014 might not be entirely fair. There are ongoing criminal investigations on exams conducted by Student Measuring, Selection and Placement Center (ÖSYM) between 2010 and 2014 including KPSS, exams for police and military schools, and exams for recruitments of petty officers, judges and prosecutors (Tahincioğlu, 2021b). Former head of the ÖSYM Ali Demir and a number of ÖSYM member are accused of leaking exam questions and answers to the persons affiliated with the religious Gülen Cult that had strong ties with AKP government and was very influential in the government bureaucracy until at least 2013 (Tahincioğlu, 2021a). Although there was a purge of suspected Gulenists from the bureaucracy following the July 2016 coup attempt, those who had earlier switched their allegation from the cult to the party likely kept their jobs.[6]

Second, a portion of the recruitments in public jobs also require interviews. These recruitments include positions in the Treasury, Foreign Affairs, academia, military and police departments. Moreover, interviews are also used for recruitment of teachers in temporary positions. Anectodical evidence reflects that many secular candidates who received significantly high scores in KPSS and other public examinations were eliminated in the interviews.[7]

Third, mayors have significant control over recruitment of municipal employees (Çörekçioğlu, 2021). Indeed, Meşe (2011) reports that particularly during the pre-election periods municipalities are used for creating employment opportunities for potential voters. Fourth, disproportionate expansion of such public employment positions as imams and religious education teachers has changed the composition of public sector in favor of pious Sunni preferences (See Appendix C for detailed discussion).

Lastly, during AKP's term in office both the central government and the municipalities have developed various tools to distribute social assistance, most of which involve discretionary selection of recipients. There is some evidence for politically motivated selection even for the more rule-based conditional cash transfer program (Aytaç, 2014). In short, through public sector jobs,

[6] Following the military coup attempt in 2016, Prime Minister Binali Yıldırım said that "those who did not deliberately support this organization after December 17 [2013, the date of the first significant fallout between the Gulen movement and AKP] should not worry… However, there are no excuses after December 17" (*Diken*, 16 August 2016).
[7] For example see *Birgün* (5 June 2021), "Mülakat getirildi liyakat unutuldu," https://www.birgun.net/haber/mulakat-getirildi-liyakat-unutuldu-347284.

private sector cronyism, and politically motivated social assistance, the AKP government could affect the occupational and income status of pious Sunni individuals. In this study we examine to what extent this was realized, judging from data on comprehensive employment and income outcomes.

4. Data and Econometric Framework

4.1. Data Source

We use the monthly 'Barometre' survey by KONDA, an ongoing survey program with a known track record.[8] The primary purpose of the survey is to track political opinions. Nevertheless, the survey also generates many demographic variables, including occupation and income as well as ethnicity and religiosity, which are not available in the official statistics. KONDA follows a stratified sampling method with neighborhoods / villages as ultimate sampling units (one adult from each household is surveyed). They also employ quotas for age.

Barometre data set does not include a weighting variable. Therefore, we construct our own post-stratification weights by first creating 84 sub-groups for each year (7 regions * 2 gender * 3 age * 2 education) using population of equivalent sub-groups from TURKSTAT Address-Based Population databank.[9] By dividing the official population of each sub-group to number of observations in the same sub-group we obtained population weights (see Appendix A for details).

4.1.1. Dependent Variables

Employment in public sector is the primary dependent variable. We classify respondents choosing the "public servant, supervisor, manager" category[10] as public sector employees. In Turkey, there are millions of temporary personnel working side by side with tenured civil servants in government offices and hundreds of thousands of blue-collar workers employed by municipal

[8] Barometre survey has been previously utilized as a data source by Altındağ and Kaishal (2020), Yagci and Oyvat (2020), Yörük (2012), Tezcür and Gurses (2017) among others. Barometre survey is conducted 11 months a year (either July, August or September is skipped), except 2015 when there were two general elections. As a result, 2015 has significantly more observations than other years.

[9] TURKSTAT data from https://biruni.tuik.gov.tr/medas/?kn=95&locale=tr. Regions refer to the seven geographical regions of Turkey, education distinguishes between those with less than high school education vs high school graduates, and age groups are 18-29, 30-44, 45+. Our aim was to create cells with at least 30 observations. In the end, number of observations in cells ranged between 22 and 1080 with only one cell with less than 30 observations. Median cell has 327 observations. The smallest cell is Eastern women aged 45+ with high school or more education from 2012.

[10] "*Devlet memuru, şef, müdür vb*" in Turkish.

governments; who are officially not civil servants and are not part of the public sector retirement fund. It is not obvious which occupational category these individuals report among the available options in the survey. To shed light on this, we compare our population-weighted estimates of public sector employees to official figures from administrative data in Table A2. Barometre estimates are strikingly close to official civil servant numbers and substantially below the total public sector employment figure. We believe that Barometre surveys really report civil servants with full rights (good pension, very secure employment etc.) as public sector employment.

We also investigate placement in alternative definitions of employment. We combined "manager and clerk in the private sector," "merchant, industrialist, businessman" and "self-employed professional (doctors, architects, lawyers etc.)" to create a private high-status jobs category. We also combine these private high-status jobs with public sector employment to generate overall high-status employment. Lastly, we investigate determinants of all employment (any job) and urban employment, which excludes people living in rural areas.

4.1.2. Explanatory Variables

We split the sample to those born between 1963 and 1980 and those born between 1981 and 1995.[11] The survey participants born between 1981 and 1995 very likely entered the labor market for high status jobs (public or private) during the AKP rule (November 2002 and present). It is likely that the survey participants born between 1963 and 1980 entered the labor market for high status jobs before AKP rule. We perform our employment analysis for prime working-age adults between 23 and 49 in order to i) create roughly equal number of years around 1980, ii) exclude the undergraduate students, iii) minimize the effect of the early retirement scheme that was in effect between 1992 and 1999 and which allowed some women and men to retire at 38 and 44, respectively.[12]

Our main explanatory variable is a dummy variable indicating whether the respondent belongs to the pious Sunni social group. We construct membership in this group by taking those who answer a survey question about religious affiliation as Sunni Muslim (92% of our 23-49 aged

[11] Those born in 1963 are 49 years old in 2012 survey and are the oldest in the sample and those born in 1995 are 23 years old in 2018 survey and are the youngest in the survey. See Figure A1 for birth year distribution of observations.

[12] Aşık (2018) shows that in 2012 labor force participation of both men and women above the age of 50 were lower than their level in 1990s. Actually labor force participation of women aged 40-49 declined between 1995 and 2004 but by 2012 was above 1990s level.

respondents), and among these keeping only those who answer a question about religiosity with the top 2 among 5 ordinal levels of religiosity. These operations generate membership in the hypothesized public policy in-group, which we call as pious Sunnis, and the secular out-group comprises the rest. Across our survey years 2012-2018, the share of pious Sunnis in the sample varies between 65-70 % of the sample. In addition, we also examine whether those who identify as Kurdish (or Zaza) in response to a question about ethnicity—regardless of their religious-sectarian affiliation—experience separate trends.

4.1.3. Control Variables

We control for survey regions (12 NUTS1 regions). We also control for the interaction of survey year and geographical region since private sector employment is sensitive to macroeconomic fluctuations.[13] In addition to limiting the sample to 23–49-year-olds we also control for birth year. We control for education (less than middle school, middle school, high school and tertiary graduates) in every specification, especially because passing a competitive centrally administered exam (KPSS) is a pre-requisite for civil service employment and most positions in civil service also requires a tertiary degree (two- or four-years).[14]

4.2. Descriptive Statistics

Table 1 presents descriptive statistics. For the overall population, from the older to the younger cohort the share of those with tertiary degrees increased from 12.6 to 24.6 percent, a 95 percent increase, whereas high-status employment only increased by two percentage points (from 18.2 to 20.4). For those born after 1980 competition is much fiercer for high-status jobs, all of which now basically require a tertiary degree. Women's share in tertiary degrees increased faster than men in both absolute and relative terms. While the increase is larger for women for all employment categories too, the share of men employed is still larger (see Appendix B for trends in share of tertiary degrees by gender and religiosity).

[13] We group NUTS1 regions into five broad regions: West (TR1-TR4), South (TR6), Central (TR5 & TR7), North (TR8 & TR9), and East (TR10-TR12) following Turkish Demographic and Health Survey.
[14] We present evolution of occupations in public sector in Appendix C.

Table 1: Descriptive Statistics of survey respondents age between 23 & 49

	Whole sample				Men				Women			
	N	born btw 1963-80	born btw 1981-95	% change	N	born btw 1963-80	born btw 1981-95	% change	N	born btw 1963-80	born btw 1981-95	% change
tertiary degree	110,115	0.126	0.246	95%	54,025	0.158	0.267	69%	56,090	0.096	0.225	136%
public employment	110,115	0.071	0.067	-6%	54,025	0.103	0.077	-25%	56,090	0.040	0.056	39%
high status jobs, private	110,115	0.111	0.138	24%	54,025	0.172	0.186	8%	56,090	0.054	0.090	68%
high status jobs, total	110,115	0.182	0.204	12%	54,025	0.275	0.264	-4%	56,090	0.094	0.147	56%
employed, urban	88,963	0.553	0.550	-1%	42,919	0.910	0.822	-10%	46,044	0.234	0.292	25%
employed, total	110,115	0.543	0.538	-1%	54,025	0.896	0.812	-9%	56,090	0.215	0.271	26%
hh pc income adjusted	78,230	2,273	2,432	7%	38,543	2,399	2,593	8%	39,687	2,154	2,274	6%
						Pious Sunnis						
tertiary degree	73,265	0.094	0.189	100%	33,428	0.133	0.229	72%	39,837	0.062	0.155	148%
public employment	73,265	0.059	0.057	-3%	33,428	0.099	0.078	-22%	39,837	0.026	0.040	52%
high status jobs, private	73,265	0.089	0.111	25%	33,428	0.154	0.174	13%	39,837	0.035	0.057	61%
high status jobs, total	73,265	0.148	0.168	13%	33,428	0.253	0.252	0%	39,837	0.061	0.097	57%
employed, urban	58,124	0.504	0.507	1%	26,081	0.908	0.850	-6%	32,043	0.180	0.220	23%
employed, total	73,265	0.496	0.496	0%	33,428	0.893	0.837	-6%	39,837	0.166	0.204	22%
hh pc income adjusted	52,138	2,115	2,174	3%	23,909	2,257	2,367	5%	28,229	1,995	2,007	1%
						Others						
tertiary degree	36,850	0.201	0.342	71%	20,597	0.209	0.322	54%	16,253	0.191	0.367	92%
public employment	36,850	0.097	0.082	-15%	20,597	0.111	0.077	-30%	16,253	0.081	0.089	10%
high status jobs, private	36,850	0.163	0.183	12%	20,597	0.209	0.203	-3%	16,253	0.107	0.158	47%
high status jobs, total	36,850	0.260	0.265	2%	20,597	0.320	0.280	-12%	16,253	0.188	0.247	31%
employed, urban	30,839	0.663	0.618	-7%	16,838	0.914	0.784	-14%	14,001	0.379	0.428	13%
employed, total	36,850	0.654	0.608	-7%	20,597	0.903	0.776	-14%	16,253	0.353	0.406	15%
hh pc income adjusted	26,092	2,653	2,867	8%	14,634	2,684	2,913	9%	11,458	2,615	2,810	7%

Notes: hh: household. Population weights are applied. All the reported employment statistics are employment-to-population ratios. Most of the missing data (7,097 out of 10,108) are from August 2016, March, April and May 2017 surveys when religion question is not asked. There are also fewer observations for income variable because of missing household size data from earlier surveys. We also had to exclude roughly 5,500 observations from 2013 because they lacked information on province of residence. We use province of residence to cluster standard errors in regression analys

Next we compare the change in employment for sub-categories. Comparing the change between two periods for each group provides us with a rough difference-in-differences estimate in descriptive statistics. We observe that the pious Sunni group experienced the greatest employment gains. For example, total high-status employment has increased from 14.8 to 16.8 percent for pious Sunni individuals born after 1980, and from 26.0 to 26.5 percent for the others. Hence, high-status employment for pious Sunni individuals increased by 1.5 percentage points more compare to the secular group between the two periods. All the increase in high-status employment is due to overall increase in private high-status jobs, since Turkey has been experiencing a trend of relative shrinking of public sector during the period under investigation. However, pious Sunni individuals experienced only a slight decline in public sector employment.

Investigating the change between two periods by gender reveals different patterns by employment categories. The declining share of public sector employment is solely due to men. Public sector employment increased by 2.4 percentage points for pious Sunni women, and 0.8 percentage points for secular women. Pious Sunni men and secular women also experienced significant employment gains in private high-status employment. secular men did not experience any increase in high-status employment. Despite the gains made by women born after 1980, men are still much more likely to be employed in general, and also to be employed in high status jobs.

