How partisan politics influence government policies in response to ageing populations

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HOW PARTISAN POLITICS INFLUENCE GOVERNMENT POLICIES IN RESPONSE TO AGING POPULATIONS

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ABSTRACT

Since old-age programs mitigate life-course risks that are relevant to individuals across socio-economic groups in aging societies, all parties have a political incentive to support these initiatives. Nevertheless, pre-existing partisan commitments bind the *policy instruments* that parties use. Cabinet-level analyses of OECD economies demonstrate that left incumbency relies more on public expenditure than right-wing governments. More importantly, in the context of large elderly populations, pension coverage is greater under right-leaning governments, while pension replacement rates are higher in left-leaning governments. This shows that party behavior related to life course-related policies cannot be explained by the conventional pro-expansion versus the pro-retrenchment partisan politics. Rather, a focus on partisan variation in the use of policy instruments is required.[3]

Words: Population aging, pensions, partisan politics, life-course risk, government expenditure, replacement rates, OECD
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Politically, many predict that a rapidly aging society encountered by many advanced industrial economies will render political elites beholden to growing demands for social protection from the old (Browning 1975; Busemeyer et al. 2009; Sørensen 2013; Disney 2007). Empirical evidence, however, suggests that population ageing has had diverse effects across countries and times (Busemeyer et al. 2009; Tepe and Vanhuysse 2010; Sciubba 2012). Previous studies point to various individual and institutional contexts, such as family dynamics or party systems, to explain the divergent behavior of incumbent parties (Immergut 1992; Tsebelis 2002; Jensen 2012).

Notwithstanding the useful insights provided, these studies have several limitations. First, previous research tends to focus on public expenditure or mandatory private spending. However, this measure can be misleading because many countries that have generous pensions depend on private pension systems regulated by governments. Second, many studies on the welfare state only examine levels of benefits measured as replacement rates or overall spending (as a share of GDP or total expenditure) but not coverage rates. Benefit levels and coverage do not always go in hand in hand; the two measures have different implications. Benefit levels indicate the depth of welfare support each beneficiary receives while coverage rates indicate the breadth of welfare support. Given different effects, political elites may have different incentives to pursue one over the other.

The traditional partisan politics theory emphasizes the formation of parties' policy positions in response to demand by a specific electorate (or coalitions) (Hibbs 1977; Castles 1982; Häusermann et al. 2013). Unlike other redistributive social policies, however, old-age programs mitigate life-course risks that are relevant to individuals across various socio-economic groups. There is little dispute over support for old-age programs. That is, whether an individual is lower- or upper-class, young or old, post-retirement risk is relevant to everyone, making these policies highly popular among all citizens (van Oorschoot 2006; Laenen 2020). For this reason, all parties across the ideological spectrum have a political incentive to support these programs.

Nevertheless, partisan effects still exist. We argue that for old age-related spending, partisan difference is found in modes of policy provision (private vs. public pensions) as well as levels of benefits and coverage. Specifically, we expect that left-wing parties tend to rely on public spending whereas right-wing parties are more likely to rely on subsidies to private pensions. With respect to benefit levels and coverage, when governing parties are predominantly left-wing, we predict that levels of public pension benefits tend to increase. By contrast, when more right-wing parties control the government, levels of benefits decrease, but the number of beneficiaries (pension coverage) will increase. We empirically test these arguments using cabinet-level data of 21 OECD countries from 1980 to 2016.

This study carries several important implications for understanding the policy impacts of a graying population and for studies of the welfare state, in general. First, this study demonstrates the need to go beyond overall expenditure in understanding incumbent parties' welfare efforts. Parties across the political spectrum utilize different policy instruments in welfare provision. Second, we show that partisan behavior related to old-age policy cannot be explained simply by the conventional framework of the pro-welfare expansion versus the pro-welfare retrenchment. Life-course risk is distinct from labor-market risk in that the former cuts across various social cleavages (Jensen 2012). Therefore, different theoretical explanations for partisan behavior are necessary.

