A Post-politics Earnings Penalty?

Evidence from Politicians' Life-time Income Trajectories (1970-2019)[*]

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Abstract

Politicians are commonly believed to gain financially from holding and/or having held office. Yet, interrupting a professional career to pursue political office may come with important costs that undermine one's future income potential. This makes it *a priori* unclear whether and when politicians can capitalize on their political experience. Empirically, we build on detailed information from Norwegian administrative register data over the period 1970-2019 to study individual-level income developments before, during *and* after a political career at the national and local levels (covering nearly 22,000 individuals and 780,000 person-years). Using an event-study methodology, we show that politicians on average witness a significant income boost during their time in office. In sharp contrast, leaving political office is on average associated with a substantial drop in income, which generally *outweighs* the income gain from entry into office. These findings suggest that most politicians face a net present value loss from holding office.

Key words: Returns to office, political career, political selection, remuneration, Norway.

Words: 8781 words (main text and references)

1. Introduction

News headlines regularly depict current and former politicians as insatiably greedy (Watts 2007; Mason 2021; Yang 2023). Exploiting their political knowledge and networks as a steppingstone, so the story goes, (former) politicians earn exceedingly well from speaking engagements, as CEOs and/or board members in non-profit, private-sector or government-owned corporations, or – after they leave office – in the consulting and lobbying industries. News headlines, however, tend to focus on particularly 'newsworthy' cases. In reality, most politicians at any level of government work in the media shadows, and may be unable to benefit from name recognition or valuable appointments (Byrne and Theakston 2016; Weschle 2021). As political experience is often also irrelevant for individuals' occupation (i.e. a problem of 'human asset specificity'; Williamson 1983; De Vita et al. 2011) and career interruptions tend to carry a considerable wage penalty (for a recent review, see Speiser 2021), it seems at least conceivable that some politicians may risk a post-office earnings *penalty* from pursuing a political career. Our main research question therefore is whether and when politicians can – or cannot (as in the case of Harry Truman cited above) – capitalize on their political experience while in office and/or afterwards.[1]

The returns to political office have attracted considerable theoretical and empirical attention in academic research due to their selection and disciplining (or performance) effects (e.g., Caselli and Morelli 2003; Poutvaara and Takalo 2003; Besley 2004; Messner and Polborn 2004; Gagliarducci et al. 2013; Fisman et al. 2015; Carnes and Hansen 2016; Dal Bó and Finan 2018; Fedele and Giannoccolo 2020). Even so, it remains a hotly debated issue to this day. Most empirical studies thus far have focused on the short- and/or long-term returns to *entering* or retaining political office (e.g., Diermeier et al. 2005; Eggers and Hainmueller 2009; Fisman et al. 2014; Peichl et al. 2013; Fahey 2018; Berg 2020a; Cirone et al. 2021; Dahlgaard et al. 2022). These returns can be quite substantial in terms of both income and life-time wealth developments, particularly in Anglo-Saxon countries. Somewhat surprisingly, scholarship on what happens when politicians *leave* office is much less developed. Although some scholars observe that "a smooth transition into lucrative private sector employment" is very far from

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[1] There may also be non-financial benefits to holding or having held political office. Barfort et al. (2021), for instance, illustrate that narrowly elected politicians on average live five to ten years longer than candidates narrowly losing an election. Our analysis focuses exclusively on financial returns in terms of income.

certain (Byrne and Theakston 2016, p. 686; see also Würfel 2018; Claessen et al. 2021; van der Vlist 2023), we still know very little about whether politicians can capitalize on their political knowledge, networks and experience *after* their exit from the political scene, or rather suffer an income penalty from having interrupted their professional career. This study is the first to take into account income dynamics during the in-office *and* post-office periods, and thus provides a key opportunity to acquire a more fine-grained, systematic picture.

Our empirical analysis exploits life-time income trajectories for all elected members to the Norwegian parliament (*Stortinget*), (junior) ministers, as well as mayors at the local and regional levels of government over the period 1970-2019. These are nearly all full-time, salaried politicians in Norway.[2] Our dataset uniquely allows us to follow individuals prior to entering a political position, during their term(s) in office, during transitions between political positions (e.g., from local mayor to Member of Parliament), as well as after their exit from politics. This enables the implementation of an event-study methodology to capture how individuals' income changes upon entry in, as well as exit from, specific political offices (Schmidheiny and Siegloch 2023). To strengthen our causal claim, we rely on three complementary approaches: *i)* we restrict the sample to individuals who enter political office at some point in their work career, *ii)* we extend the analysis to include marginally never-elected *candidates* as a reference group for individuals that did manage to obtain political office, and *iii)* we derive a counterfactual reflecting what individuals' income would have been had they not entered (or exited) political office (full details below).

Our main findings show that politicians on average witness a substantial increase in income when they enter a political office. This income boost ranges between 7% and 17%, and reflects the relatively high remuneration level of political offices in the Norwegian setting (including local mayors). The direction and size of these in-office returns are comparable to those recently observed in other Western democracies (e.g., Kotakorpi et al. 2017; Berg 2020a,b; Cirone et al. 2021; Dahlgaard et al. 2022). Moving to the post-office period, we find that politicians on average experience a *drop* in income of circa 30% to 40% upon leaving office (which we show is *not* due to potential retirement effects). This holds both at the local and national level of government, with a partial exception for (junior) ministers at the national level. Moreover, the income drop upon leaving office generally outweighs the income-boost following entry into office, such that the vast majority of individuals face a net present value *loss* from a political

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[2] Members of municipal and county councils are generally *not* remunerated as full-time politicians, but merely receive compensation for attending council meetings. These positions are therefore not included in our analysis.

career at either the local or national level. Overall, our findings highlight that entering the political arena may constitute a lottery where the 'lucky few' can earn a large prize (e.g., by becoming minister), but most politicians do not win this lottery. From this perspective, entering politics is not a rational decision for most people when regarded from a purely financial angle. We consider this an important message not only in the Norwegian context, but in many other representative democracies where distrust in politicians is rising.

2. Previous literature and theoretical expectations

Since the returns to political office may have important implications for political selection (e.g., Poutvaara and Takalo 2003; Caselli and Morelli 2003; Besley 2004; Messner and Polborn 2004; Carnes and Hansen 2016), as well as politicians' performance in office (Besley 2004; Gagliarducci et al. 2013; Fisman et al. 2015; Fedele and Giannoccolo 2020), the empirical quantification of these returns has been a long-standing source of academic interest. Several path-breaking studies including Eggers and Hainmueller (2009) and Fisman et al. (2014) – using UK and Indian data, respectively – highlight substantial returns in terms of life-time wealth accumulation from having (narrowly) obtained a political office at some point in life. In similar vein, Diermeier et al. (2005) show that a first *re*-election to the US Congress positively affects post-Congressional wages (relative to not achieving an additional term in office). In some cases, at least part of these positive returns to politics have been linked to more or less illicit rent-seeking activities (Querubin and Snyder 2009; Truex 2014; Szakonyi 2018; Guardado 2022), while in other cases they derive at least in part from extra-parliamentary activities (Geys and Mause 2013; Weschle 2021). Highlighting one potential mechanism behind the high returns from having held office in the past, Palmer and Schneer (2016, 2019) show that a substantial share of former political office-holders in the US receive generous compensations as board members in publicly traded corporations (for similar UK evidence, see Baturo and Mikhaylov 2016).[3]

More recent work also shows that Members of Parliament (MPs) in several European countries earn very well *during* their term(s) in office. Berg (2020a), Cirone et al. (2021), and Dahlgaard et al. (2022) show that Swedish, Norwegian and Danish MPs, respectively, on average witness a very considerable income boost when first elected. Peichl et al. (2013) and Fahey (2018)

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[3] Access to such lucrative positions may, however, be feasible only for a small subset of politicians with specific characteristics (see, e.g., Byrne and Theakston 2016; Würfel 2018; Claessen et al. 2021; van der Vlist 2023) and is strongly affected by both institutional and environmental factors (e.g., Theakston 2012).

present similar findings for German MPs and US state legislators, respectively. The vast majority of politicians, however, serve at lower levels of government (e.g., region or municipality). From this perspective, it is interesting to observe that Kotakorpi et al. (2017), Berg (2020b) and Cirone et al. (2021) uncover at best very small returns to office in the short as well as long run for local politicians in Finland, Sweden and Norway, respectively. As recently argued by Dal Bó and Finan (2018) in a review of the available empirical evidence, these findings make it critical to delve deeper into the question when which political positions induce positive – or potentially negative – returns to office.

Remarkably, most previous scholarship starts from the implicit assumption that a political career is likely to generate income-relevant benefits due to the generation of political knowledge, networks and contacts (e.g., Eggers and Hainmueller 2009; Fisman et al. 2014; Baturo and Mikhaylov 2016; Palmer and Schneer 2016, 2019; Claessen et al. 2021; van der Vlist 2023). This leads to the expectation of a positive payoff for politicians *both* when holding office *and* upon leaving office. While we do not deny that such benefits exist, we contend that two amendments to this line of argument are in order.

First, any **benefits** to holding political office may not be equally attainable by, or similarly valuable for, all politicians. For instance, most rank-and-file politicians at any level of government remain out of the media limelight, and consequently may not be able to attract valuable appointments during and/or after office (Byrne and Theakston 2016; Würfel 2018; Claessen et al. 2021; Weschle 2021). Moreover, political knowledge, networks and contacts can be more or less relevant depending on one's professional background (i.e. a problem of 'human asset specificity'; Williamson 1983; De Vita et al. 2011). That is, political work may provide a good match for lobbyists and journalists, but not for brain surgeons and farmers. This could affect employment opportunities after leaving politics, and thereby the potential to extract (large) positive returns from holding and/or having held political office.