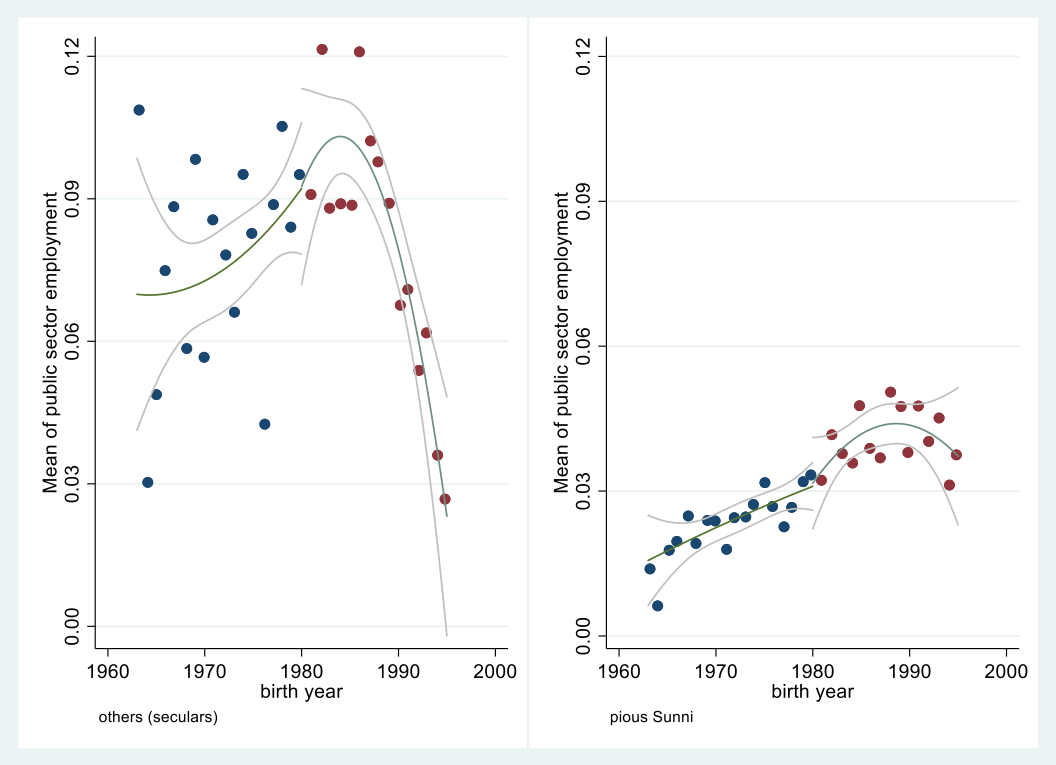
Finally, household per capita incomes rose less for pious Sunni individuals compared to the rest, somewhat contrary to employment findings. As we discuss later, pious Sunni individuals' gains in high-status employment is not reflected in household incomes probably because dual-earner and smaller households are more common among the rest.

4.3. Econometric Framework

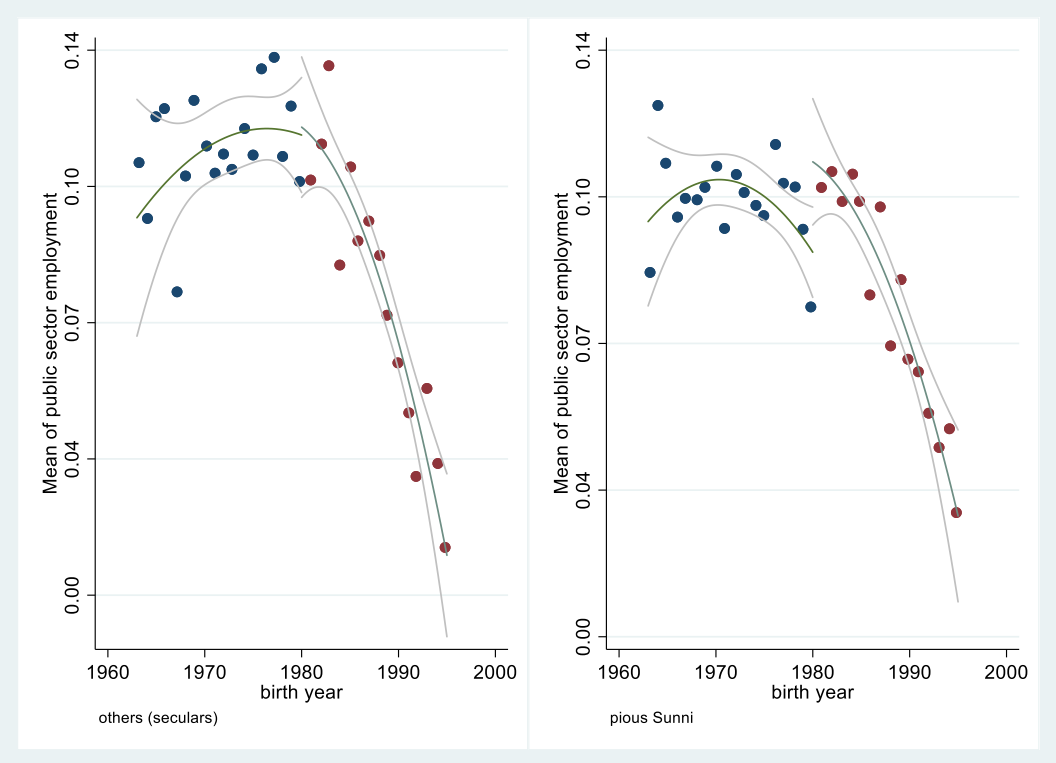
We present two alternative econometric approaches in empirical analysis that complement each other. First, a difference-in-differences (DiD) approach allows us to estimate the overall impact of being a pious Sunni. Secondly, we make use of a quasi-event study approach; where the functional form and periodization is more flexible, i.e. before and after is not imposed by the researcher. The event study plot also allows us to visually verify a parallel trend assumption in the 1963-1980 period. We estimate all regressions separately for men and women due to very large differences in labor force participation and employment rate.

Figure 2: Ratio of Public Sector Workers by Religiosity

Panel A: Women born between 1963 and 1995 (between 23-49 years old at the time of survey)



Panel B: Men born between 1963 and 1995 (between 23-49 years old at the time of survey)



Note: Source Konda Barometre Surveys, 2012-18. Population weights are not applied, raw data. Same as Table 1 sample.

4.3.1. Difference-in-differences (DiD) Approach

Figure 2 shows that public sector employment-to-population ratios are not substantially different for those born in the late 1970s and early 1980s for either identity group. However, public sector employment-to-population trajectories of other sub-group differs substantially from Sunni religious sub-group by 1990s. In order to account for this specific trajectory, we estimate the following model:

$$Emp_i = \alpha + \beta_1(BY_{81-89} \times PS_i) + \beta_2(BY_{90-95} \times PS_i) + \Gamma X_i + e_{(i)}$$

Here Emp_i indicates whether person i is employed / urban employed / public sector employed / private high status employed. $BY_{81\text{-}89}$ is an indicator for individual *i* born between 1981 and 1989; $BY_{90\text{-}95}$ is an indicator for individual *i* born between 1990 and 1995; PS_i is an indicator for whether person is a pious Sunni or not[15]; X_i is a vector of controls: pious Sunni or not, cohort (1981-89 or1990-95), birth year, education level (less than high school, high school, tertiary), NUTS1 survey region, and interaction of five broad regions and survey year.

4.3.2. Quasi-event-study Approach

The DiD framework imposes a strict periodization as before and after. As we discuss in the next section, this clear-cut periodization may not be valid for our case since those born in the late 1970s may also enter the labor force during AKP rule, although in smaller ratios. Moreover, in the DiD approach we impose a functional form. An event-study approach allows us to relax these constraints. Additionally, younger cohorts may change their schooling behavior by studying longer (for example to obtain a master degree) in response to evolving job market conditions. This issue is most salient to cohorts born after 1992 in our dataset (see Figure 1). In the event-study approach, treatment and control group members from each age are compared separately, hence we can directly observe if the overall estimates are driven by these youngest cohorts (see Figures 3 and 4). Moreover, Figure 2 shows that parallel trends assumption does not hold in the pre-treatment period in the raw data (hence the controls). In Figures 3 and 4, we visually document that after controlling for confounders, pre-treatment period trends are not significantly different than each other. In this approach we estimate the following regression:

[15] We also estimate this regression by leaving out Kurds for robustness. Please see Appendix D.

$$Emp_i = \alpha + \sum_{\tau=1963}^{1995} \beta^{\tau}(BY_i \times PS_i) + \Gamma X_i + e_{(i)}$$

Here Emp_i indicates whether person i is employed / urban employed / public-sector employed / private high-status employed. BY_i is an indicator for birth year of individual i; PS_i is an indicator for whether person is a pious Sunni or not; X_i is a vector of controls (same as above except birth cohorts). We plot coefficients β^{τ}, normalizing β^{1969} as zero, since it is the first birth year with observations from each survey year, to trace out the changes in employment for those born between 1963 and 1995. We employ population weights described above, and we cluster standard errors by survey province.

4.3.3. Estimation Issues

There are three potential issues for our estimation strategy. The first one is identification. Our data is from 2012-2018 period, i.e. AKP period, we do not have actual observations from pre-AKP period to observe the distributions of high status jobs (public or private). Most of the 23-49 year olds in the Barometre surveys entered the labor market long before the survey date. We observe their religious identity on the day of survey but we do not know how they identified when they started the job. For example, person A who is born in 1984 and entered the public service in 2007, could have identified herself as a secular in 2007. However, the same person could have identified herself as pious, when she was surveyed in 2015. In our estimations, we classify her as a pious person who entered employment in AKP period, hence we may over-estimate[16] the AKP effect if such people are a significant part of the population. We have supporting evidence to suggest that this is not a large problem: i) The share of pious Sunni group is roughly stable over the survey years (see Table B1). ii) If anything the share of pious Sunni are declining among the youngest cohorts (born after mid-1980s, see Figure A1 bottom panel).[17] We expect this to be a more stable identity compare to others, such as being AKP voter or wearing headscarf are much more likely to be endogenous to employment status.

[16] A public sector employee who was not pious on the day of employment is counted as pious due to her self-identification on the day of survey.

[17] We run an experiment assuming that 10 percent of sample were not pious Sunni when they entered the public sector employment. We find that pious Sunni coefficient approaches zero. However, the main variables of interest, interaction terms, do not change much. Results are available upon request.

Another potential estimation issue is that we do not know when people started working in the job they report for the survey. We classify observations to pre-treatment versus treatment period by birth year. In the DiD approach, we classify observations born between 1963 and 1980 as pre-treatment and observations born in 1981-1995 as treatment period. For example, if person A, who is born in 1978 and became public servant in 2007 (surveyed in 2014) is a secular, we misclassify her a member of the control group in the pre-treatment period when in reality she started working in the public sector in treatment period. This misclassification creates a fictitious decline in control group public sector employment and lead to over-estimation of AKP effects. If she is a religious person, we misclassify a member of treatment group in the pre-treatment period when in reality she started working in the public sector in treatment period. This misclassification creates a fictitious decline in treatment group public sector employment and lead to under-estimation of AKP effects.[18] Pious Sunnis constitute roughly two-thirds of the 23-49 years olds in our sample, second misclassification is the most likely case, hence we are probably under-estimating AKP effects. In other words, our regression estimates should be regarded as lower bound estimates. Also, in event-study design we relax the strict periodization imposed in DiD framework and get around these problems.

Finally, we may have an endogeneity problem, i.e. people working in the public sector or private high status jobs may feel pressured to declare to be pious Sunnis when they are not. However, the reverse causality problem would lead to a bias in our estimations only if the rates of false declaration are different across cohorts. In order to address this reverse causality problem, we also estimate instrumental variable (IV) regressions where we instrument pious Sunni identity with the share of pious Sunnis in the province of birth and the interaction of share of pious Sunnis in the province of birth with born in 1981-89 variable and the interaction of share of pious Sunnis in the province of birth with born in 1990-95 variable.

[18] We run another experiment assuming 10 percent of sample born in 1976-1980 entering labor force after 2003. We find that interaction terms hardly change. Only the coefficient of born between 1980-89 approaches zero. Note that a reverse scenario (a person born in 1982 (classified as treatment period) but entered public sector employment before 2003) is very unlikely due to institutional constraints (i.e. KPSS) and not worth considering. Results are available upon request.