Population Ageing and Distributive Politics

As Figure 1 shows, though there exists a variation across countries, most countries have experienced an upward trend in terms of their old age dependency ratio. Politically, population greying has several important implications. As the share of the elderly grows, life-course related programs such as pensions become more relevant to electoral competition (Browning 1975; Breyer and Craig 1997; Campbell 2003;). As senior citizens rely primarily on pensions and social security for income, their well-being is visibly tied to a government policy shaping voters' policy preferences and political behavior (Campbell 2003).

[Figure 1 here]

Studies emphasize that the growing salience of aging-related risk will increase policy demand for the expansion of elderly-friendly policies such as pensions and health care (Bonoli and Häusermann 2009; Campbell 2003). Though public support for old-age related government spending is high across all ages (Laenen 2020), it tends to increase with individuals' ages (Sørensen 2013; Kweon and Choi 2021; Campbell 2003)[4]. The commonly predicted trend, therefore, is that reelection-seeking incumbent parties will direct more resources to elderly-related welfare programs in the context of a greying population (Breyer and Craig 1997; Browning 1975; Harney 2013).

Despite the prediction for the convergence, there is a wide variation in the degree to which the old-age population is positively correlated with elderly-friendly spending by governments (See Busemeyer et al. 2009; Sciubba 2012). Some find a positive correlation between population greying and public spending on elderly-related programs (Castles 2009; Disney 2007; see also Galasso and Profeta 2007; Kweon and Choi 2021). By contrast, others find a negative association

[4] Some studies point out that there exist cross-national variations depending on social and institutional contexts (For instance, see Sciubba 2012; Lynch and Myrskylä 2009)

(Razin et al. 2002). Confirming this ambiguity, Figure 2 shows that despite a positive association between the old age dependency ratio and the average public and mandatory private spending on old-age programs, there is a large variation across OECD countries.

[Figure 2 here]

In an attempt to explain this variation in governments' policy choices when faced with a high proportion of senior citizens, studies have examined both the demand- and supply-sides of political factors that moderate the effects of population aging on incumbent parties' policy behavior. On the demand-side, studies emphasize that the degree to which old people are considered as contributing to a society can affect cross-generational support for elderly assistance (Hess et al. 2017). Facing the steep cost of population aging, there is a growing need for senior citizens to demonstrate that they do not freeride on social welfare but rather contribute to a social system like other social groups as well (Kweon and Choi 2021).

Of the supply-side factors, a number of studies stress veto points. Literature that links the theory of veto points to the study of the welfare state has shown that fewer veto points—defined by government type, centralized government, and unicameralism—enable governing actors to make changes to existing policies (Immergut 1992; Tsebelis 2002). Similarly, others emphasize the party system, arguing that consensual party systems allow for more flexibility in the formation of issue alliances and reform coalitions, making policy reform easier. By contrast, in majoritarian party systems, new issue alliances are not sustainable until the latter course of the decision-making process (Häusermann 2006).

While these aforementioned studies provide us with more nuanced understandings of the policy behavior of ruling parties in relation to old-age policy, previous studies have several shortcomings. First, a majority of studies focus on public and mandatory private spending. Yet examining these spending areas provides only a partial picture because most countries supplement public benefits with private voluntary pensions where pension participation and contributions are encouraged and incentivized by state subsidies (Rein and Turner 2001; OECD 2019).[5] For instance, Germany has a private voluntary pension (*Riester Rente*) for certain groups to make up the emerging pension gap caused by the declining generosity of the public pensions in response to population aging. This private pension is heavily subsidized by the government through tax deductions and a matching contribution by the government (Naczyk and Hassel 2019).

Another shortcoming of previous studies is that they tend to focus on levels of benefits measured by replacement rates or expenditure. However, coverage rates that measure the breadth of welfare efforts are another important factor to consider in understanding the policy behavior of ruling parties. Governing elites modernize welfare systems in response to new social and economic needs and demands not only by adjusting benefit levels but also by (re)allocating resources to new social groups who were previously largely excluded from social benefits (Häusermann 2010; Naumann 2005).