Second, we contend that holding political office can also come with important **costs** since being a full-time politician necessitates the interruption of one's professional career. This is important since a vast empirical literature has illustrated that career interruptions – whether due to unemployment spells, sick leave, parenthood or other reasons – can induce a significant wage penalty (for a recent review, see Speiser 2021). One reason is that employees require firm-specific skills to maximize their productivity on the job (Becker 1964; Mincer 1974). Such firm-specific skills deteriorate during a career break, which leads to a depreciation of human capital and a reduction in income at re-employment (Becker 1964; Mincer 1974; Speiser 2021).

Furthermore, employers may lack knowledge about an applicant's productivity after a long spell on the sidelines, which could lead to lower wage offers at the re-start of one's career (Vishwanath 1989). In both cases, individuals may need to drop their reservation wage after a long career gap to increase the likelihood of finding a job (Mortensen 1986; Deschacht and Vansteenkiste 2021). As a result, a prolonged political career may make it increasingly challenging to secure high-paying professional occupations upon leaving office (Byrne and Theakston 2016).

Naturally, it is hard to specify *a priori* whether and when the positive or negative effects described above dominate. We therefore consider this an empirical question, which we tackle in the remainder of this article. At the very least, however, this discussion suggests that some politicians may risk a post-office earnings penalty from pursuing a political career.

3. Institutional setting and data

Norway has three levels of government: the local level with currently 356 municipalities, the regional level with 11 counties, and the national level. Local as well as national elections take place every fourth year in September with a two-year interval between them. At the local level, the elections are for the local council, which in turn elects a mayor usually from among its own members. The election system is open-list proportional representation where the municipality consists of one election district. Political parties and independent groups offer ranked lists of candidates, and voters cast their vote for a party list and may provide preference votes ('personal votes') for one or more candidates. Local council members are compensated only for travel costs and meeting participation, while mayors (and some deputy mayors) have full- or part-time positions as elected politicians.[4]

At the national level, the 169 members of the national parliament (*Stortinget*) are elected using closed-list proportional representation. MPs are full-time politicians, with additional compensation for costs related to living outside their election district (i.e. in the Norwegian capital of Oslo). While many ministers are chosen from among the elected MPs (though they resign this seat while being part of the government), it remains very common in Norway to appoint ministers that have no elected mandate. This is even more the case for junior ministers

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[4] For further details, see the Local Government Act in English at: https://lovdata.no/dokument/NLE/lov/2018-06-22-83.

(*statssekretær* in Norwegian), who with very few exceptions are appointed directly by the minister from outside the Norwegian Parliament.

Our dataset combines information on Norwegian local and national politicians from three main sources. Data on local mayors over the period 1971-2019 is obtained from the 'Local Candidate Dataset' (Fiva et al. 2021a), data on national candidates and elected MPs is taken from the 'Norwegian Parliamentary Elections, 1906-2021' dataset (Fiva and Smith 2022), while data on (junior) ministers is acquired from the 'Ministers archive' provided by the Norwegian Centre for Research Data (NSD). The various start and end dates of these sources imply that our final dataset covers election candidates and politicians for the period 1970-2019. Naturally, we cannot track all candidates and politicians in our sample over their entire life-cycle. Even so, we can observe the average individual for a period of 35 years (from the average entry age of 28 years up to the average exit age of 68 years). As a result, we can see when they *i)* obtain their first political position, *ii)* enter new political positions (if at all), and *iii)* leave politics. Furthermore, the combination of all three data sources enables observing politicians with multiple positions across their political career. This is illustrated in Appendix Table A.1, which presents the number of (unique) persons in 16 potential categories – ranging from never-elected candidates to parliament (the largest group in our dataset), over politicians holding just one type of political position over our time-period of observation, to politicians gaining experience in multiple positions. As might be expected, most politicians have only one type of position (with local mayors the largest group), while a significant number of MPs have also held mayoral positions (N=137) and ministers tend to have been an ordinary MP (N=96).

Using individual background characteristics (i.e. names, birthdates, location of political office, etc.), Statistics Norway (SSB) added an anonymous identifier to each individual politician whenever possible. As illustrated in Table 1, it was not always feasible to find a match with SSB's individual-level register data – particularly among local politicians and parliamentary candidates (often due to incomplete and/or insufficiently discriminatory background information). Crucially, for those individuals that could be matched with register data (i.e. just over 70% of the original sample), we observe their income for each year in the sample period (in Norwegian kroner (NOK), with 10 NOK ≈ 1 USD ≈ 1 EUR). We thereby obtained access to four income indicators from Statistics Norway. *Pensionable income* (i.e. income that qualifies for public old-age pension) covers all years in the 1970-2019 period, and includes wage- and capital income plus selected subsidies designed to compensate for the loss of work income (i.e. sickness, maternity, disability and unemployment benefits, and compensations for

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military service). This earnings indicator does not include old-age pensions. *Wage income*, *work income*, and *total income* are only available for the period 1993-2019. Wage income comprises only remuneration paid by an employer as part of an employment relationship.[5] Work income extends wage income with net business income as well as sickness and maternity benefits. Total income extends work income with other sources of capital income as well as taxable and non-taxable subsidies (including old-age pensions). Throughout the analysis, these financial indicators are deflated by the consumer price index (2015=100). Summary statistics are provided in Online Appendix Table A.2, while Online Appendix Figure A.1 illustrates the nature of our annual pensionable income trajectories for four selected politicians.

Table 1. Matching information on Norwegian politicians with Statistics Norway register data

	Mayors	Candidates to parliament		Ministers	Junior ministers	Total
		All	Elected			
Matched	2,367	20,550	810	274	588	24,589
Not matched	809	9,513	97	4	56	10,479
Total	3,176	30,063	907	278	644	35,068

The final sample of politicians matched to the register data consists of 23,743 unique individuals (877,878 person-years). This is lower than the total number of matched individuals mentioned in Table 1 because some individuals held more than one political position in our period of observation (see above). For this set of politicians, we observe non-missing income data for up to 781,780 person-years (21,780 unique individuals). Note, however, that in most of the analyses we restrict the sample to persons who enter political office at some point in their work career (3,485 unique individuals; 138,768 person-years). The reason is that the ability to become elected may be correlated with unobservable income-relevant individual-level characteristics. Still, in some extensions of the analysis, we also exploit information on *marginally never-elected candidates*. These can credibly be argued to offer a sensible control group of individuals never 'treated' with holding political office (Berg 2020a; Cirone et al. 2021; Dahlgaard et al. 2022). This is based on the notion that "conditional on agents' actions and characteristics as of election day, the winner of a closely contested election would be

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[5] Politicians are not considered ordinary wage earners in Norway, and are not subject to the same labor protection regulations as ordinary employees (Stortinget 2021). Strictly speaking, they therefore also do not receive a 'wage', but rather a 'compensation' (*godtgjørelse* in Norwegian). For ease of reference, we refer to this as politicians' wage in the remainder of this article.

determined as if by the flip of a coin if there exists a random chance element in elections" (Fiva et al. 2021b, p. 602).

Figure 1. The timing of political office and post-office
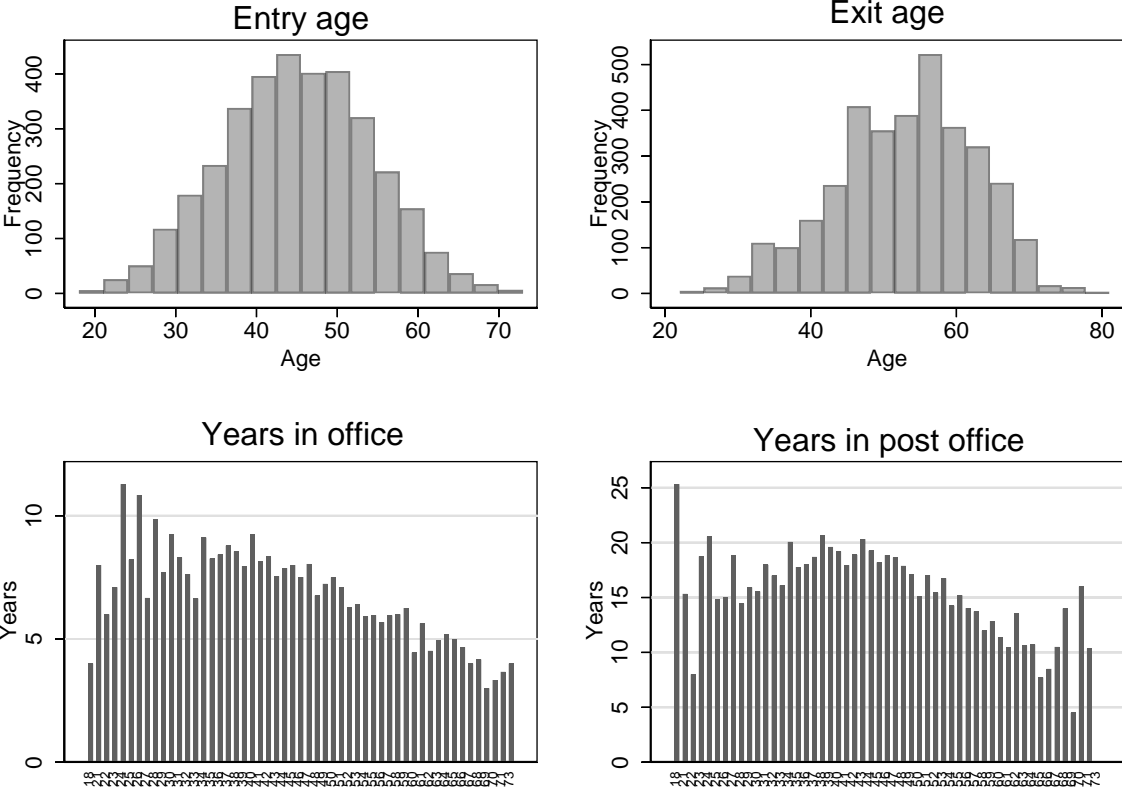
Note: The top panels display the frequency distribution for the age at which politicians enter (left-hand side) and exit (right-hand side) political office. The lower-left panel shows the average number of years politicians maintain their political office (on the vertical axis) as a function of their age of entry into politics (on the horizontal axis). The lower-right panel displays the average number of years politicians remain economically active after they left politics, as a function of their age at exit.