Table 2: Determinants of public sector and private high-status jobs in Turkey (2012-2018)

	Public sector employment			Private high status jobs		
	Age 23-49, All			Age 23-49, All		
	Total	Men	Women	Total	Men	Women
Pious Sunni	-0.003	0.011**	-0.018***	-0.030***	-0.028***	-0.033***
	(0.003)	(0.005)	(0.005)	(0.003)	(0.004)	(0.004)
Born in 1981-89	-0.072***	-0.102***	-0.043***	0.004	0.004	0.010
	(0.012)	(0.021)	(0.011)	(0.010)	(0.017)	(0.011)
Pious Sunni* Born in 1981-89	0.016***	0.013**	0.013**	-0.003	0.011	-0.017**
	(0.004)	(0.006)	(0.006)	(0.005)	(0.007)	(0.007)
Born in 1990-95	-0.133***	-0.155***	-0.111***	-0.070***	-0.086***	-0.041**
	(0.016)	(0.027)	(0.015)	(0.015)	(0.025)	(0.018)
Pious Sunni*Born in 1990-95	0.039***	0.020**	0.054***	0.029***	0.055***	-0.007
	(0.007)	(0.008)	(0.008)	(0.006)	(0.011)	(0.007)
Middle school degree	0.015***	0.021***	0.010***	0.013***	0.020***	0.010***
	(0.002)	(0.003)	(0.001)	(0.002)	(0.004)	(0.002)
High school degree	0.056***	0.073***	0.036***	0.071***	0.084***	0.059***
	(0.005)	(0.008)	(0.004)	(0.006)	(0.008)	(0.006)
Tertiary degree	0.286***	0.303***	0.266***	0.228***	0.225***	0.232***
	(0.030)	(0.033)	(0.026)	(0.020)	(0.021)	(0.019)
Kurd	-0.002	-0.007	0.002	-0.013*	-0.021*	-0.005
	(0.003)	(0.005)	(0.003)	(0.007)	(0.012)	(0.003)
Women	-0.024***			-0.088***		
	(0.004)			(0.007)		
Adj. R-Square	0.171	0.160	0.186	0.116	0.080	0.132
Sample Size	110,115	54,025	56,090	110,115	54,025	56,090
Birth year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
NUTS1 regions fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
5 regions * survey year	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Standard Errors are clustered at province level. Population weights are applied. ***: p<0.01, **: p<0.05, *: p<0.10.

5. Estimation results

5.1. Main findings

Table 2 shows the determinants of public sector employment and private high-status jobs in Turkey. For public sector employment, we find that the impact of being pious Sunni (PS) is insignificant for the whole sample, is positive at 5% for men and is negative at 1% for women with a coefficient of -0.018, meaning that pious Sunni women are estimated to suffer from about a 1.8 percentage points-gap in public sector employment compared to other women on average, without

yet distinguishing between cohorts. The negative sign of PS for women could be an outcome of the negative role of religious conservatism on women's labor force participation (Dildar, 2015) and may also the reflect the effect of headscarf bans that continued in state institutions until 2013.

The positive sign of PS for men reflects that pre-1981 male PS cohorts were already slightly advantageous (when controlled for education level, in which pious Sunni people are at a disadvantage) for being recruited by the public institutions. Strikingly, however, the PS interaction terms for 1981-89 and 1990-95 are positive at 5% significance level; which reflects that PS men that probably entered the job market during AKP era are more likely to be recruited in the public institutions. For women, Table 2 shows that the impediment for being PS is significantly reduced for the 1980s cohort and entirely reversed for the 1990s cohort as the coefficient of PSxB90-95 is 0.054 as opposed to SP's coefficient, -0.018. The coefficient for PSxB90-95 likely reflects the influence of the end of the headscarf ban in public institutions in 2013 and maybe the beginning of negative discrimination against secular women for recruitments in the public sector.

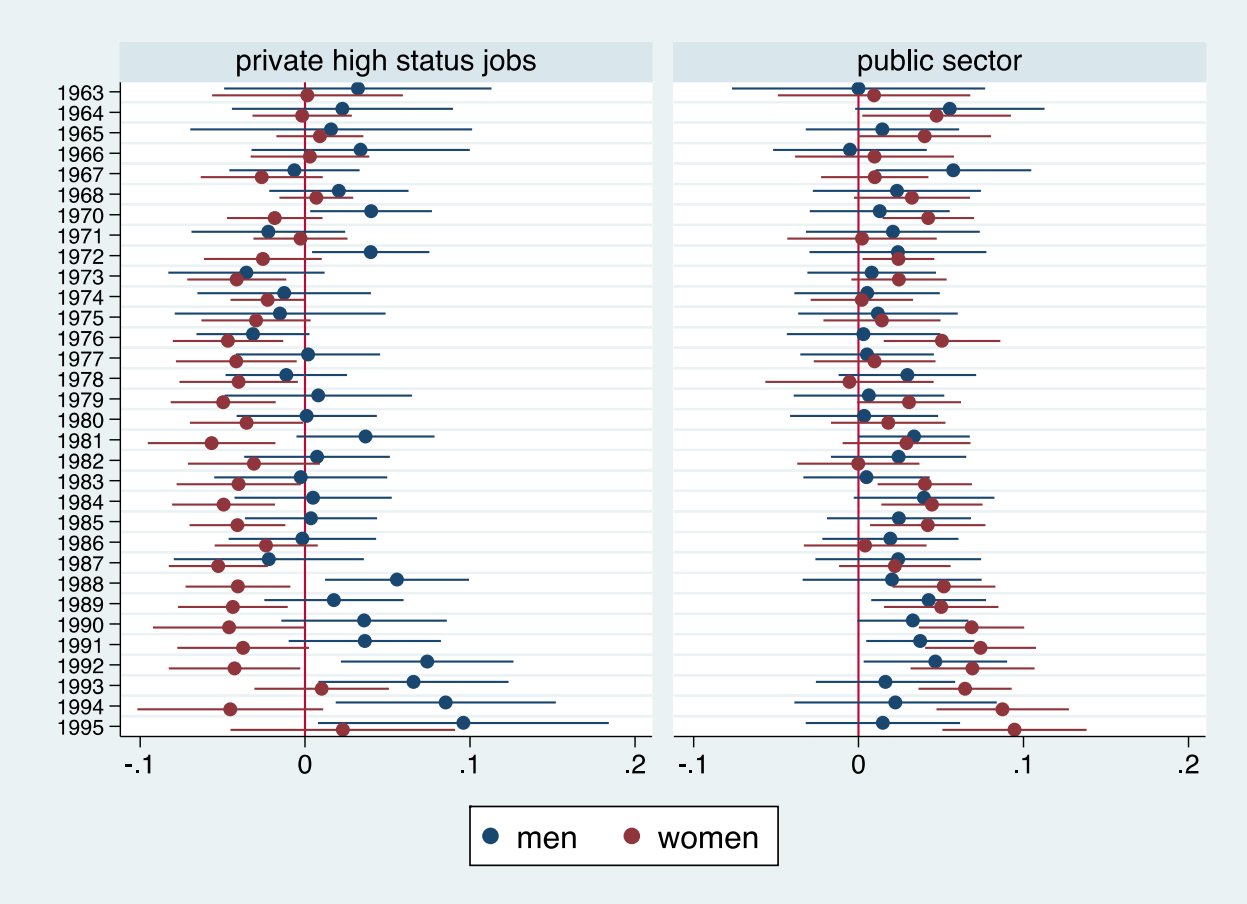
Figure 3 shows estimates that include PS's yearly interaction terms.[19] For estimations of public sector employment, the coefficients for the interaction terms for men are close to zero for the 1970s generation and it becomes significantly positive for the 1981 cohort, which was at the age of 22 and therefore the earliest cohort to mostly receive tertiary degrees during the first full year of the AKP government. This also shows that the younger PS men that entered the job market during the AKP era have greater likelihood of being employed in the public sector compared to earlier generations. Similarly, for public sector employment of women, PSxByear interaction terms are mainly positive for 1980s, the coefficients become significant at 5% for PSxB1988 are increasingly larger for post-1988 generation reflecting the influence of the end of headscarf ban in the public sector. Moreover, other women might be increasingly less preferred in public institutions during the AKP era.

Turning now to the private sector, according to Table 2, women in general and PS women in particular were less likely to be working in the private high-status jobs. For men, PSxB90-95 interaction term is significantly positive. For women, PSxB81-89 and PSxB90-95 interaction terms are negative and at 5% significant for PSxB90-95. The growing job opportunities in the

[19] We choose the base cohort in Figure 3 as 1969, which is the eldest cohort in our sample 2018, members of whom therefore appear in all survey years. Older cohorts are missing in some survey years and their inclusion therefore introduces estimation inefficiency.

public sector might be pulling the high-skilled PS women to the public sector from the private sector. It might also be the case that secular women that are less likely to be employed in the public sector during the AKP era are being pushed to the private sector, i.e. crowded-out from the public sector by pious Sunnis. Similarly, Figure 3 shows that starting from the 1988 cohort the PS men are increasingly gaining advantage against seculars in terms of employment in private high-status jobs. A similar trend is not observed for PS women possibly due to the pull effect of growing job opportunities in the public sector. Lastly, Table 2 shows that being Kurd, at 10%, significantly reduced men's probability of being employed in private high-status jobs on average, independently of cohorts.

Figure 3: Coefficient Plot of pious Sunni and birth-year interaction variables for Public Sector and High-Status Private Sector Jobs (23-49 years old at the time of survey)



Notes: The base year is 1969. Vertical axis shows the results of interaction between pious-Sunni dummy and birth year. We control for education (less than middle school, middle school, high school and university graduates), Kurd dummy, NUTS1 regions and interaction of five broad regions and survey years. Standard Errors are clustered at province level. Population weights are applied. The lines show confidence intervals at 5%. Population weights and year effects are applied for each survey year (2012-2018).

Next, we estimate the influence of being PS on high-status jobs (public sector plus private high-status jobs), urban employment and employment in general. Overall, Table 3 shows that pre-1981 PS women cohorts are significantly (at 1%) less likely to be employed in all these categories. This is consistent with the previous studies indicating that patriarchal norms and religiosity are negatively associated with women's labor participation in Turkey (Dildar, 2015). Moreover, pre-1981 PS male cohorts are less likely to get employed in high-status jobs overall. The coefficients for PSxB81-89 and PSxB90-95 interaction terms show that PS cohorts, who are more likely to enter the job market during Erdoğan era, have greater opportunities of being employed in all jobs, urban jobs and high-status jobs compared to older PS cohorts.

Table 3: Determinants of employment, urban employment and high-status employment in Turkey (2012-2018)

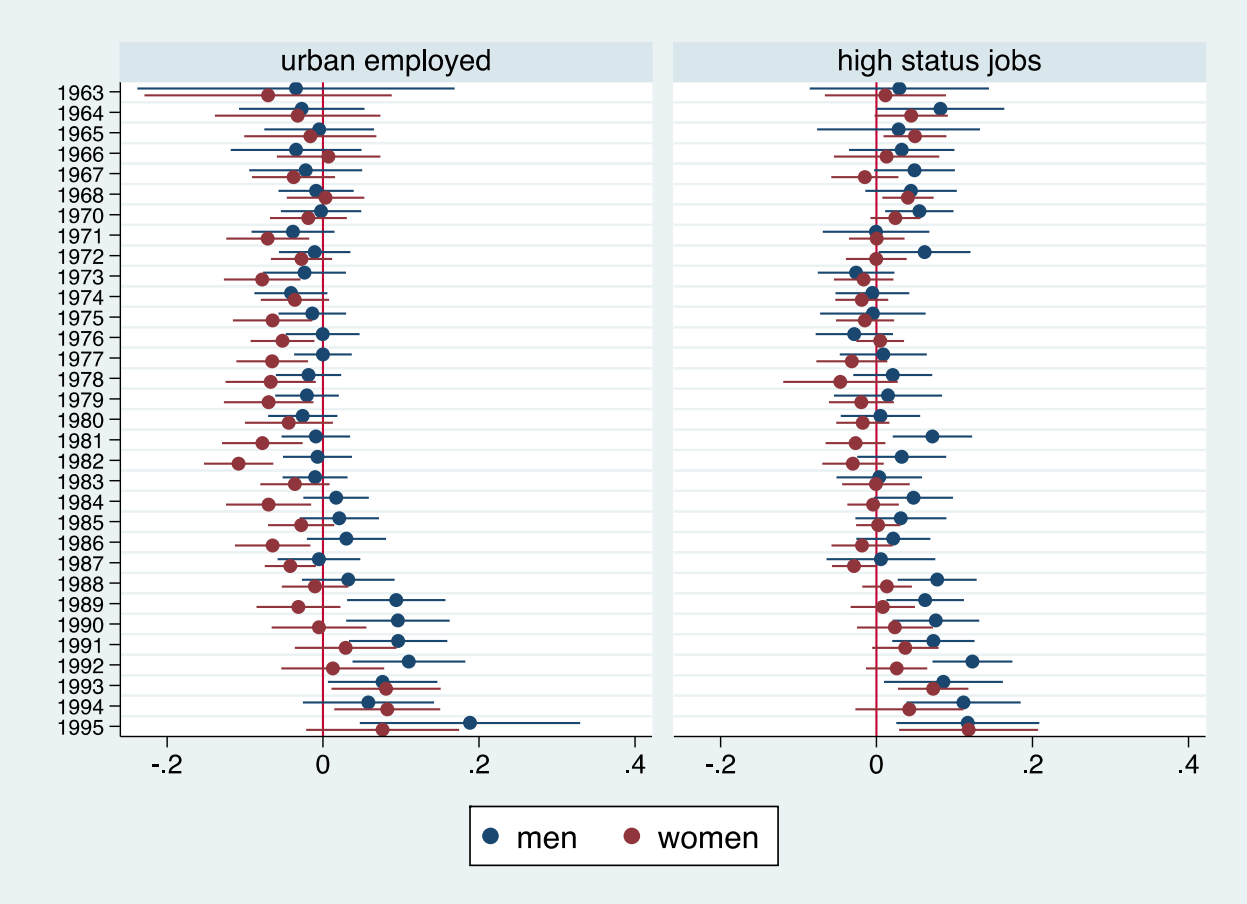
	All employment Age 23-49, All		All employment Age 23-49, urban		High status employment Age 23-49, All	
	Men	Women	Men	Women	Men	Women
Pious Sunni	-0.003	-0.095***	-0.001	-0.104***	-0.020***	-0.051***
	(0.004)	(0.007)	(0.005)	(0.008)	(0.005)	(0.004)
Born in 1981-90	-0.004	-0.005	0.037	-0.003	-0.101***	-0.033**
	(0.045)	(0.029)	(0.054)	(0.025)	(0.024)	(0.015)
Pious Sunni * born in 1981-90	0.036***	-0.008	0.036***	-0.005	0.025***	-0.004
	(0.006)	(0.011)	(0.007)	(0.014)	(0.007)	(0.009)
Born in 1991-95	-0.263***	-0.184***	-0.241***	-0.182***	-0.244***	-0.152***
	(0.057)	(0.033)	(0.067)	(0.027)	(0.030)	(0.024)
Pious Sunni* born in 1991-95	0.114***	0.073***	0.111***	0.088***	0.077***	0.046***
	(0.014)	(0.012)	(0.017)	(0.013)	(0.012)	(0.011)
Middle school degree	0.058***	0.040***	0.060***	0.045***	0.042***	0.020***
	(0.005)	(0.004)	(0.005)	(0.004)	(0.005)	(0.002)
High school degree	0.022***	0.141***	0.017***	0.145***	0.158***	0.096***
	(0.004)	(0.006)	(0.004)	(0.006)	(0.005)	(0.005)
Tertiary degree	0.019**	0.503***	0.022***	0.515***	0.529***	0.500***
	(0.007)	(0.008)	(0.008)	(0.006)	(0.016)	(0.009)
Kurd	-0.027***	-0.019**	-0.024***	-0.021***	-0.027***	-0.002
	(0.009)	(0.007)	(0.008)	(0.008)	(0.010)	(0.003)
Adj. R-Square	0.078	0.214	0.092	0.223	0.214	0.307
Sample Size	54,025	56,090	42,919	46,044	54,025	56,090
Birth Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
NUTS1 regions fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
5 regions * survey year effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Standard Errors are clustered at province level. Population weights are applied. ***: p<0.01, **: p<0.05, *: p<0.10.