Finally, while many studies have considered political factors in order to understand old-age policy, these factors are often examined as competing hypotheses against a demographic shift (See Fernández 2011). Instead, we view the effects of political factors on the elderly-bias of the

[5] There are mainly two different types of private pensions: private mandatory and private voluntary. In a private mandatory pension scheme, participation is mandatory and often contribution rates are fixed through collective bargaining, sometimes varying by income and industrial sectors. In a private voluntary pension scheme, by contrast, participation is not mandatory and contribution rates are not fixed. The former is often occupation-based, while the latter not only includes occupational and personal pensions (OECD 2019; Hinz et al. 2013). Given the mandatory nature, private mandatory pensions are often categorized together with public pensions in many studies (Queisser et al. 2007; Wolf et al. 2014). In line with existing literature, in our study, private pensions refer to private voluntary pensions.

welfare state as not independent from a demographic change. Rather, the former conditions the latter. Therefore, we develop a theory that explains the political conditions in which divergent ruling parties' policies respond to population aging, with a focus on partisan behavior.

Partisan Politics in an Aging Society

The traditional partisan politics theory proposes that left-wing parties, which represent the working class, have an opposite policy position as compared to right-wing parties, which represent the interests of the middle- and upper-classes. Left-wing parties are pro-welfare expansion. By contrast, right-wing parties tend to oppose generous social policies that can impose tax burdens on their key constituencies (Huber and Stephens 2001; Korpi 1989; Esping-Andersen 1990 among many).

While this theory sets out the standard theoretical framework to explain policy outcomes with respect to labor market programs in traditional industrial societies, the dichotomous approach to party politics does not sufficiently explain how electoral changes have reshaped parties' policy positions in recent decades. Against this backdrop, the new partisan theory argues that left-right partisan positions based on the traditional class divide are less evident today. As the working-class has been more fragmented and newly marginalized groups with new policy demands have emerged in deindustrialized societies (Oesch 2006; Bonoli 2007), parties today have to reorient their policy positions in alignment with changes in the electorate (Häusermann et al. 2013; Kitschelt and Rehm 2014).

Notwithstanding important improvements that the new partisan politics theory has made in explaining partisan politics in a post-industrial era, the traditional and new partisan politics theories are similar in that they both emphasize a bottom-up approach to understanding different parties' policy positions. That is, parties develop programmatic policy positions to represent specific socio-economic groups that are relevant as their constituencies. Further, they adjust their policy positions in alignment with shifts in social cleavage structures (See discussion in Wenzelburger and Zohlnhöfer Forthcoming). This micro-foundation approach is helpful to explain the divergence in parties' positions on certain types of policies such as labor market policies over which voters are divided along class- and socio-economic backgrounds. However, unlike class-based social programs, old-age policies are life course-related social programs are largely uncorrelated with socio-economic divides.

Labor market programs such as unemployment insurance or social investment programs protect against risks that disproportionately affect economically marginalized individuals. People have contrasting views of these programs based on their economic and occupational status or exposure to economic risks (Kweon 2018; Ronvy and Ronvy 2017; Kitschelt and Rehm 2014; Bonoli 2007). Conversely, because no one is fully sheltered from the risks accompanying aging, citizens—both the poor and the rich— generally have favorable attitudes towards old-age policies (Jensen 2012; van Oorschot 2000). Even younger people who do not directly benefit from the current provision of pension benefits are likely to support the program in anticipation of their own post-retirement life (Svallfors 2008; Laenen 2020; Goerres et al. 2020). Unlike programs related to labor market risks, the high popularity of old-age policies means that both left- and right-wing parties have an electoral incentive to support these policies (Browning 1975; Breyer and Craig 1997). Even conservative parties often cannot implement retrenchments on old-age programs without facing electoral backlash. As a result, during normal times, both left- and right-wing parties support generous pensions (Anzia and Moe 2017; Bagchi 2019). Even in an era of permanent austerity in which welfare generosity has been reduced, pension cutbacks have generally been much smaller than those to class-related social programs such as unemployment benefits and sick pay (Wolf et al. 2014; Bandau and Ahrens 2020).