In Figure 1, the two top panels display the frequency distribution for the age at which politicians enter (left-hand side) and exit (right-hand side) political office – pooled across all types of political positions. This illustrates that most politicians in our sample achieve their first political office between their mid-thirties and mid-fifties, while they predominantly start to exit politics once they pass their mid-forties. The lower-left panel in Figure 1 depicts the average number of years politicians maintain a political office (on the vertical axis) as a function of their age of entry (on the horizontal axis). As would be expected, those who enter a political office for the first time at a younger age tend to remain in office somewhat longer. Even so, the average political career length at most ages hovers around 5-8 years, which reflects that both local and

national elections in Norway take place every four years with a two-year interval between them. The lower-right panel in Figure 1 displays the average number of years politicians remain economically active after leaving politics (on the vertical axis), in this case as a function of their age at exit (on the horizontal axis). Those who exit younger remain economically active for a longer period.[6] Not immediately visible from Figure 1 is the fact that the average politician in our sample has 20.3 years of pre-office period, spends 7.5 years holding their political office, and subsequently enjoys a post-office period of 18.0 years (starting, on average, at age 53 years).

4. Research design: Event-study analysis

Our analysis aims to investigate how income paths change around the time when politicians enter or exit different types of political office. Identifying causal effects of such events is far from straightforward since entry and exit from political office may be endogenously determined. Previous work attempts to address this concern via both difference-in-differences (DiD; Berg 2020a; Cirone et al. 2021; Dahlgaard et al. 2022) and regression discontinuity designs (RD; Eggers and Hainmueller 2009; Querubin and Snyder 2009; Fisman et al. 2014; Kotakorpi et al. 2017; Berg 2020b; Cirone et al. 2021). Both approaches have their strengths and limitations. In our setting, however, RD designs are unfeasible as ministers and junior ministers in Norway are regularly not elected MPs, while mayors are (s)elected by local council members (either unanimously or by supermajority). Hence, there are no close elections to exploit for most people in our sample. Furthermore, RD designs have strong interval validity for those who seek re-election, but are not well suited when politicians leave voluntarily. This is particularly problematic since politicians could anticipate their likelihood of (re)election or take their earnings potential into account when deciding upon their (voluntary) exit from politics. One would indeed expect rational politicians to enter and exit politics in a way that maximizes their income, thus being more (less) keen to leave office voluntarily when it involves a wage boost (cut) (see, e.g., Egerod 2022). Finally, DiD-designs focus on the average treatment effect of entry or exit from political office, and do not directly capture the dynamics of any income effects (which are of key interest to us).

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[6] It is possible to continue working in the private sector after the official retirement age in Norway (under certain conditions). This explains the few individuals at the far right end of lower-right panel in Figure 1 maintaining a lengthy post-office career despite a late exit from politics.

Given these considerations, we implement an event-study methodology commonly used to study the dynamic impact of specific events (for an in-depth overview, see Schmidheiny and Siegloch 2023). This approach looks at the development of an outcome variable of interest (in our case: politicians' income) during a specified period *before* and *after* an event occurs (in our case: entry in, or exit from, political office). Assume that we observe the outcome variable at time periods t ranging from $\underline{t}$ to $\bar{t}$ (i.e. our observation window) and that we want to observe what happens to this outcome from $\underline{k}<0$ periods before an event up until $\bar{k} > 0$ periods after the event (i.e. our event window, with the event occurring at $t = 0$). As a starting point, we can then simply plot the mean (log) income for all periods $t+k < 0$ *before* the event occurred as well as for all periods $t+k > 0$ *after* the event took place (Schmidheiny and Siegloch 2023). This would offer an accessible and transparent way to gain a first (purely descriptive) impression of the presence, direction and (relative) size of any shifts in income trajectories around the event under analysis.

From this starting point, we implement three distinct (though complementary) approaches to strengthen our causal claim. First, we restrict the sample to include only those individuals who enter political office at some point in their work career (i.e. 3,485 unique individuals). This sample restriction addresses the fact that individuals achieving political office may be different from the rest of the population along multiple (un)observable characteristics (e.g., Dal Bo et al., 2017), and thus leads us to a 'most-similar' research design.

Second, as an alternative approach, we exploit the fact that many candidates in national elections miss out on (ever) holding office by only a very narrow margin. Since such marginally never-elected *candidates* aspired to become elected and only missed out due to the randomness inherent in close elections, we use them as a reference group for individuals that did obtain political office (Fiva et al. 2021b; Dahlgaard et al. 2021; Schmidheiny and Siegloch 2023). More specifically, we first look for the candidates in an election to the national Parliament that would have been elected if their party in a given district during a given election would have obtained just one more seat. We then select from this set of candidates only those that never enter any political position, and calculate their average income by age and year (both in one-year intervals). Finally, we adjust observed individual-level income levels for all individuals in our dataset ($Income_{i,t}$) with this average income of marginally never-elected candidates ($Income_{never,t}$) by age and year. This effectively rescales the income of successful politicians of a given age at a certain point in time by the income of unsuccessful political candidates of the same age at the same point in time.

Third, we take inspiration from recent developments in imputation-based two-stage differences-in-differences models to derive a counterfactual reflecting what would have happened if an individual had not entered – or exited – political office (Butts and Gardner 2022; Gardner 2022). Specifically, returning to the subsample of politicians that enter political office at some point during our observation period (see approach 1 above), we regress the income level of individual i in year t ($Income_{i,t}$) against a full set of individual (α_i), age (Age_a) and year (γ_t) fixed effects *using only pre-event observations*:

$$Income_{i,t} = \alpha_i + Age_a + \gamma_t + \varepsilon_{i,t} \tag{1}$$

The residual values obtained from equation (1) across the pre- and post-event periods effectively impute *counterfactual* income levels as if the event had not occurred. This then allows estimating causal effects of the treatment (i.e. entry or exit) under the identifying assumption that the income trend of individuals who have not yet entered (or exited) office is a valid counterfactual for the income trend of individuals who did (Butts and Gardner 2022). More formally, this implies estimating the following second-stage model:

$$\hat{\varepsilon}_{i,t} = \delta + \sum_{k=\underline{k}}^{\overline{k}} \beta_k \, Office_{i,t+k} + \mu_{i,t} \tag{2}$$

where $Office_{i,t+k}$ is a treatment event indicator variable for an event happening k periods away from t (with $\underline{k}<0$ and $\overline{k}>0$ for an event at $t=0$). The parameters β_k reflect the dynamic treatment effect, conditional on being left with as good as random variation after the correction for individual-, age- and year-specific income profiles in equation (1). As this condition would be reflected in parallel pre-event trends, its validity can be formally tested. Observe furthermore that it is *not* necessary to assume that the timing of entry and exit is random as long as this parallel pre-trends assumption is satisfied. In our setting, we can assess whether the pre-trends are parallel "by replacing the second stage of the procedure with a regression of residualized outcomes onto the leads and lags of treatment" (Butts and Gardner 2022). It is satisfied when pre-treatment effects are zero (i.e. $\beta_k = 0$ for all periods $t+k < 0$). We show the results from this validity check in Online Appendix Figure A.2. We perform the test both in levels and first-differences to accommodate potential serial correlation in the income data. In both cases, the results suggest that the parallel pre-treatment trends assumption is satisfied.