For women, the gap between PS and others is not closed for the 1981-90 generation for any of the categories; however, it's significantly narrowed down for 1990s generation. Moreover, Table 3 shows that Kurdish men are significantly less likely to find jobs in whole sample, urban sample and high-status jobs and Kurdish women are less likely to find jobs in whole sample and urban sample.

Figure 4 shows that the post-1987 PS men cohorts are getting increasingly likely to be employed in urban and high-status jobs compared to older PS male cohorts. Moreover, the coefficients for PSxB93-95 show that the job opportunities for 1993-95 PS female cohorts improved.

Figure 4: The relative probability of employment in urban and high-status jobs of pious Sunni individuals compared to the 1969 cohort (year effect, 2012-2018)



Notes: The base year is 1969. Vertical axis shows the results of interaction between the pious-Sunni dummy and birth year. We control for education (less than middle school, middle school, high school and university graduates), Kurd dummy, NUTS1 regions and interaction of five broad regions and survey years. Standard Errors are clustered at province level. Population weights are applied. The lines show confidence intervals at 5%. Population weights and year effects are applied for each survey year (2012-2018).

Next, Table 4 shows the determinants of being in top income levels in Turkey. For pre-1981 cohorts, PS individuals were less likely to be in top 1%, top 5%, top 10% and top 20% income groups[20]. However, SPxB90-95 coefficient is significantly (respectively at 0.05 and 0.1 levels) positive for top 1% and top 5% groups, which indicates that the gap between PS and others in terms of the probability of receiving top incomes is reduced in the 1990s cohort.

Table 4: Determinants of being in top income groups in Turkey (2013-2018)

	top 1 %	top 5 %	top 10 %	top 20 %
Pious Sunni	-0.007***	-0.021***	-0.037***	-0.051***
	(0.002)	(0.005)	(0.006)	(0.006)
Born in 1981-89	0.000	0.001	-0.040***	-0.053**
	(0.004)	(0.009)	(0.012)	(0.021)
Pious Sunni * born in 1981-89	-0.001	-0.010**	-0.011*	-0.013*
	(0.003)	(0.004)	(0.005)	(0.007)
Born in 1990-95	0.001	-0.005	-0.039	-0.047
	(0.007)	(0.018)	(0.027)	(0.030)
Pious Sunni * born in 1990-95	0.007**	0.011*	0.010	0.002
	(0.003)	(0.006)	(0.006)	(0.006)
Middle school degree	0.001*	0.009***	0.021***	0.051***
	(0.001)	(0.002)	(0.004)	(0.008)
High school degree	0.002	0.025***	0.058***	0.146***
	(0.002)	(0.005)	(0.009)	(0.015)
Tertiary degree	0.032***	0.166***	0.284***	0.445***
	(0.009)	(0.020)	(0.020)	(0.018)
Kurd	-0.003**	-0.012***	-0.016***	-0.036***
	(0.001)	(0.003)	(0.005)	(0.008)
Women	-0.003***	-0.010**	-0.012*	-0.011
	(0.001)	(0.004)	(0.006)	(0.007)
Adj. R-Square	0.020	0.092	0.143	0.195
Sample Size	70,460	70,460	70,460	70,460
Birth Year fixed effects	Yes	Yes	Yes	Yes
NUTS1 regions fixed effects	Yes	Yes	Yes	Yes
5 regions * survey year effects	Yes	Yes	Yes	Yes

Notes: Standard Errors are clustered at regional level. Population weights are applied. ***: p<0.01, **: p<0.05, *: p<0.10.

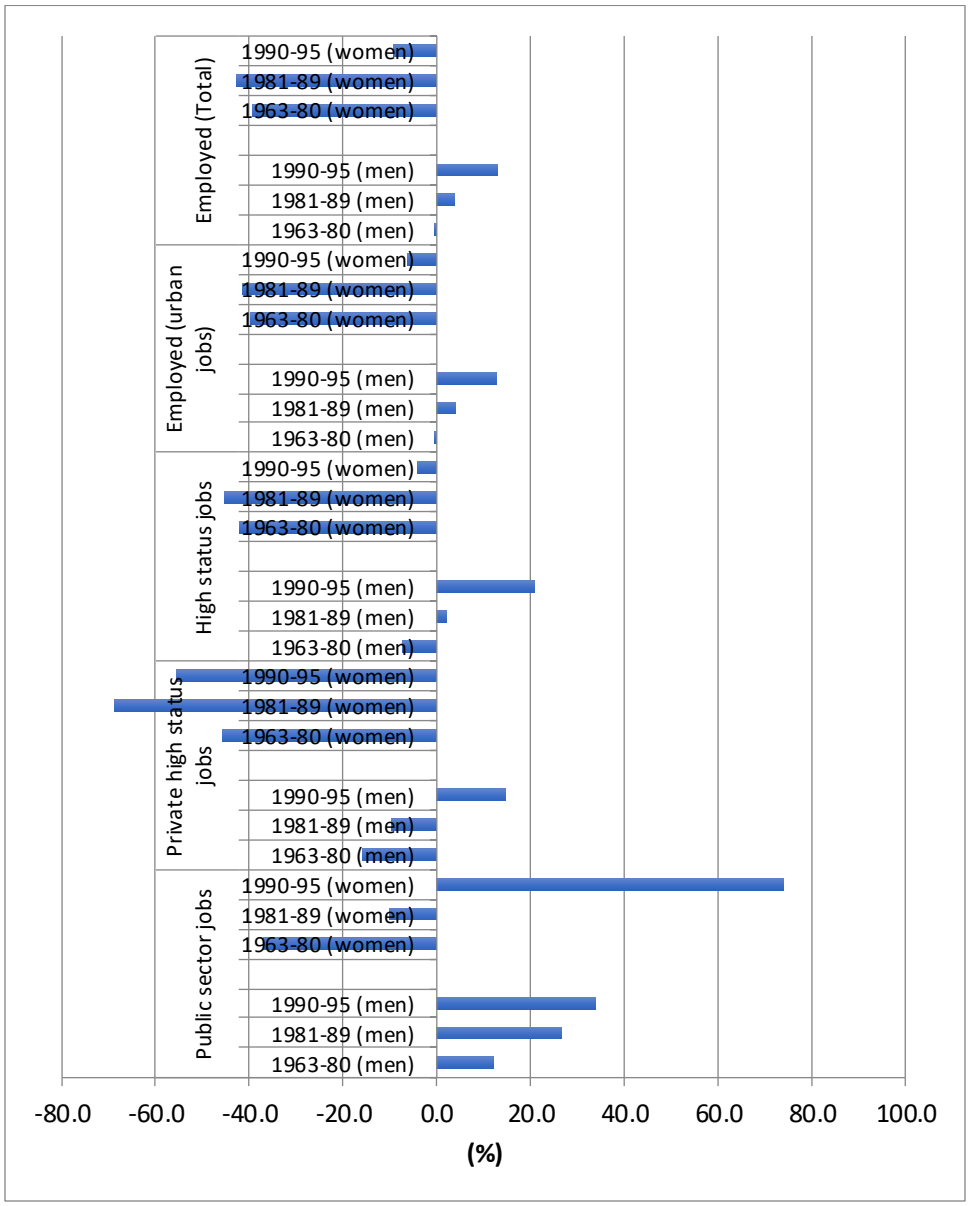
[20] To find individuals at top income groups, we ranked individuals' incomes for each year using "square root scale" adjustment. Hence, income for each individual is $Household\ income/\sqrt{number\ of\ household\ members}$. Estimations are for 2013-2018, since data on the number of household members is not available for 2012.

Finally, Figure 5 reflects the economic significance of our estimations in Table 2 and 3 by showing the likelihood of pious Sunnis being employed in all job categories, compared to seculars. The bars for 1963-80 are the coefficients for PS from Table 2 and Table 3 divided by the overall share of the population for 1963-80 cohorts (according to our sample) in each occupation category. This shows the pre-1981 PS cohorts' likelihood of employment compared to other cohorts born before 1981. The bars for 1981-89 (1990-95) are the sums of coefficients for PS and PSxB81-89(90-95) interaction term divided by the share of population for 1981-89(1990-95) cohorts in each occupation category. Following Ziliak and McCloskey (2004, 2008), we do not treat the coefficients that are not significant at 10% as zero and discuss the economic significance of the non-significant coefficients along with the coefficients that are significant at 10%.

According to Figure 5, the most noticeable improvement is observed in public sector jobs for PS women. PS women born before 1981 are 37.1% less likely to be employed in public sector jobs compared to other women, whereas PS women born in 1981-89 and 1990-95 are respectively 10.1% less likely and 74.1% more likely to be employed than other women born in 1981-89 and 1990-95. Moreover, PS men born before 1981 are 12.2% more likely to be employed in public sector jobs than their other counterparts, which improved to 26.6% for PS men born in 1981-89 and to 33.8% for men born in 1990s. All these effects are estimated by controlling for the education level of the respondents. Without controlling for education, the gradual improvement of PS individuals' employment chances during AKP era look substantially greater for most job categories, since PS individuals also made progress in closing the education gap during the same era, for reasons that are beyond the scope of this paper.

SP men born before 1981 are 15.9% less likely to be employed in private high-status jobs than other men. The gap for PS men shrank for younger cohorts, such that PS men born in 1981-89 are 9.7% less likely and PS men born in 1990s are 14.8% more likely to be employed than their comparative counterparts. Similarly, PS men born before 1981 are 0.1% less likely to be employed in urban jobs, whereas probabilities of being employed in urban jobs are 4.0% and 12.7% greater for PS men born in 1981-89 and 1990-95 respectively. The interaction terms for 1990-95 are larger than the interaction terms for 1981-89. This might reflect that as time passes under AKP governments, the economic activities of firms owned by PS could be progressively improving against firms owned by the seculars.

Figure 5: Pious Sunni cohorts' probability of employment compared to rest (2012-2018)



Note: The bars show the coefficients from Table 2 and Table 3 divided by the share of population (for relevant cohorts) in each types of jobs.

On the other hand, PS women's likelihood of being employed in private high-status jobs was 45.7% lower compared to their other counterparts. This gap further deteriorated for younger PS women. PS women born in 1981-89 are 68.9% and PS women born in 1990s are 55.5% less likely to be employed in private high-status jobs. The PS women's likelihood to be employed in private high-status jobs could be an outcome of ongoing social constraints on PS women's labor

participation. It could be also due to the substantial increase in PS women's likelihood of being employed in public sector jobs, which may pull PS women from high skilled private to public jobs. On the other hand, we find that PS women's probability of being employed in urban jobs is %39.7 less for pre-1981 cohorts, which significantly improved for PS born in 1990-95. PS women born in 1990-95 are only 7.3% less likely to be employed in urban jobs than their other counterparts.