Nevertheless, this does not mean that partisan difference does not exist within welfare politics affecting the old. A party's decision of which *policy tool* should be used to deliver social services hinges on partisanship (Zehavi 2012). Instead of the partisan divide over pro- vs. anti-welfare expansion, however, we argue that pre-existing ideological commitments affect *how* incumbent parties cater to the greater demand for old-age programs in the face of an aging population. In particular, incumbent elites restructure pension systems by adjusting the balance between private and public pensions and by altering pension coverage and replacement rates.[6]

With respect to the balance between public versus private pension expenditure, most countries use a combination of statist pension systems and state-subsidized private pensions. Countries differ as to which system they give more weight, however. Coverage of voluntary occupational pension plans, for instance, varies across countries with the rate above 40% in Belgium, Germany, Ireland, Japan, and the United States while it is below 5% in countries like Greece (OECD 2019).

While parties regardless of partisanship increasingly support old-age programs due to growing public pressures in graying societies (Anzia and Moe 2017; Wolf et al. 2014), how they

[6] According to the historical institutionalist approach, policies are outcome of particular institutional arrangements and they not only reflect but also actively reinforce the existing institutions. Institutional changes tend to be very incremental. Large changes are rather rare and occur mostly through external shocks (See Mahoney and Schensul 2006; Hall and Soskice 2001; Streeck and Thelen eds. 2005; Pierson 2000, among many). The purpose of this paper is not to explain institutional changes at the systematic level. Rather, we are more interested in marginal changes in pension spending levels and replacement/coverage rates. These levels do fluctuate even within the same welfare regime type without systematic changes at an institutional level.

deliver these policies can differ by their ideological commitment. This might be particularly true when it comes to a party's choice between market-based vs. public pension scheme, Political parties have a divergent issue stance on the role of government in society due to their different ideological commitment (Strøm 1990; Wenzelburger and Zohlnhöfer Forthcoming; Poletti et al. 2019; Warwick 2005; Sànchez-Cuenca 2004). Conservative parties tend to be ideologically committed to the balance between market principles and state regulation, favoring the reduced role of the state in the economy and prioritizing economic productivity and growth over redistribution. Therefore, instead of directly providing welfare benefits through a public system, conservative parties prefer resource distribution through indirect subsidization and regulation of private-sector social services and benefits. In fact, Engler and Zohlnhöfer (2019) find that parties' ideological commitment has large influence on their stance on market regulation or privatization.

In the context of an aging population, conservative parties can cater to the demand for greater protections for the old by encouraging market-based pensions. Using private pension schemes allows right-wing parties to signal their care for the risks that aging citizens are exposed to, but doing so in a way that is in line with their partisan ideology. The most common way in which governments encourage pension marketization is through tax exemptions, tax deferrals and, sometimes, matching contributions (Faricy 2011; Zehavi 2012; Jensen 2014; Naczy and Hassel 2019; World Bank 2013). While contribution to and participation in private voluntary pensions are not mandatory, through these measures, governments can encourage citizens' participation in pensions with the minimal government intervention in the market.

By contrast, left-wing parties tend to be favorable towards the state role in providing social protection to citizens and in enhancing economic redistribution (Wenzelburger and Zohlnhöfer Forthcoming; Poletti et al. 2019). Although both public and private social services provide minimal support for the old, the redistribution effect can be different. Market-based welfare systems tend to be more regressive, as benefits are often tied to occupational status and individual contributions (Faricy 2011). With respect to pensions, benefit levels produced by voluntary private pension plans increase with individual income in most advanced countries. Despite the move towards the "third-way," left-wing parties still remain concerned with economic equality and ideationally motivated to support the state role in redistribution (Le Grand 2007; Zehavi 2012). Therefore, we predict that they are more likely to support public welfare schemes than private ones.