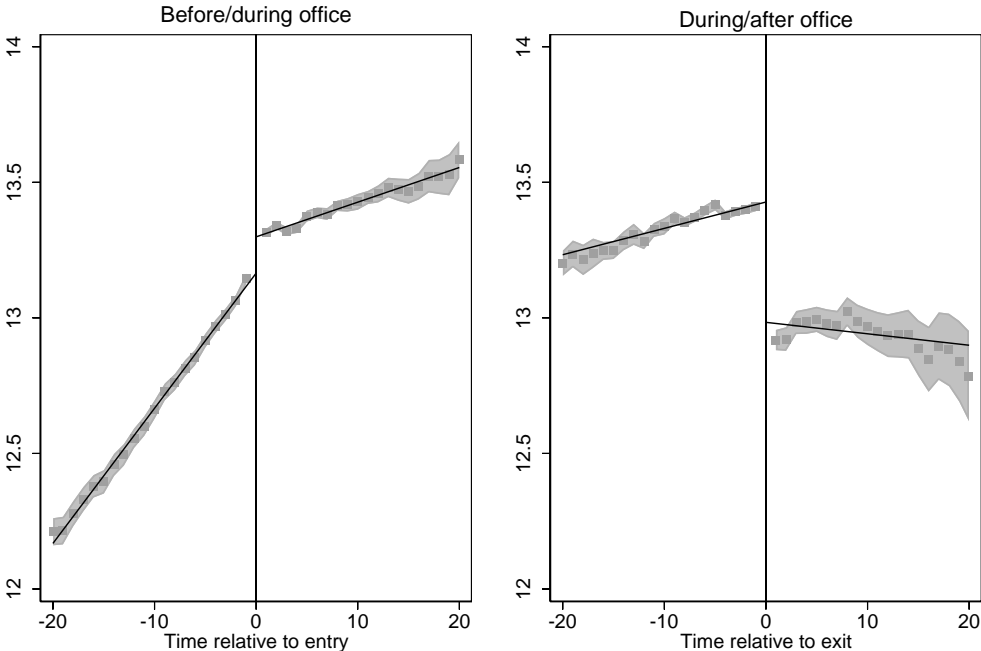## 5. Empirical results

5.1. Main findings

Our main findings using pensionable income (available from 1970 onwards) are graphically illustrated in Figure 2 (robustness checks using wage, work and total income from 1993 onwards are in Online Appendix Figure A.4). The left-hand panels compare income levels during the 20 years before entering office to income levels during the 20 years in office, while the right-hand panels compare the 20 years in office to the 20 years after leaving office. The top panel displays findings using the raw income data for the entire sample of office-entering politicians, while the middle panel employs the difference in income between office-entering politicians and narrowly never-elected candidates (of the same age and time period). The bottom panel displays residualized income levels clearing out individual, year and age effects using only pre-office observations (in the left-hand panels) or only in-office observations (in the right-hand panels) by estimating equations (1) and (2). All panels include 95% confidence intervals and a simple linear regression line through underlying data. While our baseline analysis pools all types of political offices, section 5.2 below reports on extensions that differentiate between mayors, MPs, ministers and junior ministers.

Throughout figure 2, we restrict the sample to individuals with one office and one post-office period.[7] Moreover, we include only individuals up to age 67 years, which is the official retirement age in Norway. Although since 2011 it is possible to continue working and be paid an income up until the age of 75 years while receiving old-age pension (Norwegian Tax Administration 2022), one could expect that passing the official retirement age of 67 years has a dampening effect on most types of income (we experiment with alternative age limits below).
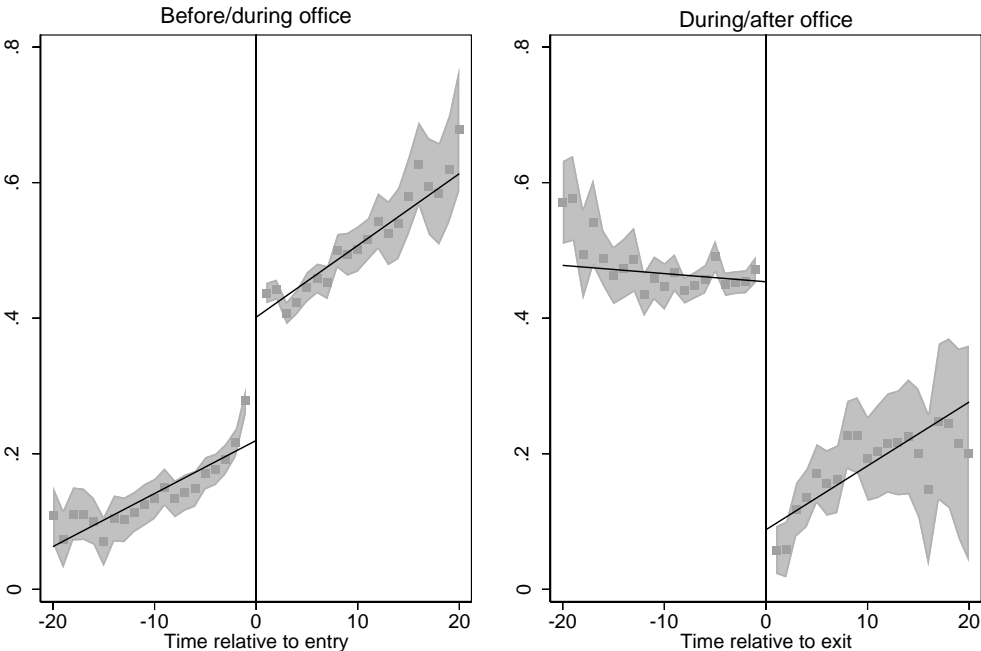
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[7] Some individuals leave politics to work in the private sector and then re-enter politics after a while (possibly to exit again later). Such 'interrupted' political careers occur for 407 individuals in our sample, and create difficulties in determining the relevant pre- and post-event periods. We therefore exclude these individuals from the sample throughout the analysis, such that all individuals in our sample are treated only once and remain in the treated state after the event (Gardner 2022).

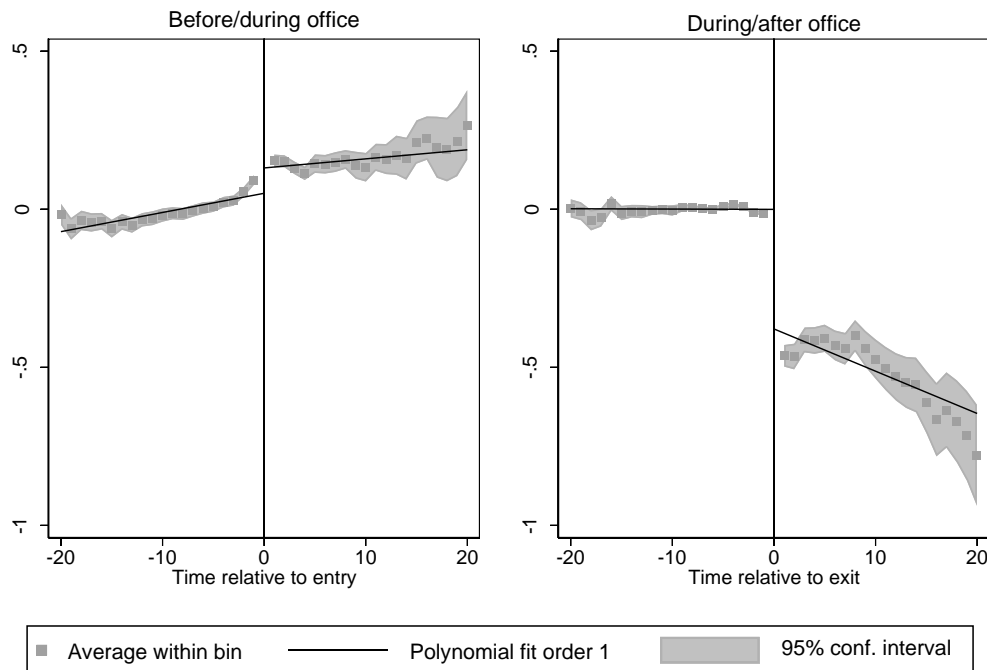Figure 2: Pensionable income developments in pre-office, office and post-office periods

Panel I: Level of (Log) Income

Panel II: Difference in (log) Income

Panel III: Residualized (log) Income

Notes. The figure displays the average development in pensionable income measured in constant 2015 prices and on a log-scale. The top panel uses the raw income data for the entire sample of office-entering politicians, while the middle panel employs the difference in income between office-entering politicians and narrowly never-elected candidates (of the same age and time period). The bottom panel displays residualized income levels clearing out individual, year and age effects *using only pre-office observations* (in the left-hand panels) or *only in-office observations* (in the right-hand panels). The left-hand panels compare the 20 years before entering office to the 20 years in office, while the right-hand panels compare the 20 years in office to the 20 years after leaving office. All panels include 95% confidence intervals and a simple linear regression line through underlying data.

A first observation from Figure 2 is that holding political office is associated with a considerable boost in income. Interpreting the difference in the natural logarithms before and after a political event as approximating the percentage change in income, the increase is estimated to be between 7% (Panel III) and 17% (Panel II). It is statistically significant well beyond the 99% confidence level in all three panels. This high remuneration of political office in the Norwegian setting is intentional and aims to account for politicians' lower job security as well as their more limited employment rights compared to regular employees (Stortinget 2021). A second, and far more surprising, observation from Figure 2 is that exit from political office is associated with a very considerable *drop* in income. This income penalty ranges from -46% (Panel I) to -39% (Panel II), and strongly suggests that political careers on average do not lead to a major post-office payday. As discussed in section 2, this may reflect that political experience yields specialized human capital gains with limited labor market returns (i.e. a problem of 'human asset specificity'; Williamson 1983; De Vita et al. 2011), or that the disruption of individuals'

professional career is severely penalized in terms of earnings potential (Becker 1964; Mincer 1974; Mortensen 1986; Vishwanath 1989; Deschacht and Vansteenkiste 2021; Speiser 2021). From this perspective, it is interesting to observe in the top panel of Figure 2 that the average income level in the first post-office year is roughly back at the average level of the last pre-office year. In similar vein, the difference in income between office-entering politicians and narrowly never-elected candidates on average falls back to 0 in the first post-office year in Panel II. Both observations suggest that no income-relevant net benefits were generated by holding political office.[8]

While this result may be surprising in light of common perceptions and expectations (see above), our findings are consistent with van der Vlist's (2023) most detailed analysis of post-parliamentary careers to date. He analyses the positions obtained in the first five post-parliamentary years by 970 former Dutch MPs leaving office between 1967 and 2017. The key findings highlight that, up to the early 2000s, the best-paying position of at most 30% of exiting MPs earned a higher salary than their MP salary. Although this goes up to 40-45% in more recent years, his findings also illustrate that the salary in the best-paying post-parliamentary job is inferior to the MP salary for a majority of MPs at any point in his 50-year observation period (see figure 1 in van der Vlist 2023).