5.2. Robustness analysis

In this section, we conduct several robustness analyses. First, we present estimations by taking those who report the top level of religiosity in the survey's 1-5 ordinal scale, which we here call as Highly Religious Sunni (HRS) as a separate category from other pious Sunnis (OPS). This is therefore a group that shows the utmost religious tendencies. In our regression sample, HRS individuals constitute only 9.3% of population. There is greater support for the incumbent AKP government amongst the HRS. Between 2012-2018, 66.1-79.4% of HRS people reported an intention to vote for AKP (with average of 73.1%), whereas this ratio was 56.0-70.3% (with average of 65.1%) among the rest of the PS.[21] 54.7% of the HRS group in our regression sample define their lifestyle as "Religious Conservative" as opposed to 30.1% of the other PS. Moreover, 89.7% of Sunni Highly Religious women wear headscarf, whereas 75.0% of other PS women wear headscarf.

Table 5 shows that, for public sector employment, the coefficients for HRSx1990-95 interaction term are 1.5 percentage points higher for men and 2.6 percentage points higher for women compared to the coefficients for OPSx1990-95.[22] Moreover, the coefficients for HRSx1981-89 are also larger than the coefficients for OPSx1981-89 for women and men. Hence, during the AKP era, it was not only the younger cohorts of PS people, who constitute a large part of the society that gained an advantage over others. A smaller and highly religious sub-group that constitutes a minority of Turkish society gained over everyone else, including the rest of the PS.

For private high-status jobs, the coefficients for HRS and OPS are similarly negative. HRS men from the 1990s cohorts have significantly (at 1%) higher opportunities to be employed in

[21] We estimate the range for AKP votes by combining the monthly surveys for each year. Hence, the minimum and maximum values are values for years that AKP's votes were at minimum and maximum. AKP vote shares exclude the indecisive voters and those who declare that they will not vote.

[22] For public sector employment, the coefficients for SHRx1990-95 interaction terms are larger than the coefficients for OPSx1990-95 at 1% for women.

private high-status jobs compared to pre-1981 cohorts, and the positive coefficient for HRSx1990-95 is 1.1 percentage point greater than OPSx1990-95.

Table 5: Determinants of high-status employment of highly religious in Turkey (2012-2018)

	Public Sector Employment			High Status Jobs, Private		
	Age 23-49, everybody			Age 23-49, everybody		
	Men and Women	Men	Women	Men and Women	Men	Women
Highly religious and other pious Sunnis						
Other pious Sunni	-0.003	0.010**	-0.017***	-0.031***	-0.030***	-0.032***
	(0.003)	(0.005)	(0.005)	(0.003)	(0.005)	(0.004)
Other pious Sunni * b. in 1981-89	0.015***	0.013**	0.012**	-0.004	0.009	-0.017**
	(0.004)	(0.006)	(0.006)	(0.005)	(0.008)	(0.007)
Other pious Sunni * b. in 1990-95	0.037***	0.018**	0.050***	0.028***	0.055***	-0.009
	(0.006)	(0.008)	(0.008)	(0.006)	(0.011)	(0.007)
Highly religious Sunni	-0.004	0.016**	-0.022***	-0.038***	-0.038***	-0.039***
	(0.004)	(0.007)	(0.005)	(0.005)	(0.007)	(0.005)
Highly religious Sunni * born in 1981-89	0.021***	0.015*	0.017**	0.006	0.034**	-0.018**
	(0.006)	(0.009)	(0.006)	(0.007)	(0.014)	(0.007)
Highly religious Sunni * born in 1990-95	0.059***	0.033**	0.076***	0.035***	0.066***	-0.004
	(0.010)	(0.013)	(0.009)	(0.010)	(0.018)	(0.011)
Adj. R-Square	0.171	0.159	0.185	0.113	0.076	0.129
Sample Size	110,115	54,025	56,090	110,115	54,025	56,090
Birth Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
NUTS1 regions fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
5 regions * survey year effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: We control for education (less than middle school, middle school, high school and university graduates), Kurd dummy, gender dummy when applicable, NUTS1 regions and interaction of five broad regions and survey years. Standard Errors are clustered at province level. Population weights are applied. ***: p<0.01, **: p<0.05, *: p<0.10.

Next, we would like to report analyses where we separate groups not on the basis of religious group membership but on the basis of whether they wear headscarves or not. Obviously this analysis can be done only for women, and it is known that many female civil servants put on their headscarves only once it was legally allowed. Headscarf is therefore partly endogenous to occupational status—more so than religious identities reported in our survey data—and for this reason we treat this as a secondary analysis. Our results in Appendix D Table D1 and Figure D1 show results that are similar to our primary findings. Pre-1981 cohort women with headscarves were disadvantaged against other women, which is consistent with headscarf bans in public

institutions that continued until 2013. The disadvantage of headscarved women was reduced in 1981-89 cohorts and turned into an advantage in the 1990s cohorts. Women with headscarves are less likely to be employed in high-status jobs in the private sector in pre-1981 cohorts. For high-status jobs in the private sector, the coefficients for interaction terms are insignificant. Lifting the headscarf ban in public sector did not impact the situation of women with headscarves in private sector high-status jobs

We also exclude Kurds from our estimations in Table 2 to examine whether any discrimination against the Kurdish population biased our estimations. The coefficient sizes and levels of significance in our estimations are very similar to Table 2, when Kurds are excluded from our sample. These results are also in Table D1.

Last, Appendix E reproduces main findings for public sector and private high-status jobs with IV estimates. In IV estimates, coefficient estimates for interaction terms are larger in absolute terms suggesting that our OLS estimates should be regarded as lower-bound estimates.

6. Conclusion

In this paper we provide the first comprehensive individual-level empirical evidence of AKP's rewarding its demographic in-group in the labor market, especially public sector employment. A growing literature shows that AKP channels public investment to its electoral constituencies, awards public procurement contracts to like-minded business groups and direct public banks' lending to generate electoral advantages for the party's mayors. These channels are important for the allocation of wealth and power among business groups. However, a potentially larger group of people are affected by public sector recruitment. Moreover, public sector employment is one of the main means of social mobility in developing countries.

Quantitative analysis of patronage in public sector employment is hampered by lack of adequate data in Turkey. We address this problem by utilizing private polling data with good track record. We pool surveys from 2012 to 2018 and identify pious Sunni individuals—AKP's core social constituency—and examine whether their public employment ratio has changed under AKP's term in office.

We first confirm that across the entire pooled sample, secular people have higher ratios of university degree attainment, employment in the public sector and high-status private sector jobs as well as higher income. We find, however, that under AKP rule pious Sunnis (PS) displayed

significant improvement in occupational outcomes while seculars relatively declined, controlling for education—all the more striking because pious Sunnis have also moved to close the education gap. The most important changes concern women. While older cohorts of pious Sunni women have substantially lower likelihood to be employed in the public sector compared to secular women, this disadvantage disappears for younger cohorts, and turns into an advantage for the newest cohorts, who likely entered the job market after 2013 when the government lifted the ban on headscarves (a visible marker of Sunni piety among women) for civil servants. Moreover, under AKP rule, it might have become more difficult for secular women to be employed in the public institutions, as Çörekçioğlu (2021) reflects for AKP-run municipalities.

Nonetheless, pious women are not displaying the same kind of improvement in their relative employment ratio in high-status private sector jobs, unlike pious Sunni men who are improving their share in both scores compared to their secular counterparts. The PS women's growing opportunities of secure jobs with fixed work schedules in the public sector and the ongoing discrimination against PS women (Cindoğlu, 2011) in private sector as well as discrimination against secular women in the public sector could have contributed to this outcome.

Furthermore, there is also evidence for some improvement in the household income hierarchy for the entire group. The growth of politically connected private firms (Çeviker Gürakar, 2016; Bircan and Saka, 2021) and higher public investments in AKP's core constituencies (Luca and Rodriguez, 2015) could have improved private job opportunities for pious Sunni men. Moreover, public institutions and private firms might have earlier faced a constraint in terms of number of skilled PS job candidates, which has perhaps been eased with the rising number of university graduates among this group during AKP's term.

Moreover, during AKP rule not only PS that constitute a larger share of population improved their likelihood of being employed in public jobs, but also a smaller group of highly religious Sunni men and women (which constitutes only 9.3% of population) improved their employment opportunities in public sector more than the rest of the SP.

Our results strongly suggest as AKP rule solidified, its core constituencies became more likely to be employed in public sector and high-status private sector jobs compared to "secular" others. Our findings are in line with the emerging literature from Turkey about the way in which AKP is wielding its political power to reward its constituencies and reaping electoral rewards in

return by receiving more votes from individuals experiencing relatively positive economic change, despite an overall environment of increasing economic hardship (Yagci and Oyvat 2020).

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Appendix A. Weighting the KONDA Data

Median population weight is 1,765, with a range between 832 and 5896.[23] Table A1 shows the effect of weighting on education. Top panel presents the unweighted distribution of education by year and bottom panel presents weighted distribution of education by year. Bottom panel education distribution is equivalent to TURKSTAT data by construction. Comparing two panels clearly reveals that high school graduates were over-represented in Barometre data set before weighting (especially for men). Moreover, over-education bias was stronger in earlier years. Since we pool years to increase the number of observations from different years, weighting is even more crucial for studies like ours.

Table A1. Comparison of Barometre education distribution before after weights applied (whole sample)

	Barometre, adults (unweighted)			
	Men, LTHS	Men, HSG	Women, LTHS	Women, HSG
2012	52%	48%	67%	33%
2013	51%	49%	65%	35%
2014	50%	50%	65%	35%
2015	50%	50%	65%	35%
2016	48%	52%	62%	38%
2017	47%	53%	62%	38%
2018	46%	54%	60%	40%
	Barometre, adults (weighted)			
2012	58%	42%	70%	30%
2013	57%	43%	68%	32%
2014	56%	44%	67%	33%
2015	54%	46%	65%	35%
2016	53%	47%	64%	36%
2017	52%	48%	62%	38%
2018	50%	50%	61%	39%

Notes: LTHS: less than high school graduates. HSG: high school or above graduates. Weighted Barometre distribution is very close to TURKSTAT distribution.

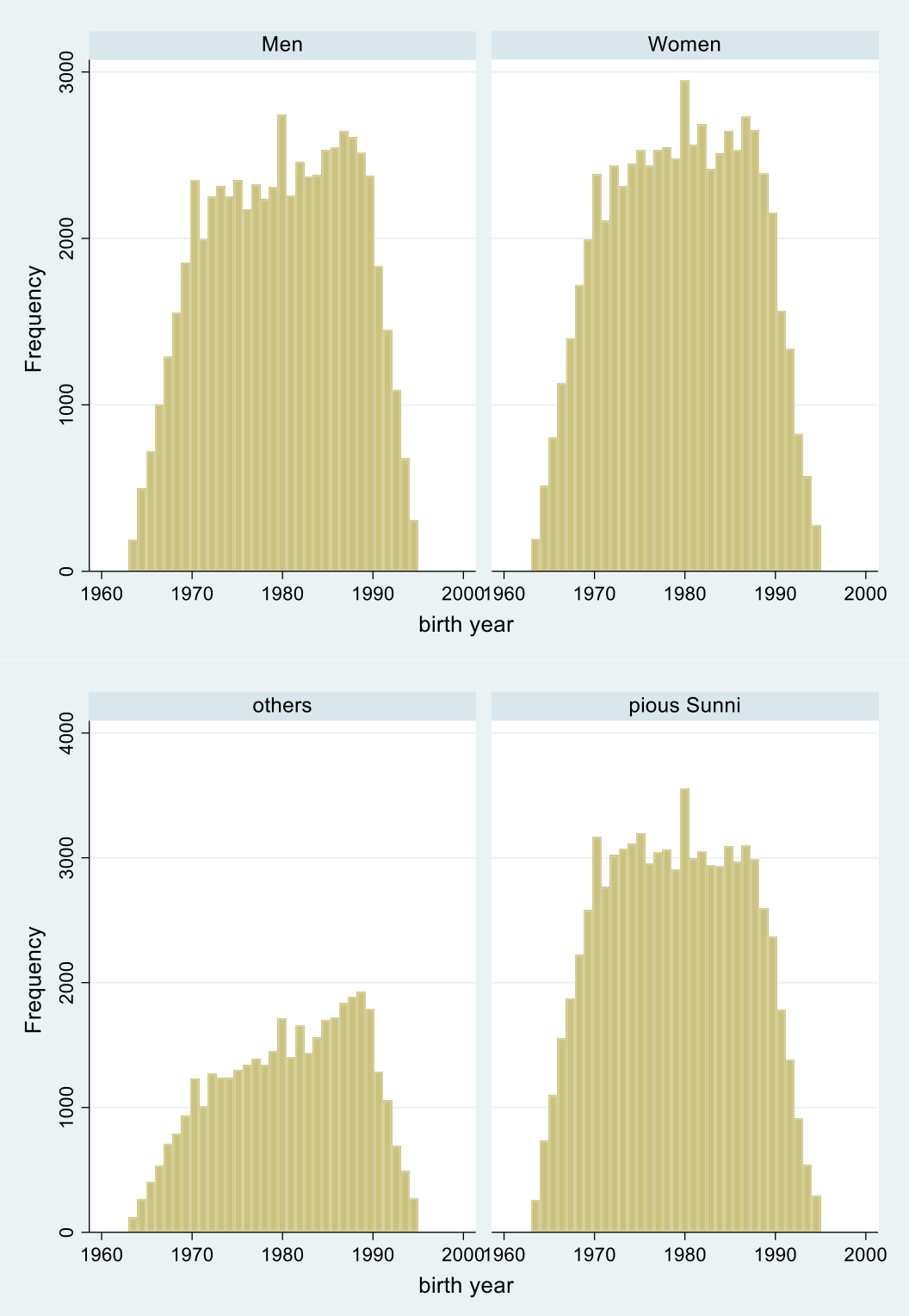
[23] The corresponding balancing weights range between 0.531 and 2.851, and median balancing weight is 0.994.