Hypothesis 1: *Public expenditure for the old is likely to increase under left-wing parties' control in the face of a high old age dependency ratio.*

Hypothesis 2: *When right-wing parties are in government control, a high level of old age dependency ratio is likely to increase voluntary private expenditure for the old.*

We further argue that incumbent elites readjust pension coverage and replacement rates to accommodate the rising needs of the graying population. Although they are related, welfare coverage and replacement have different redistributive implications. Coverage refers to the breadth of redistribution: the number of people protected by a welfare system. On the contrary, replacement refers to the depth of redistribution: benefit levels or the degree to which social welfare substitutes income loss.

In recalibrating coverage and replacement rates, left- and right-wing parties have different interests to pursue in the face of a large senior population, as they are concerned with different aspects of its economic effects of population aging. First, one of important ramifications of population aging is economic stagnation. Economic stagnation caused by demographic changes is distinct from economic downturns caused by financial crises. The former is a prolonged secular stagnation that is caused by non-external shocks. Severe labor shortages caused by a declining in working-age population increases production costs, significantly hurting the economy. Some would argue that the labor shortages are so severe that this problem cannot be simply offset by increasing capital intensity, and that the only way to resolve it is to increase human capital through more training and incorporation of the (new) workforce (Summer 2014; Börsch-Supan 2003; Levanon et al. 2014). As right-wing parties are mainly concerned economic productivity and efficiency, they have an incentive to coax a broader range of individuals into the labor force — such as women and market outsiders who used to be excluded from stable employment and social welfare— by providing a minimal level of social protection (high coverage rate with low replacement rate). Here, expansion of pension coverage should be seen as a policy instrument that growth-oriented conservative parties use to boost up economy by resolving labor shortages rather than their commitment to redistribution, though it could have a positive impact on the latter. To examine whether the expansion of pension coverage resolves labor shortages, we conducted a preliminary analysis by regressing a share of labor force in the working-age population (age 15-64) on pension coverage rates. As presented in the appendix, a standard deviation increase in a pension coverage rate increases a share of labor force by 3.25%.

While one may raise a question about why conservative parties would pursue expansionary policies, there are in fact many examples of conservative parties advocating the expansion of welfare services to traditionally overlooked groups in order to promote their employment in face of severe labor shortages. Throughout the 1960-70s, the Swedish liberals promoted women-friendly policies such as equal wages and the expansion of childcare services to resolve labor shortages resulting from the growth of industry in the 1950s and early 60s. Similarly, the Christian democrats in Germany advocated foreign guest workers as a remedy for the labor shortage facing their industries (See Naumann 2005). In Japan, in recent years, the right-wing government led by the Liberal Democracy Party, which has long been characterized by conservative positions on both gender and migration issues, followed a similar logic in their expansion of social benefits to women and immigrants in the face of severe labor shortage caused by rapid population aging (Chanlett-Avery and Nelson 2014; Hasunuma 2017). These cases show that conservative parties pursue pro-welfare policies that benefit traditionally marginalized groups when economic needs arise and when these groups can add an economic value. For similar reasons, we predict that conservative parties are likely to target a broader range of citizens in order to increase labor supply in the face of rapid population graying, resulting in an increase in pension coverage.

By contrast, left-wing parties have different policy incentives from right-wing governments. Left-wing parties are mainly concerned with redistribution rather than economic efficiency or productivity (Le Grand 2007; Zehavi 2012). In this regard, another important dimension of economic effects that population aging has is increased economic inequality. The demographic change increases poverty risk of the elderly. In many countries such as Japan, the United States, Switzerland, Sweden and Australia, the elderly poverty has already outgrown the national average poverty rate (OECD 2009;Steiner 2017). The deepening of poverty is particularly severe among low-income individuals and economically vulnerable groups, widening economic inequality (Dong et al. 2018; Lyons et al. 2018; OECD 2009). As a result, left-wing parties are likely to provide a more targeted coverage to concentrate limited resources to those in economic need and workers, but with a more depth (low coverage rate with high replacement rate).