Even so, one might wonder about the size of the observed income penalty. It should be kept in mind, however, that the average political career spans 7.5 years (see above) – potentially combined over multiple spells. This is important since in-office income in Norway is independent of age and experience (Stortinget 2021), while the private sector usually offers significant returns to firm-specific seniority. These returns to seniority have been estimated at 25% to 50% at ten years of seniority (Topel 1991; Buchinsky et al. 2010), and represent what the typical individual would stand to lose from interrupting their professional career for that amount of time. While the 'flat' income structure in politics thus could induce large positive returns to political office for those who enter office at an early age, it may also rapidly increase the pecuniary costs of a long political career.[9] Moreover, anecdotal as well as survey evidence

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[8] In the most detailed analysis of post-parliamentary careers to date, van der Vlist (2023) analyses the positions obtained in the first five post-parliamentary years by 970 former Dutch MPs leaving office between 1967 and 2017. He finds that, up to the early 2000s, the *best-paying* position of at most 30% of exiting MPs earned a higher salary than their MP salary. Although this goes up to 40-45% in more recent years, his findings also illustrate that the salary in the best-paying post-parliamentary job is *inferior* to the MP salary for a majority of MPs at any point in his 50-year observation period.

[9] Online Appendix Figure A.5 displays results from auxiliary analyses estimating separate in-office returns by age of entry (left panel) and post-office returns by the number of years in office (right panel). This provides

suggest that former politicians at both national and local levels may take considerable time to find a new position after leaving office (e.g., Byrne and Theakston 2016). Although MPs and mayors in Norway usually receive a so-called "after-income" for up to 12 months after leaving office, this equals at most 66% of MPs' parliamentary wage (while for mayors the exact level is decided by the local council).

Comparing the absolute value of the point estimates across both columns of Figure 2 suggests that the *net* gain from holding office is unlikely to be very large for the average politician. The reason is that the post-office income loss in most cases exceeds the in-office income gain, which will be particularly painful for the involved individuals given that the post-office period on average is more than twice as long in our sample as the in-office period (i.e. 7.5 years versus 18 years; see above). To assess these *net* gains (or losses) in more detail, we perform a simple back-of-the-envelope calculation to determine the net present value of holding political office (evaluated at the year before potential entry into politics). Assuming a real annual income growth of 1.67% (based on Statistics Norway data over the 1970-2020 period) and a discount rate of 4.0% (Lagakos et al. 2018), we can use the point estimates displayed in Figure 2 to determine the number of post-office years at which the net present value of holding political office falls below the net present value of not engaging in a political career. In case individuals spend the average time holding a political office (i.e. 7.5 years), this prospective political career would on average lead to a net present value loss as soon as the post-office period exceeds two to three years. Since this is well below the average post-office period in our sample (i.e. 18 years), it would be very hard to argue that the average politician is 'in it for the money'.

Three further points are important to bring forward with respect to the results in Figure 2. First, a comprehensive pension reform in 2011 made it possible under certain conditions to retire from the age of 62 years rather than at the official retirement age of 67 years. Retirement before the age of 62 years is not possible, and retirement between 62 and 67 years comes at the cost of a considerable percentage reduction in old-age pensions until one reaches the age of 67 years (https://www.nav.no/alderspensjon). Online Appendix Figure A.3 illustrates that our results are qualitatively unaffected by imposing an upper age limit for our estimation sample at 62 years. The post-office income penalty becomes somewhat less pronounced (from -41% to -27%), but stays statistically significant well beyond the 99% confidence level. This indicates that (early) retirement is not driving our findings. Second, Online Appendix Figure A.4 highlights that our

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confirmation for the proposition that earlier entry into political office is associated with higher in-office returns, while longer political careers trigger a growing post-office income penalty.

results are robust to using wage income, work income and total income (as defined above). The post-office wage penalty is lowest when looking at total income (which includes net business income as well as other sources of capital income and old-age pensions), but even then remains substantial at roughly -27%. This not only corroborates that retirements are not driving our findings, but also that politicians in our setting do not appear to set up businesses to manage any post-office income flows (and thereby avoid the higher tax rates on personal income). Finally, leaving office may be either voluntary or forced (e.g., due to losing an election or not being re-selected by one's party). Since politicians may be more interested in leaving office voluntarily under the prospect of a (major) income boost (Egerod 2022; van der Vlist 2023), this would induce an *upward* bias in the observed income dynamics around political exits when including – as we do – all exists in the analysis (we return to this below).

5.2. *Heterogeneity by level of government and political position*

Thus far, we have implicitly assumed that the income dynamics around political entries and exits arise similarly for all types of politicians. However, previous research suggests that only politicians in top executive positions may be able to gain financially from their political experience (Byrne and Theakston 2016; Würfel 2018; Claessen et al. 2021; Weschle 2021), and that the returns to political office may be higher at the national compared to the local government level (see section 2). We assess such potential heterogeneity in the returns to political office in Table 2. Column (1) repeats the results for the entire sample of politicians for ease of comparison, while the remaining columns include only local mayors (Column (2)), national MPs (Column (3)), junior ministers (Column (4)) and ministers (Column (5)). The top panel in Table 2 restricts the sample to individuals up to age 67 years, while the bottom panel sets the age limit to 62 years.

Table 2. Returns to office by political position

	All	Mayor	MP	Junior Min.	Minister
	(1)	(2)	(3)	(4)	(5)
Panel I: Upper age limit at 67 years					
Office	0.072 ***	0.097 ***	0.023	0.054 ***	-0.030
	(0.008)	(0.009)	(0.019)	(0.020)	(0.033)
Post office	-0.408 ***	-0.442 ***	-0.648 ***	-0.012	-0.162 ***
	(-0.012)	(-0.015)	(-0.034)	(-0.017)	(0.043)
Panel II: Upper age limit at 62 years					
Office	0.073 ***	0.095 ***	0.034 *	0.056 ***	-0.029
	(0.008)	(0.009)	(0.019)	(0.020)	(0.033)

Post office	-0.286 ***	-0.309 ***	-0.493 ***	-0.031 *	-0.105 ***
	(-0.010)	(-0.012)	(-0.035)	(-0.016)	(0.041)

Notes. The table displays income dynamics during entry into and exit from four distinct political offices (with standard errors in parentheses). The dependent variable equals residualized pensionable income clearing out individual, year and age effects *using only pre-event observations*. It is measured on a log-scale and defined in constant 2015 prices. The 'office' results compare the 20 years before entering office to the 20 years in office, while the 'post office' results compare the 20 years in office to the 20 years after leaving office. Significance: *** p<.01, ** p<.05, * p<.1

Table 2 first of all indicates that politicians at all government levels witness an increase in income during their time in office. This income boost appears to be larger at the local level (circa 10%) compared to the national level (up to 6%). Second, we find a very considerable post-office income penalty for local mayors (31-44%) and regular MPs (49-65%), and a considerably smaller drop for ministers (11-16%) and junior ministers (0-3%). Clearly, comparing Panels I and II suggests that things look somewhat less dire for prospective politicians once we account for potential (early) retirement effects. Nonetheless, the presence of a post-office income penalty remains a consistent finding. Taken together, these findings confirms that serving as a local or national politician is unlikely to be beneficial from a future income perspective. Only the top executive positions in national politics appear to remain partially insulated from an income penalty after leaving politics.

Before concluding, we should note that for MPs we can observe whether they stood for re-election or not immediately prior to their post-office period begins. Exit after having stood for re-election would suggest that they suffered one type of involuntary exit from political office. Auxiliary analysis indicate that the post-office income dynamics of these individuals (-49%) are not very different from those not appearing on an election list prior to their exit from parliament (-58%). Naturally, it may be that at least some of those not appearing on an election list also suffered an involuntary exit (e.g., due to the party not re-selecting them). Hence, these results should be interpreted with due caution.

6. Conclusion

A common concern is that politicians may be keen to exploit their status, networks and experience for personal economic gain. This article's key message is that this is *not* a general pattern. In fact, we find that political experience on average is *not* a career booster, and may in the majority of cases even have the opposite effect. Particularly local mayors and ordinary

Members of Parliament would on average have been financially better off (and often considerably so) had their professional careers not been interrupted by their political activity. Only top executive positions at the national level (i.e. junior ministers and ministers) appear to be largely insulated against negative income shocks after leaving politics. These results are consistent with observations beyond our Norwegian setting that only few former politicians manage a smooth and lucrative transition to post-office employment in the private sector (Byrne and Theakston 2016; Würfel 2018; Claessen et al. 2021).

Our results may have important implications for selection into politics as candidates cannot run for office in the expectation of a profitable post-office career (Caselli and Morelli 2003; Poutvaara and Takalo 2003; Besley 2004; Messner and Polborn 2004; Gagliarducci et al. 2013). In effect, most Members of Parliament never become promoted to (junior) minister positions (less than 16% in our sample), while most local politicians will never become mayor (less than 9% in our setting). Entering politics thus is not a rational financial decision for most people as it does not seem to pay off in the long run in terms of earnings.