Table A2. Comparing Administrative and Survey Data for Public Sector Employment (whole sample)

	Administrative data			Barometre
	Civil Servants	Public Sector	18-64 Population	Civil servants
2012	2,459,240	3,159,028	47,244,871	2,451,471
2013	2,541,681	3,239,221	48,039,723	2,477,523
2014	2,755,970	3,372,806	48,729,159	2,600,883
2015	2,822,518	3,431,697	49,408,294	2,675,020
2016	2,928,353	3,622,150	50,263,595	2,666,421
2017	2,838,824	3,589,817	50,965,700	2,907,832
2018	2,861,891	4,130,839	51,778,789	2,991,886

Notes: Sources: Administrative data: https://www.sbb.gov.tr/kamu-istihdami/ Survey data: Barometre Surveys, 2012-18. Population weights are applied for Barometre estimates. Administrative employment data is from mid-point in the year (June 30th).

Figure A1. Number of observations by year of birth (between 23-49 years old at the time of survey)



Note: Source Konda Barometre Surveys, 2012-18. Data is not weighted. The increase in the share of others in the bottom panel after mid-1980s holds even after weighing the data.

Appendix B. Extra Descriptive Statistics

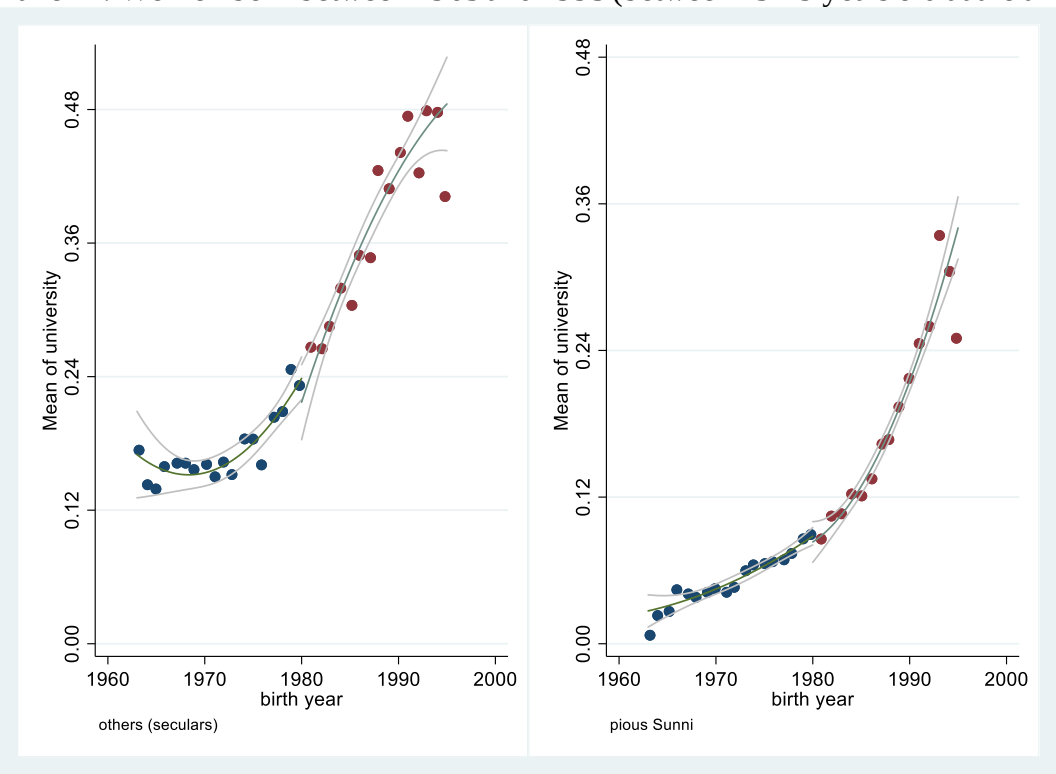
Table B1: Ethnic and religious identity of survey respondents age between 23 & 49

	Ethnicity			religion		religiosity			Religion & religiosity			headscarf	
year	Turk	Kurd + Zaza	Arab + other	Sunni	not-Sunni	not religious	religious excl. pious	pious	not Sunni or religious	Sunni & religious (excl. pious)	Sunni & pious	no	yes
2012	0.82	0.13	0.05	0.92	0.08	0.32	0.59	0.08	0.35	0.57	0.08	0.37	0.63
2013	0.79	0.16	0.05	0.93	0.07	0.29	0.61	0.10	0.32	0.59	0.09	0.37	0.63
2014	0.80	0.16	0.04	0.92	0.08	0.30	0.60	0.10	0.33	0.58	0.10	0.37	0.63
2015	0.77	0.18	0.05	0.92	0.08	0.31	0.59	0.10	0.33	0.57	0.10	0.39	0.61
2016	0.79	0.16	0.05	0.92	0.08	0.27	0.62	0.10	0.30	0.60	0.10	0.37	0.63
2017	0.77	0.17	0.06	0.91	0.09	0.31	0.60	0.09	0.34	0.58	0.08	0.41	0.59
2018	0.77	0.17	0.05	0.92	0.08	0.31	0.59	0.10	0.33	0.57	0.10	0.40	0.60

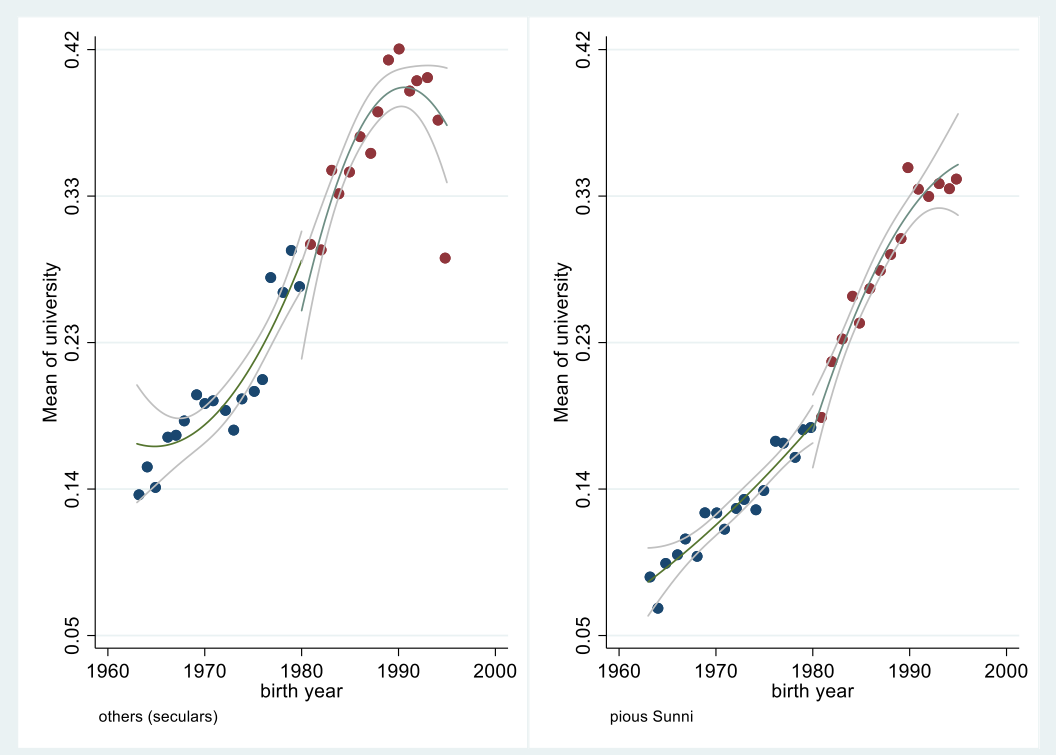
Notes: Population weights are applied. We only report female respondents' answers to headscarf question, this question is not asked to single male respondents.

Figure B1. Ratio of university degrees by birth year and religiosity

Panel A: Women born between 1963 and 1995 (between 23-49 years old at the time of survey)



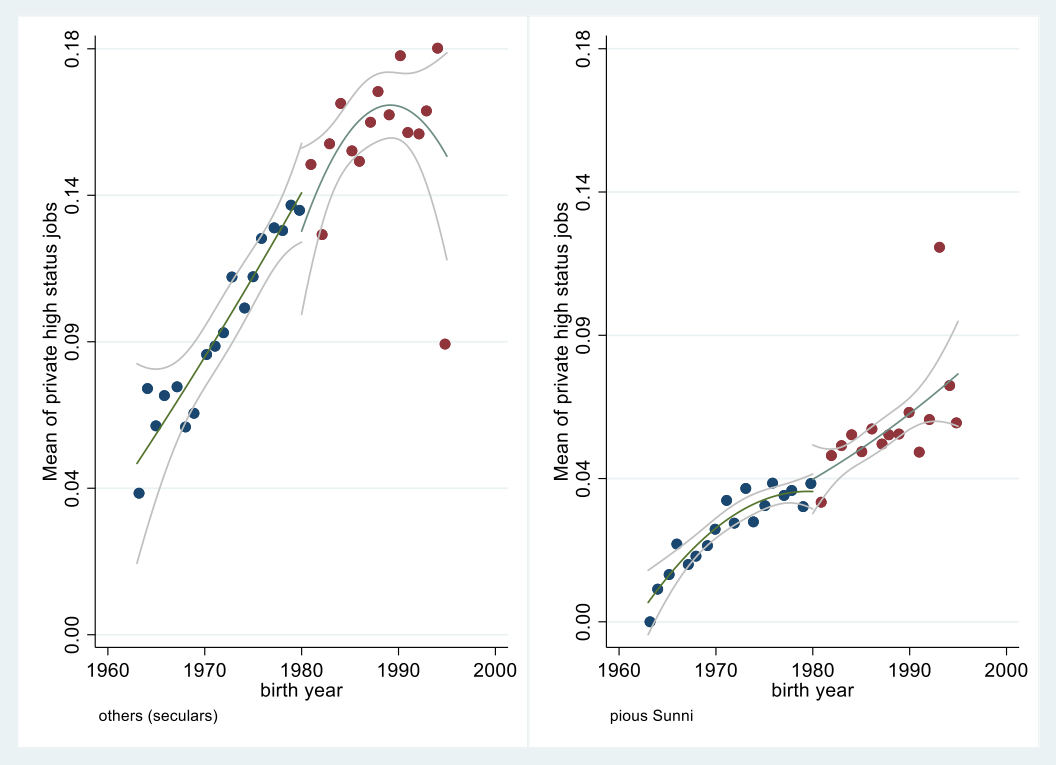
Panel B: Men born between 1963 and 1995 (between 23-49 years old at the time of survey)



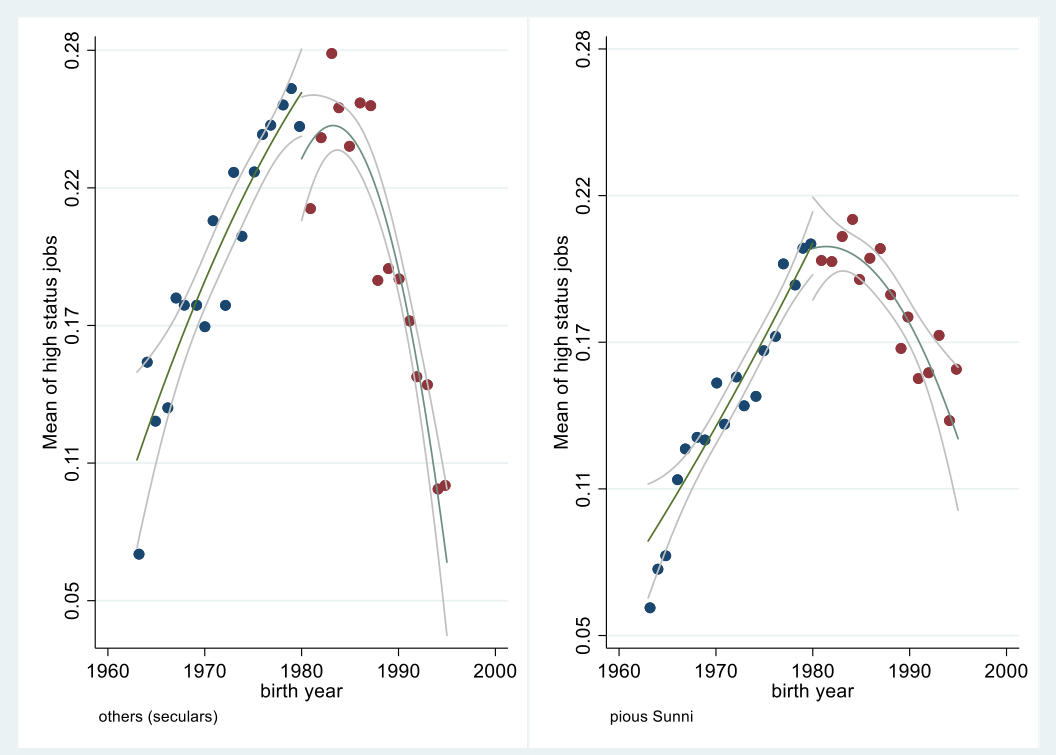
Note: Source Konda Barometre Surveys, 2012-18.