Hypothesis 3: *When left-wing parties are in government control, a high level of population aging is likely to increase public pension replacement rates as compared to right-wing governments.*

Hypothesis 4: W*hen right-wing parties are in control, a high level of population aging is likely to increase public pension coverage rates as compared to left-wing governments.*

Measures and Modeling Strategy

We test these four hypotheses using data for OECD countries from 1980 to 2016. We first examine the effects of old-age dependency ratio and incumbent party's partisanship on public and private pension expenditure. Then, we further analyze their effects on pension replacement and coverage rates. Before presenting our results, we explain the measures and modeling strategies for our empirical analyses below.

We use cabinets instead of country-years as units of analysis (Schmitt 2016; Box 1997; Schumacher et al. 2013). The party composition of governments does not change on a yearly basis, but usually at elections and therefore rarely over time. Therefore, annual data or country-years as units of analysis may not be appropriate to estimate partisan effects on policy changes (Schmitt 2016). All cabinets that have been in power less than one year are excluded, as these short-lived cabinets cannot effectively implement policies.

Outcome Variables

We have several outcome variables. Since we are interested in partisan effects on policy changes, all dependent variables are measured as the percentage change of expenditure/replacement rates/coverage rates (Δ) by differencing the values in the last and the first year of a given cabinet.

For public and private pensions, we use data for public and private expenditure on old-age programs measured as a share of GDP (%).[7] A spending measure is not the ideal measure of welfare efforts, as various macro-economic factors can affect spending levels (Green-Pedersen 2004). Recent studies prefer replacement rates. However, cross-national data for private pension replacement rates are not available. While we use replacement rates for public minimum pensions in a latter analysis, for the purpose of comparing public and private pension schemes, we use expenditure data.

With respect to categorization, many studies on pension systems treat mandatory private pensions as public pensions, and only voluntary private pensions are categorized as private (Queisser et al. 2007; Wolf et al. 2014). This way of categorization is also in line with our theoretical conceptualization of public vs. private pensions. Therefore, we follow this convention by categorizing mandatory private and public pension expenditure as public pension expenditure, and private voluntary pension expenditure as private pension expenditure. All data are obtained

[7] A better measure for government encouragement of a market-based pension system will be various kinds of tax subsidies and credits and indirect spending. However, not only is data that is compatible across countries not available, but it is also very difficult to know which tax credits and indirect spending are often used to support the elderly, as they vary by national context.

from OECD Statistics (OECD 2019). Data for these two outcome variables are available for 21 OECD countries from 1980 to 2016.[8]

For our second and third hypotheses, we are interested in replacement and coverage rates in the public data. For replacement rates, we use standard replacement rates (%) for a single person. This measure shows the basic benefit entitlement that individuals receive from the public pension system before adjustments for marriage and so forth. It is a flat-rate benefit that is not tied to earned income. For coverage rates, we use a percentage of those above official retirement age who are in receipt of a public pension. Data for pension coverage and replacement rates are from the Quality of Government Standard Time Series Dataset (Teorell et al. 2017). Data for replacement and coverage rates are available for 1981 to 2011.

Explanatory Variables

We are interested in population aging as the main explanatory variable. Since we are interested in the level effects on changes, we use the average level of an old-age dependency ratio over the first half of each cabinet years. The old-age dependency ratio is calculated as total population aged 65 and older expressed in a ratio with those between 15 and 64 years of age.[9] The former group is typically not in the labor force while the latter group is in the labor force. The greater ratio indicates that the size of the older population is larger. Within our sample, the

[8] 21 OECD countries include Austria, Belgium, Canada, Germany, Denmark, Spain, Finland, France, Great Britain, Greece, Ireland, Italy, Japan, the Netherlands, Norway, Portugal, Slovakia, Slovenia, Sweden, Switzerland and the United States.