On a more positive note, the combination of significant in-office returns and negative post-office returns observed in our analysis may act as a disciplining device on (most) politicians' behavior while in office (Besley 2004; Gagliarducci et al. 2013; Fisman et al. 2015). Extending one's political career by catering to voters' wishes may indeed postpone the drop in income that arrives after leaving office. Even so, it remains for future research to specify these selection and disciplining effects in more theoretical detail, and to test empirically how in- and post-office returns affect the quality of the political elite. At this stage, our findings lead us to interpret a generous in-office salary as a compensation for the uncertainty of political office and a disrupted working career (and the future income loss associated with this disruption). From this perspective, our findings can have practical implications for how we think about the remuneration of politicians. That is, they suggest that we must take into account the entire earnings path over the life-cycle rather than just the payment politicians receive while in office.

Competing interests: The authors declare none.

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Appendix

Table A.1: Politicians with multiple positions

	Positions	Unique persons
Candidate only	0	19910
Parliament mem.	1	582
Minister	1	99
Mayor	1	2241
Junior min.	1	513
Mayor and Parliament mem.	2	137
Junior min. and Minister	2	26
Parliament mem. and Junior min.	2	32
Mayor and Minister	2	10
Parliament mem. and Minister	2	96
Mayor and Junior min.	2	37
Mayor and Parliament mem. and Minister	3	19
Mayor and Junior min. and Minister	3	1
Mayor and Parliament mem. and Junior min.	3	13
Parliament mem. and Junior min. and Minister	3	19
Mayor and Parliament mem. and Junior min. and Minister	4	3

Table A.2. Summary statistics on income

	mean	sd	min	max	N
Pre Office					
Pens. Income	369.396	267.585	.162	13873.672	63345
Wage income	438.055	332.254	.003	13831.638	23628
Work income	482.139	371.731	.003	13831.638	23797
Total income	548.373	790.991	.001	39128.906	23984
In Office					
Pens. Income	688.338	295.718	.476	23854.201	26019
Wage income	750.762	293.228	.111	23854.201	16823
Work income	765.045	310.598	.111	23854.201	16824
Total income	836.7	579.051	10.4	28860.404	16834
Post Office					
Pens. Income	512.038	657.478	.001	32340.076	39792
Wage income	484.461	638.1	.001	32340.076	30497
Work income	550.674	840.185	.001	32340.076	30948
Total income	777.036	1178.809	.001	75115.813	38456
Never Office					
Pens. Income	343.491	303.32	.001	42328.215	567470
Wage income	363.952	319.933	.001	42218.398	331963
Work income	392.936	376.713	.001	42328.215	342829
Total income	467.304	1686.133	.001	453137.63	408318

Note: Pensionable income is income that qualifies for public old-age pension, and includes wage- and capital income plus sickness, maternity, disability and unemployment benefits as well as compensations for military service. Disability pensions are included in pensionable income from 2015 onwards. Wage income comprises only remuneration paid by an employer as part of an employment relationship. Work income extends wage income with net business income as well as sickness and maternity benefits. Total income extends work income with other sources of capital income as well as taxable and non-taxable subsidies. Pensionable income is available for 1970-2019, while the other measures are available only from 1993 onwards.

Figure A.1: Example for income developments in pre-office, office and post-office periods
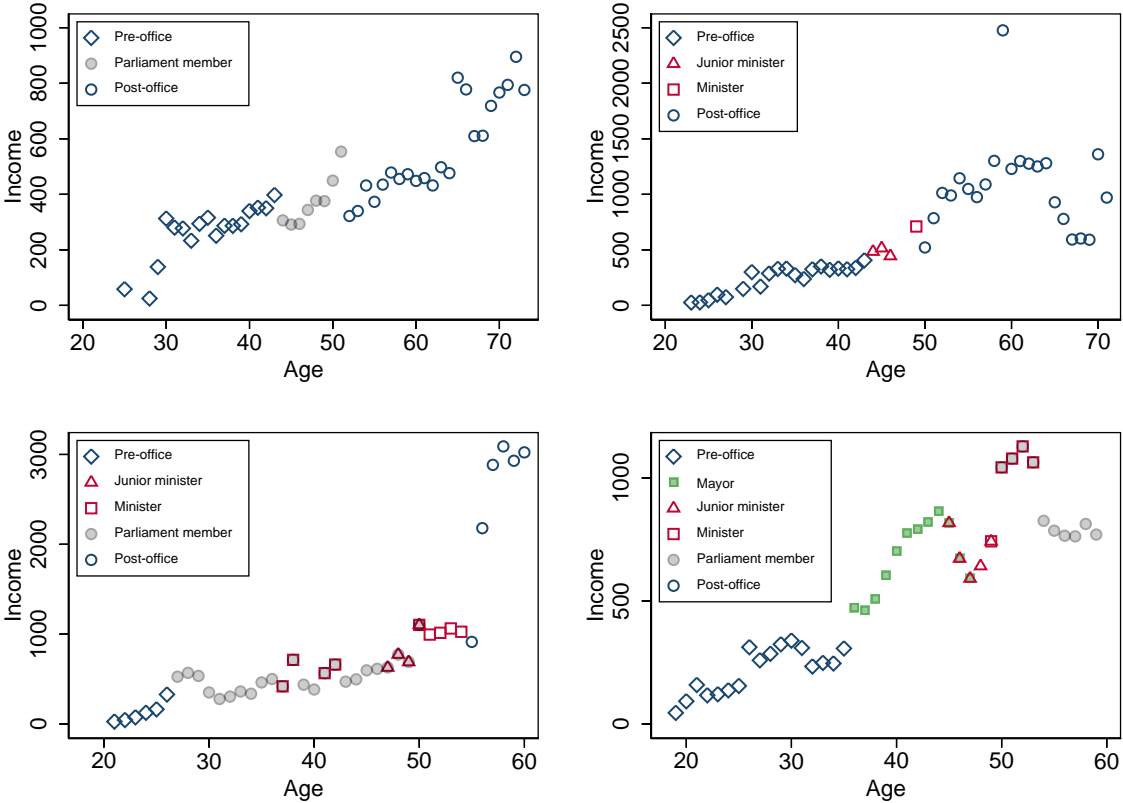

Notes. The diagrams display data on pensionable income (in 1000 NOK; 2015=100) over the life-cycle of four
    selected politicians. The figure differentiates between pre-office and post-office periods, as well as between
    four political offices (local mayor, Member of Parliament, junior minister and minister).

Figure A.2: Verification of the parallel lines assumption

Event study in levels
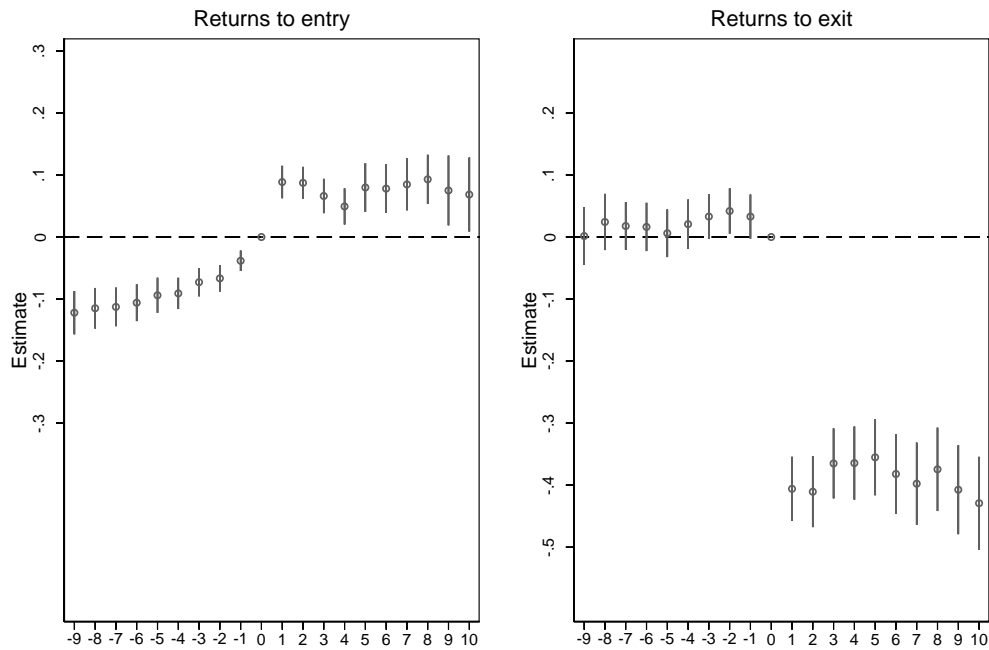
Event study in first differences
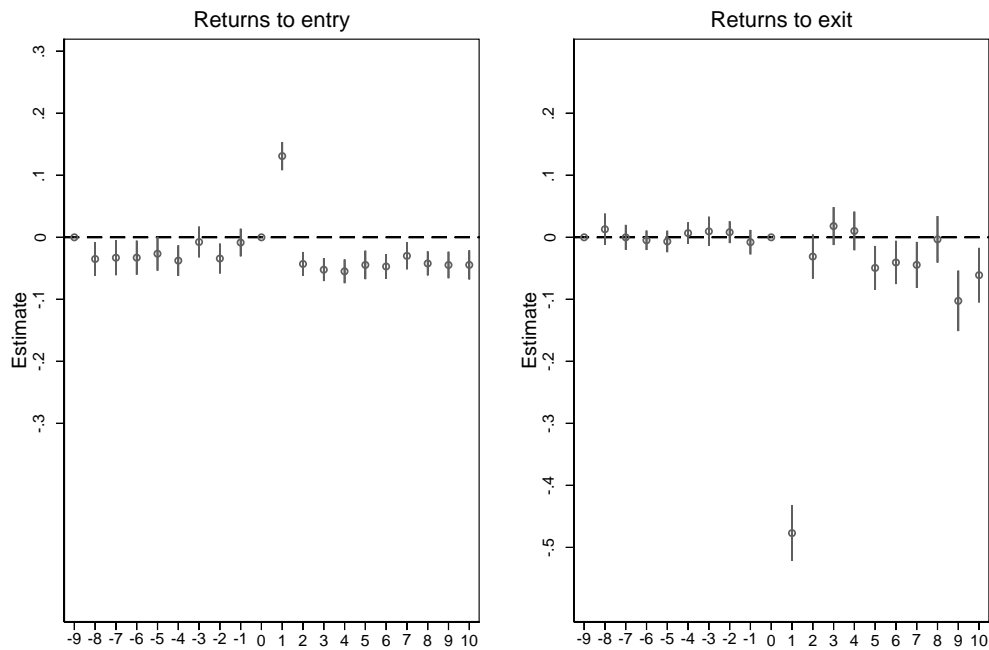
Notes. The figure displays the results of a parallel trends verification check regressing residualized incomes onto the leads and lags of treatment (Butts and Gardner 2022). The left-hand panels look at residualized income levels clearing out individual, year and age effects *using only pre-office observations*, while the right-hand panels use *only in-office observations*. The top panel estimates the model in levels, while the bottom panel estimates the model in first-differences to accommodate potential serial correlation in the income data. All panels restrict the sample to 10 before and after the event, and include 95% confidence intervals.