Figure B2. Ratio of private high-status jobs by birth year and religiosity

Panel A: Women born between 1963 and 1995 (between 23-49 years old at the time of survey)



Panel B: Men born between 1963 and 1995 (between 23-49 years old at the time of survey)



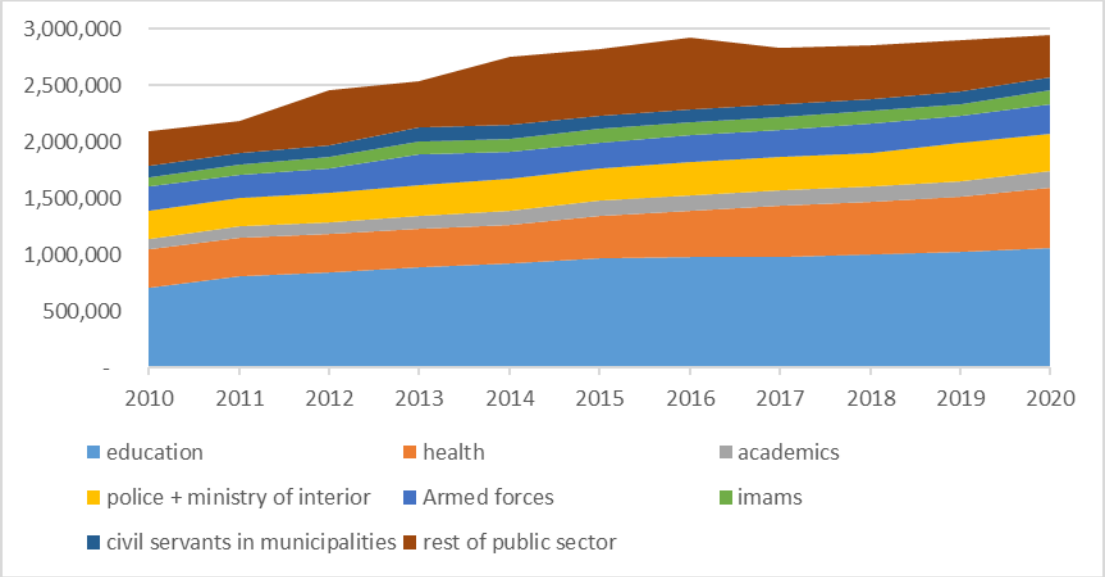
Note: Source Konda Barometre Surveys, 2012-18.

Appendix C. Composition of Civil Servants by Occupation

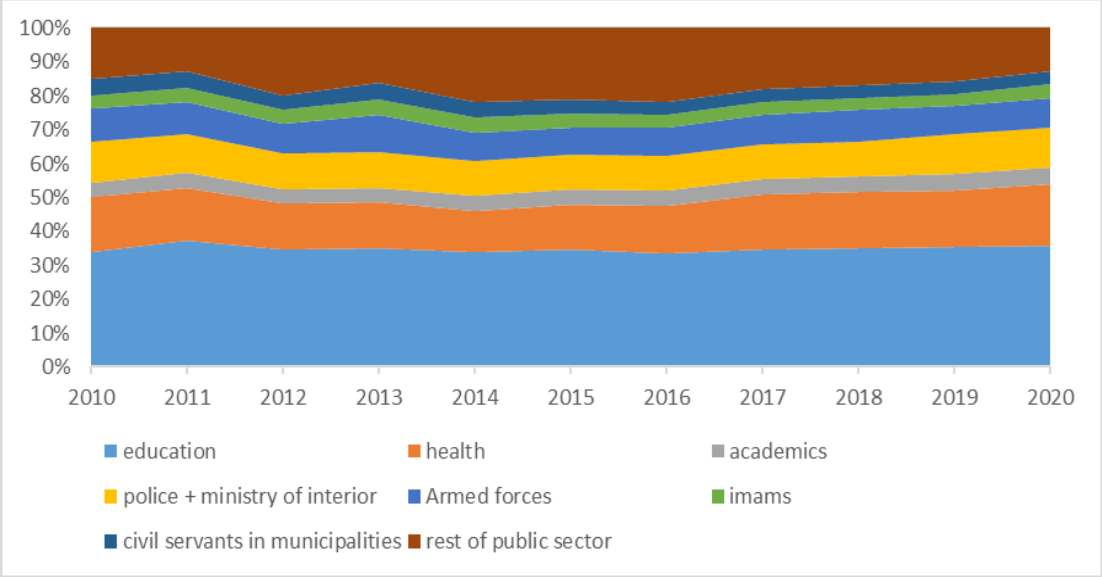
Most of civil servants are recruited via centrally administered exam (Public Servant Selection Exam, KPSS). We provide a rough breakdown of civil servants by occupation in Figure C1. Both the continual expansion of public employment as well as the purge after the 2016 coup attempt are visible in panel A. Figure C1 panel B shows that Ministry of National Education (MONE) and Ministry of Health employs at least half of all civil servants after 2010 for the years with consistent data. Permanent positions in these ministries are not recruited via interviews. But a potential route to recruit the in-groups is to disproportionately expand the employment favored by pious Sunni individuals such imams, religious education teachers. Also, police forces are known to have disproportionate appeal to conservatives. In Figure C1 Panel B the only occupation visibly expanding its share is health personnel (including doctors, nurses, health aides, etc.). However, imams and academics also experienced faster than average increase in their numbers (55 and 62 percent versus 40 percent). Between 2010 and 2020, health and education staff account for 64 percent of the increase in the size of civil servants. The case Ministry of National Education (MONE) deserves further scrutiny because by far it is the largest employer in Turkey and it employs a significant number of religious education teachers. The number of teachers employed in the religious education directorate expanded rapidly starting in 2012 education reform, bringing the ratio from 2% in 2009 to 10% in 2020.

Figure C1. Civil Servants by Occupations

Panel A: Number of civil servants



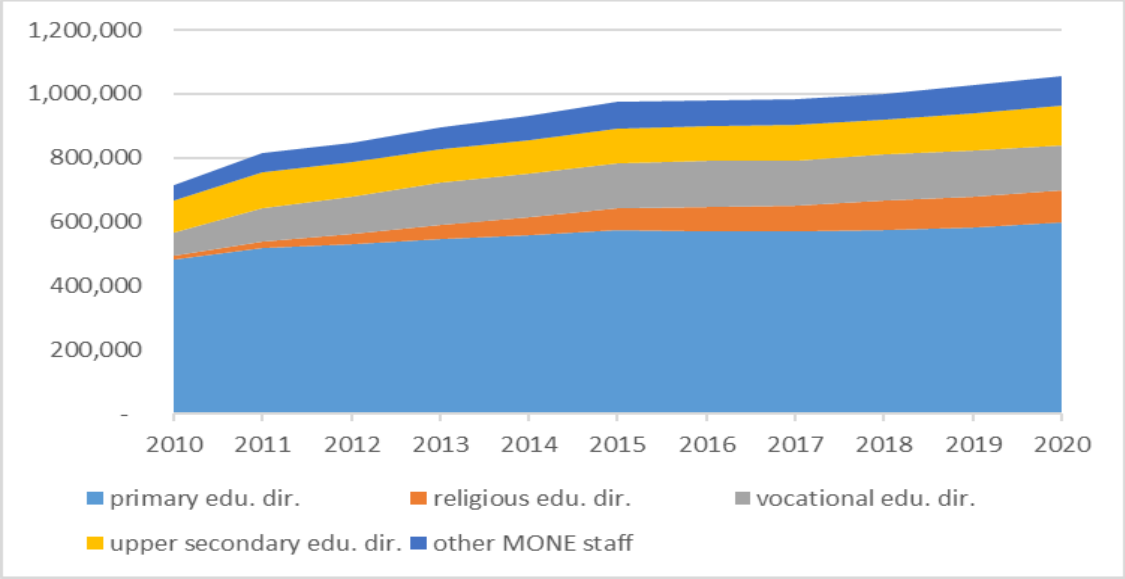
Panel B: Percentage of Civil Servants



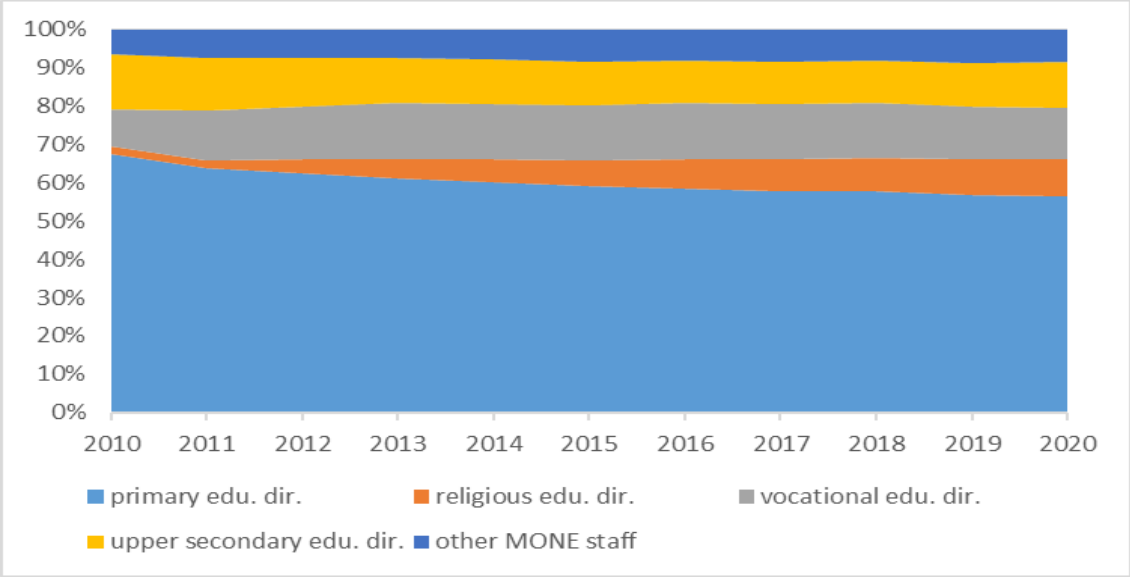
Notes: We derived data from Annual reports of various ministries except for armed forces (we derived armed forces personnel total from various news resources). Armed forces include gendarmerie. We linearly interpolate missing data for Ministry of Health for years 2011, 2012, 2013, 2015, and 2016 and for municipality workers in 2020. Many administrative reports contain previous years' data as well.

Figure C2. MONE staff by education directorates

Panel A: Absolute number of MONE staff by education directorates



Panel B: Percentage of MONE staff by education directorates



Notes: We cannot find MONE annual reports prior to 2010.

Main Sources:
2019 - 2020 Administrative Reports for all ministries:
http://www.sp.gov.tr/tr/kurum/g/mi/kurum/Merkezi+Idareler

Department of Water Services 2005 – 2020 Administrative Reports:
https://dsi.gov.tr/Sayfa/Detay/759#

Higher Education Statistics: https://istatistik.yok.gov.tr/

Local Governments Administrative Reports:
https://webdosya.csb.gov.tr/db/yerelyonetimler/icerikler//2019-yili-mahall--i-dareler-genel-faal-yet-raporu-18082020-20200818142825.pdf

Ministry of Justice 2006 – 2020 Administrative Reports:
https://www.adalet.gov.tr/faaliyet-raporlari

Ministry of Health Administrative Reports:
https://sgb.saglik.gov.tr/TR,60674/stratejik-yonetim.html

Ministry of National Education 2010 – 2014 Administrative Reports:
http://www.sp.gov.tr/tr/stratejik-plan/s/225/Milli+Egitim+Bakanligi+2010-2014

Ministry of National Education 2012 – 2020 Administrative Reports:
http://sgb.meb.gov.tr/www/dokumanlar/icerik/30

Social Security Administration 2011- 2018 Administrative Reports:
http://www.sgk.gov.tr/wps/portal/sgk/tr/kurumsal/kurumsal_politikalar/faaliyet_raporu

Military Personnel:
https://www.mymemur.com.tr/jandarma-genel-komutanligi-personel-sayisi-mart-2018-95819h.htm#:~:text=Faaliyet%20raporunda%20yer%20alan%20bilgilere,astsubay%20say%C4%B1s%C4%B1%2025.914%20olarak%20a%C3%A7%C4%B1kland%C4%B1

https://www.sozcu.com.tr/2016/gundem/tsk-personel-sayisini-acikladi-2-1164308/

http://www.sp.gov.tr/upload/xSPRapor/files/OGOq8+JGNKLIGI-2019-YILI-FAALIYET-RAPORU.pdf

http://www.sayistay.gov.tr/tr/Upload/62643830/files/raporlar/kid/2018/Genel_Bütçe_Kapsamındaki_%20Kamu_İdareleri/JANDARMA%20GENEL%20KOMUTANLIĞI.pdf

https://www.ntv.com.tr/turkiye/tsk-asker-sayisini-acikladi,NAj4V8fQGUOutDSSv4q9MQ

https://www.cumhuriyet.com.tr/haber/tsk-personel-sayisini-acikladi-113929

Appendix D. Robustness Analysis

In Table D1, we examine the changing employment status of headscarved women and also repeat of estimations in Table 2 by excluding Kurds from our sample. Last, we examine whether our PS and PS interaction firms are larger in the post-coup attempt period using additional interaction terms for post-July 2016. We aim to examine the impact of dismissals from public institutions following the military coup attempt in July 2016. At 5% the only significant post-coup interaction terms are PSxB1981-89xPost-coup for public employment of women and for all individuals. This might reflect that female public employees close the Gülen Cult might have lost their jobs following the coup attempt.

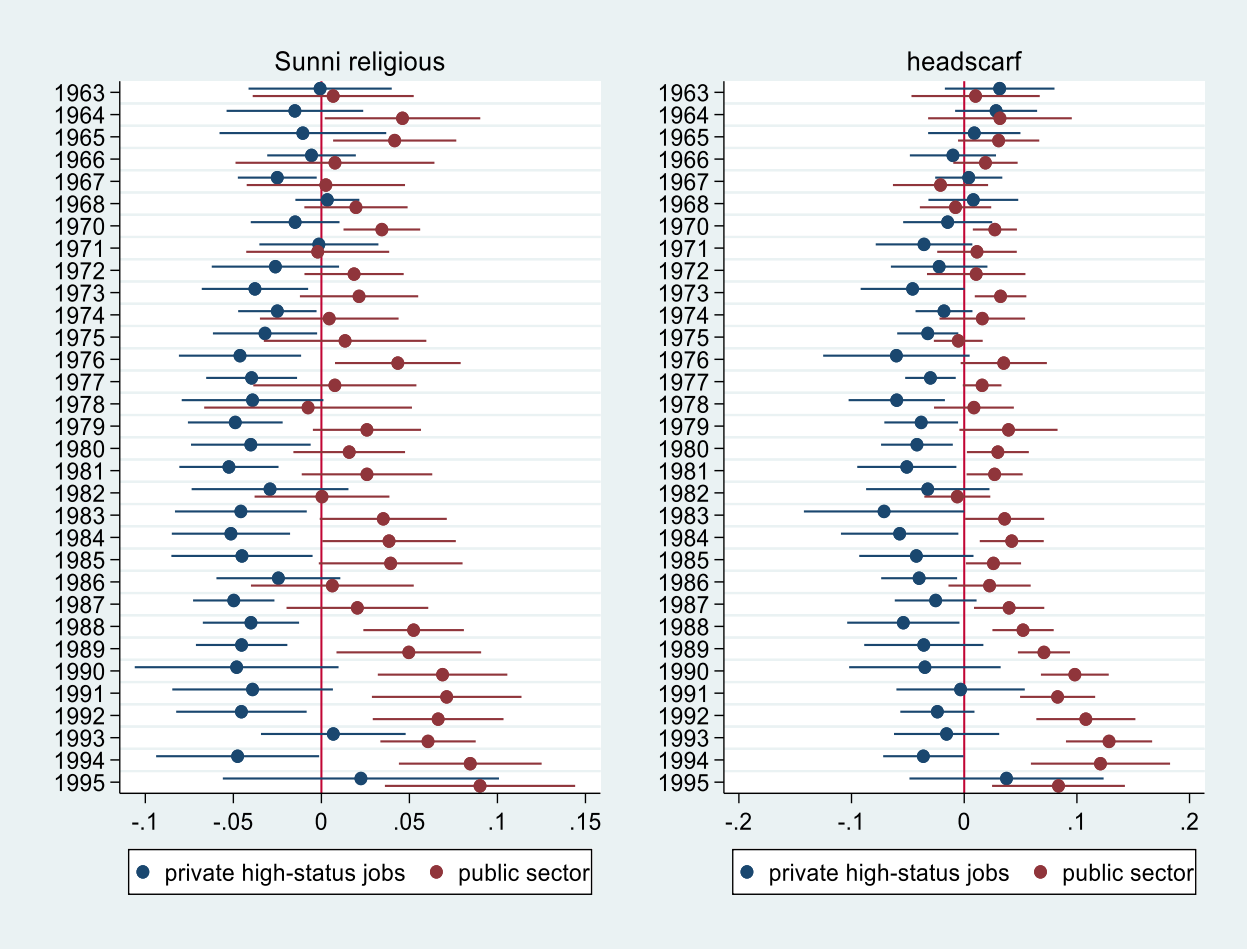
Table D1. Determinants of employment, headscarf and post-coup controlled (2012-2018)

	Public Sector Employment Age 23-49, everybody			High Status Jobs, Private Age 23-49, everybody		
	Men and Women	Men	Women	Men and Women	Men	Women
Headscarf						
Headscarf	-	-	-0.031***	-	-	-0.053***
	-	-	(0.007)	-	-	(0.003)
Headscarf* born in 1981-89	-	-	0.017**	-	-	-0.017
	-	-	(0.006)	-	-	(0.011)
Headscarf* born in 1990-95	-	-	0.084***	-	-	0.008
	-	-	(0.011)	-	-	(0.009)
Adj. R-Square	-	-	0.187	-	-	0.133
Sample Size	-	-	56,408	-	-	56,408
Excluding Kurds						
pious Sunni	-0.001	0.015***	-0.018***	-0.033***	-0.033***	-0.033***
	(0.003)	(0.005)	(0.005)	(0.003)	(0.005)	(0.003)
pious Sunni * born in 1981-89	0.014***	0.010	0.014**	-0.004	0.013	-0.019**
	(0.005)	(0.006)	(0.006)	(0.006)	(0.009)	(0.008)
pious Sunni * born in 1990-95	0.037***	0.017*	0.054***	0.024***	0.056***	-0.014
	(0.006)	(0.009)	(0.007)	(0.008)	(0.014)	(0.009)
Adj. R-Square	0.166	0.153	0.181	0.113	0.075	0.126
Sample Size	92610	45275	47335	92610	45275	47335
Controls for post-coup attempt						
pious Sunni	-0.005	0.010*	-0.022***	-0.028***	-0.027***	-0.030***
	(0.004)	(0.005)	(0.004)	(0.003)	(0.006)	(0.005)
pious Sunni * born in 1981-89	0.020***	0.012**	0.022***	-0.001	0.012	-0.014**
	(0.004)	(0.006)	(0.005)	(0.005)	(0.008)	(0.006)
pious Sunni * born in 1990-95	0.041***	0.020*	0.056***	0.037***	0.057***	0.008

	(0.008)	(0.011)	(0.010)	(0.007)	(0.011)	(0.012)
pious Sunni * post-coup	0.009	0.005	0.014	-0.012*	-0.012	-0.010*
	(0.007)	(0.010)	(0.010)	(0.006)	(0.011)	(0.006)
pious Sunni * b. in 1981-89 * post-coup	-0.014**	0.002	-0.032***	-0.003	0.002	-0.007
	(0.007)	(0.010)	(0.012)	(0.009)	(0.015)	(0.013)
pious Sunni * b. in 1990-95 * post-coup	-0.008	-0.003	-0.011	-0.010	0.003	-0.023
	(0.010)	(0.014)	(0.017)	(0.011)	(0.015)	(0.018)
Adj. R-Square	0.171	0.159	0.185	0.113	0.076	0.129
Sample Size	110115	54025	56090	110115	54025	56090

Notes: We control for education (less than middle school, middle school, high school and university graduates), Kurd dummy, NUTS1 regions and interaction of five broad regions and survey years. Standard Errors are clustered at province level. Population weights are applied. ***: p<0.01, **: p<0.05, *: p<0.10.

Figure D1. Public sector and private high-status jobs employment (only women)



Notes: The base year is 1969. Vertical axis shows the results of interaction between Sunni-pious dummy and birth year for the left panel and headscarf dummy and birth year for the right panel. We control for education (less than middle school, middle school, high school and university graduates), Kurd dummy, NUTS1 regions and interaction of five broad regions and survey years. Standard Errors are clustered at province level. Population weights are applied. The lines show confidence intervals at 5%. Population weights and year effects are applied for each survey year (2012-2018).

Appendix E. Instrumental Variable Analysis

We instrument a person's self-declared pious Sunni identity with the share of pious Sunnis in the birth province of person (average of all survey years). We also considered alternative instruments such as religiosity of current place of residence. However, this alternative instrument is endogenous to employment since high status jobs are concentrated in large cities and public sector employees are nationally recruited and appointed. At the very least people cannot choose where they are born and at the same time, a person's province of birth and his current religious identification are closely correlated as reflected in the underidentification and weak identification tests reported at the bottom of Table E1. We follow Woolridge (2010) and interact share of pious Sunnis in a province with both birth cohorts (born in 1981-89 and born in 1990-95). Hence we obtain three instruments for three variables that includes the pious Sunni term.

Table E1 presents corresponding IV results for OLS results in Table 2. Educational access varied significantly across provinces before 2000s in Turkey (Oyvat and Tekgüç, 2019). Our instrument is related to place of birth, so we were concerned with whether it also picked up the effect of educational access. Comparing coefficient estimates in Tables 2 and E1 reveals that they are very close. It seems that our instrument did not affect education-related control variables. Coefficient estimates from IV regressions for pious Sunni terms are very similar to OLS estimates. However, coefficient estimates for pious Sunnis born in the 1980s are significantly larger for both men and women as well as interaction terms for pious Sunni men born in 1990-95. For high status jobs in private sector, the coefficient sizes are also larger in absolute values. Interestingly, born in 1981-89 and born in 1990-95 coefficient estimates in IV regressions are also significantly larger in absolute values compare to OLS estimates. To summarize, comparing OLS and IV regression estimates shows that according to IV estimates, a person born after 1980 is much less likely to be employed in the public sector in general but much more likely to be employed in public sector if he or she is a pious Sunni. In IV estimates, the overall predicted probability for pious Sunni individuals are similar to OLS estimates (especially for women) but for others, IV estimates predict a significantly lower employment in public sector and significantly higher employment in private high-status jobs.

Table E1. Instrumental variable estimates for public sector and private high-status jobs in Turkey (2012-2018)

	Public Sector Employment			High Status Jobs, Private		
	Age 23-49, all			Age 23-49, all		
	Total	Men	Women	Total	Men	Women
pious Sunni	-0.001	0.008	-0.019	-0.050***	-0.060*	-0.045**
	(0.014)	(0.023)	(0.016)	(0.018)	(0.031)	(0.019)
born in 1981-89	-0.114***	-0.153***	-0.076***	0.035*	0.036	0.033
	(0.016)	(0.027)	(0.019)	(0.019)	(0.032)	(0.020)
pious Sunni * born in 1981-89	0.085***	0.105***	0.063***	-0.060**	-0.057	-0.055**
	(0.019)	(0.031)	(0.022)	(0.024)	(0.044)	(0.026)
born in 1990-95	-0.155***	-0.175***	-0.136***	-0.052**	-0.120***	0.001
	(0.020)	(0.033)	(0.024)	(0.026)	(0.045)	(0.030)
pious Sunni * born in 1990-95	0.076***	0.082*	0.072**	0.027	0.124*	-0.023
	(0.027)	(0.043)	(0.034)	(0.038)	(0.072)	(0.041)
Adj. R-Square	0.165	0.150	0.182	0.109	0.069	0.126
Sample Size	109,545	53,727	55,818	109,545	53,727	55,818
Birth Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
NUTS1 regions fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
5 regions * survey year effects	Yes	Yes	Yes	Yes	Yes	Yes
Kleibergen-Paaprk LM statistic	1151.968	346.13	581.315	1151.968	346.13	581.315
Kleibergen-Paaprk Wald F statistic	478.985	130.834	250.179	478.985	130.834	250.179

Notes: We instrument three variables: i) PS with the share of pious Sunnis in the province of birth. ii) PS times born in 1981-89 with the interaction of share of pious Sunnis in the province of birth with born in 1981-89 variable. iii) PS times born in 1990-95 with the interaction of share of pious Sunnis in the province of birth with born in 1990-95 variable. We lose some observations due to missing place of birth data. We additionally control for education (less than middle school, middle school, high school and university graduates), Kurd dummy, and gender in columns 1 and 4. Robust standard errors are in parenthesis. Weights are applied. ***: p<0.01, **: p<0.05, *: p<0.1.