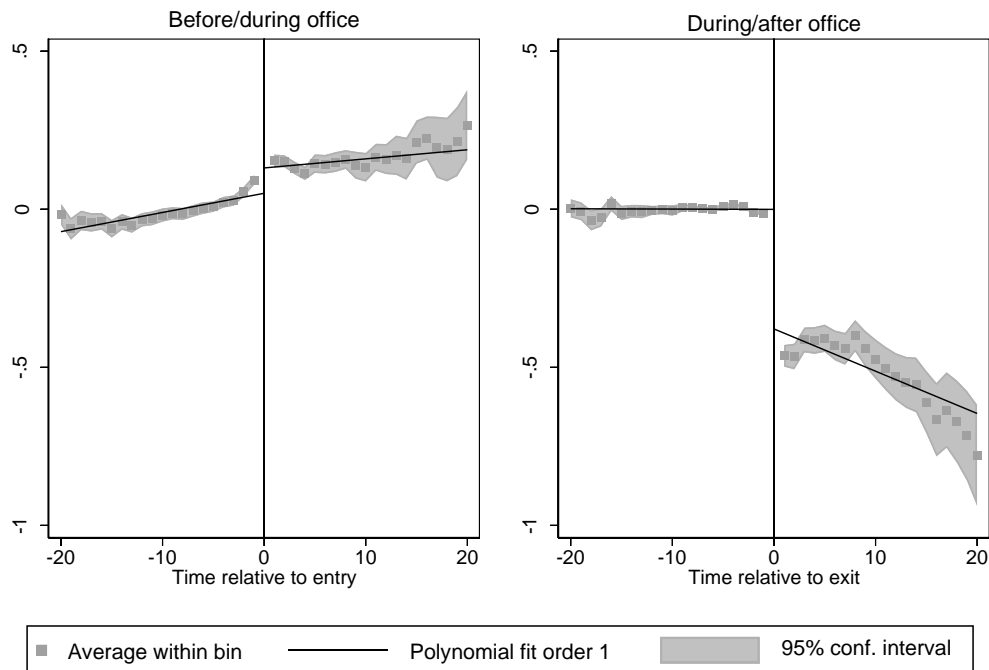Figure A.3: Robustness check with age cut-off at 62 years

Panel I: Level of (Log) Income
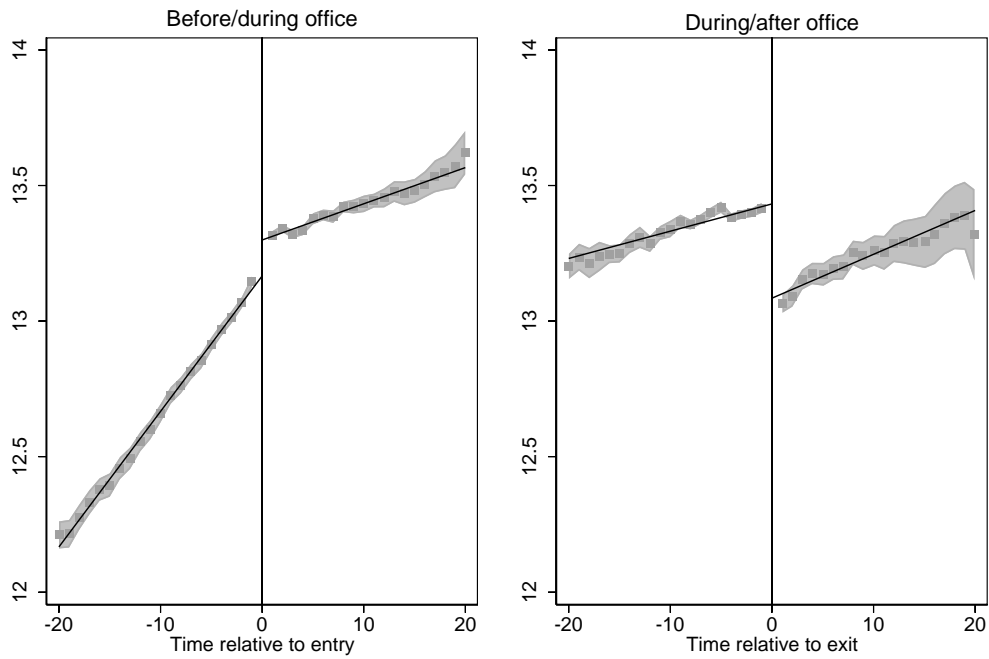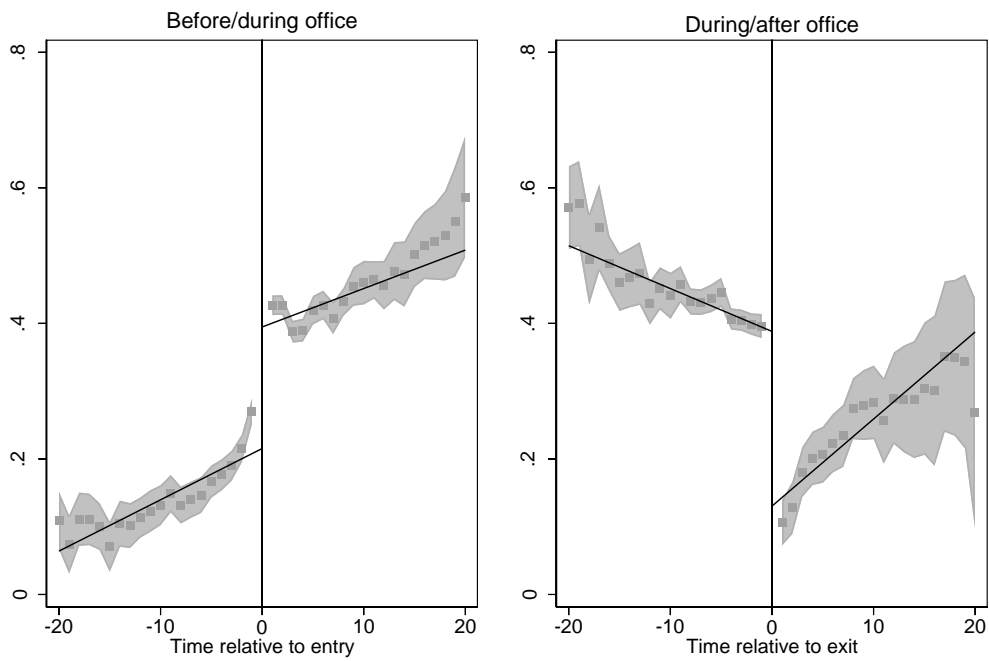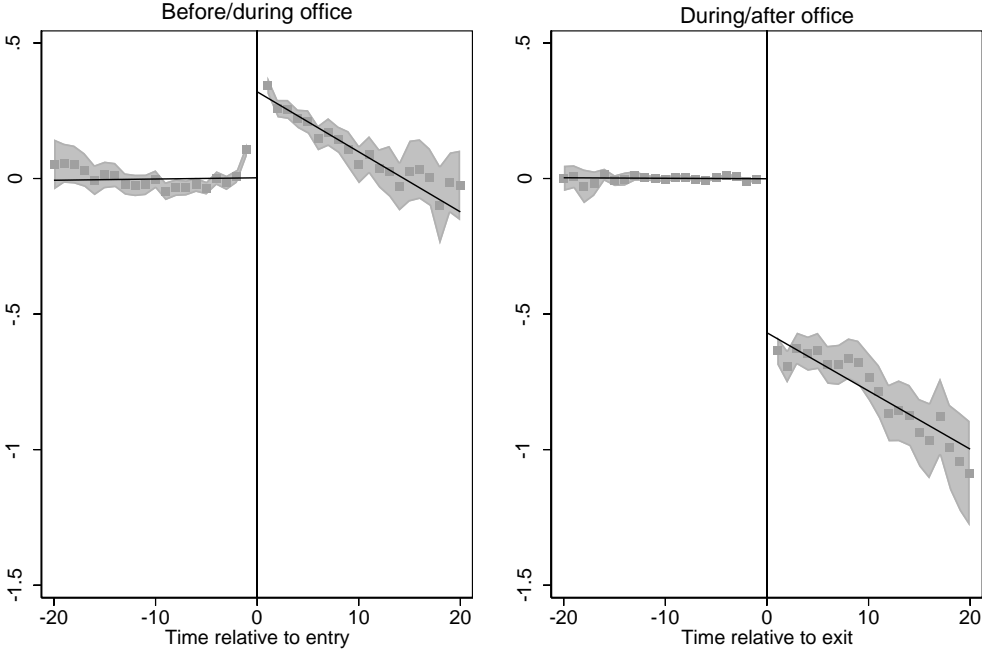

Panel II: Difference in (log) Income

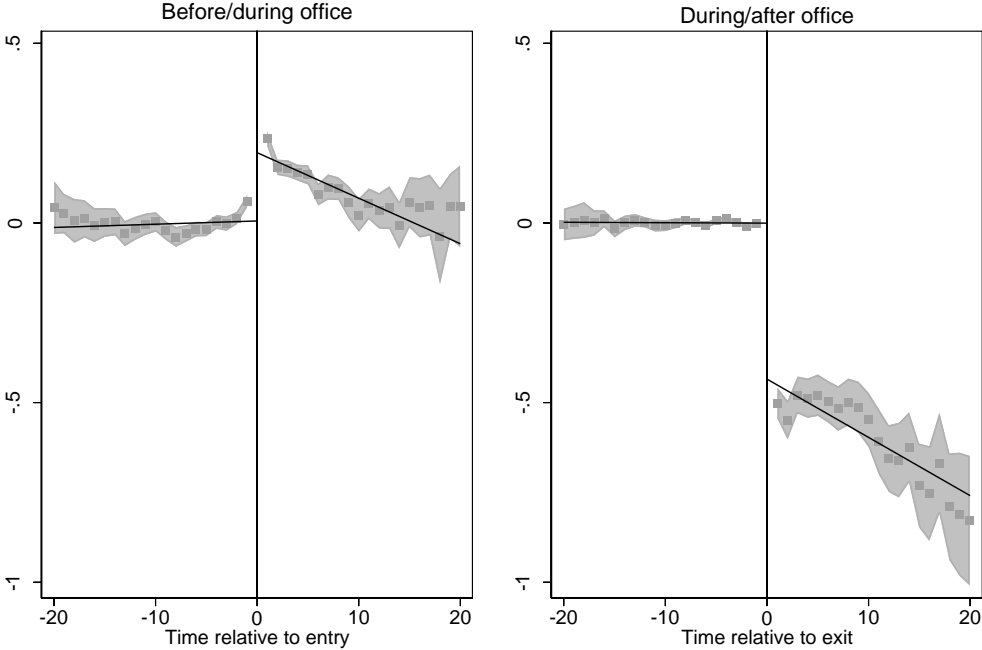Panel III: Residualized (log) Income

Notes. The figure displays the average development in pensionable income measured in constant 2015 prices and on a log-scale. The top panel uses the raw income data for the entire sample of office-entering politicians, while the middle panel employs the difference in income between office-entering politicians and narrowly never-elected candidates (adjusted for age and year income profiles). The bottom panel displays residualized income levels clearing out individual, year and age effects *using only pre-office observations* (in the left-hand panels) or *only in-office observations* (in the right-hand panels). The left-hand panels compare the 20 years before entering office to the 20 years in office, while the right-hand panels compare the 20 years in office to the 20 years after leaving office. All panels include 95% confidence intervals and a simple linear regression line through underlying data.

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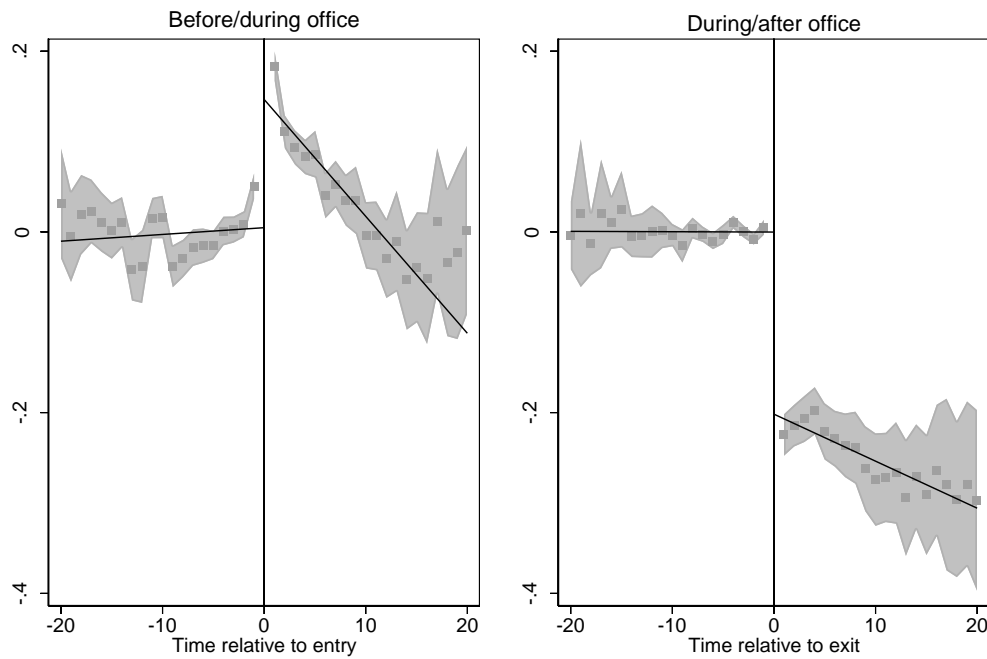Figure A.4: Robustness check using different types of income

Panel I: Residualized (log) Wage

Panel II: Residualized (log) Work Income

Panel III: Residualized (log) Total Income

Notes. The figure displays the average development in (different types of) income measured in constant 2015 prices and on a log-scale. The top panel uses wage income, the middle panel uses work income, while the bottom panel uses total income (all available for the period 1993-2019). In each case, we display residualized income levels clearing out individual, year and age effects *using only pre-office observations* (in the left-hand panels) or *only in-office observations* (in the right-hand panels). The left-hand panels compare the 20 years before entering office to the 20 years in office, while the right-hand panels compare the 20 years in office to the 20 years after leaving office. All panels include 95% confidence intervals and a simple linear regression line through underlying data.

Figure A.5: In-office return by age of entry and post-office returns by years in office
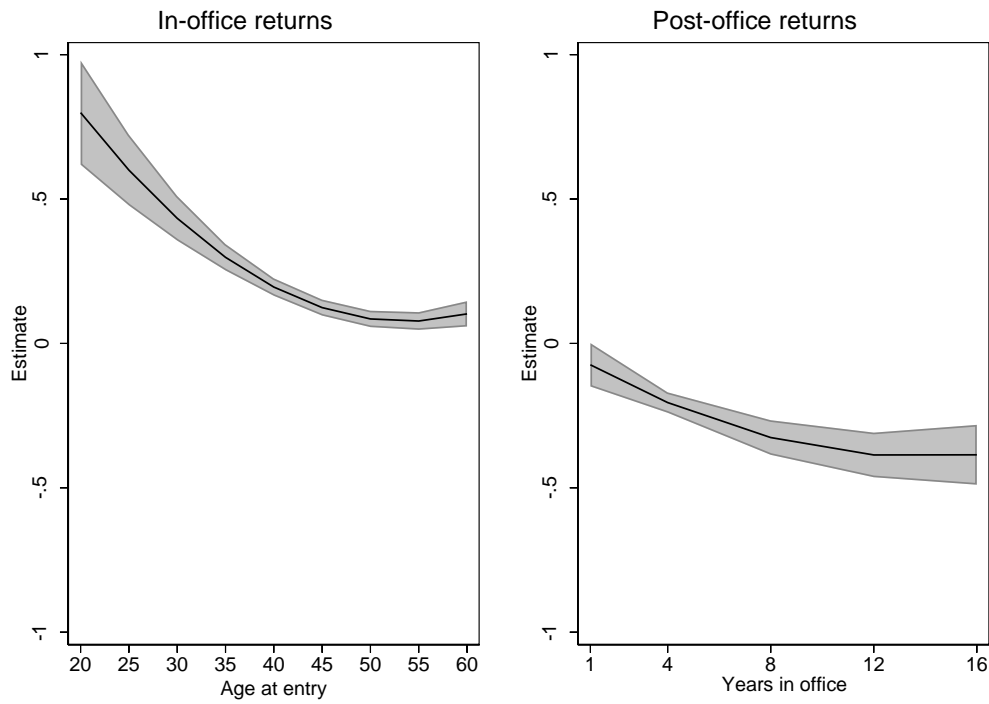
Notes. The left-hand panel displays estimated returns to political office during the in-office period as a function of politicians' age at entry. The right-hand panel displays estimated returns to political office during the post-office period as a function of the number of years politicians remain in office. The dependent variable equals residualized pensionable income clearing out individual, year and age effects *using only pre-office observations* (in the left-hand panel) or *only in-office observations* (in the right-hand panel). Both panels include the entire sample of politicians while imposing an age cut-off at 62 years. The grey area reflects the 95% confidence interval around the point estimates (given by the black line).