[9] We acknowledge that retirement age and age eligibility for pension benefits vary across and within countries. This ratio should be understood as referring to a general trend of population aging rather than an exact measure of the ratio of retirees to working-age population. Nevertheless, 65 is the threshold most widely used to calculate an old-age dependency ratio (See OECD 2019). In addition, having the measure of a dependency ratio with the same reference point allows cross-regional and temporal comparability.

dependency ratio ranges from 0.001 to 0.426 (the maximum of the ratio is 1). Data are obtained from OECD Statistics (OECD 2019).

In the theory section, we hypothesize that the effect of population ageing is conditioned by incumbent partisanship. The partisan is captured by the percentage of cabinet posts held by left-wing parties including social democrats, socialists, greens, and other left-leaning parties for a given cabinet. This continuous measure of incumbent partisan effects allows us to account for the party positions of smaller niche parties in governing coalitions, such as Green party, together with the positions of larger governing parties. Data are obtained from PACOGOV. (Schmidt et al. 2020).

Some may argue that Christian Democratic parties have a distinct position on social welfare issues from other right-wing parties. Similarly, greens or right-wing populist parties may also have different policy issue stances from other traditional left-leaning or right-wing parties as they are issue-specific parties. For this reason, as a robustness check, we estimate an additional analysis by separately controlling for Christian Democrats, Greens, and populist right-wing parties in our models as presented in the appendix. The results remain largely unchanged.

Control Variables

Measures of macro-economic context–annual real GDP change and government deficit–are included. These measures control for changes in economic conditions that can influence government spending decisions as they affect fiscal capacity. We also include union density measured as a proportion of union members among workers. A high density of trade union members is likely to compel the government to focus more on pension expansions. Again, all control variables are measured as the average over the first half of each cabinet years.

Analysis and Results

We use an ordinary least squares regression with Huber-White robust standard clustered according to country. While our dependent variable is measured as a percentage change, in all models, we include the level of a dependent variable at the beginning of the cabinet as a control for beta-convergence.

Table 1 presents the results from the main analyses. Columns 1 and 2 show the direct effects of an old age dependency ratio and government partisanship on public and private expenditure on the elderly without any interaction term. First, incumbent partisanship has no direct effect on both public and private expenditure. With respect to the effect of an old age dependency ratio, in accordance with the conventional understanding (Breyer and Craig 1997; Browning 1975; Harney 2013), the results show that an old age dependency ratio positively associated with public expenditure. However, it has a negative impact on private expenditure on old-age programs, though the effect is not statistically significant. These findings imply that countries rely more on public expenditure rather than a private pension scheme as demographic aging deepens. However, as we will show shortly, the effect of a dependency ratio is moderated by government partisanship.

[Table 1 here]

While the first and second columns show how a dependency ratio and incumbent partisanship directly affect elderly expenditure, they do not explain how governing parties of different partisan ideologies react to a growing elderly population. In order to explore this question, we examine the interaction effect between old age dependency ratio and incumbent partisanship in the third and fourth columns. The visualized results are presented in Figures 3 and 4.

First, Figure 3 shows the marginal effects of a share of left-wing incumbent parties in parliament on the percentage change in public expenditure for the old over varying degrees of change in old age dependency ratios. The results in Figure 3 indicate that left incumbent partisanship is positively associated with public old age expenditure, and this positive correlation is stronger in a place with a higher old age dependency ratio. This finding demonstrates that in a graying society, a higher composition of left-wing parties in cabinet posts will increase old-age related public spending in order to cater to the growing needs of the elderly. Since many advanced industrial societies are currently facing rapid population aging, the effect of left partisanship is likely to be larger over time. This finding confirms our hypothesis 1 that left-leaning governments are more likely to rely on public expenditure than right-wing governments in a society with the high elderly population.

[Figure 3 here]

With respect to our second hypothesis about private expenditure on the elderly, we predict the opposite outcome. We hypothesize that right-wing governments are more likely than left-leaning governments to increase private voluntary pensions when an old age dependency ratio increases. The coefficient in column 4 in Table 1 is negative as predicted, and the impact is also statistically significant. Confirming this, Figure 4 shows that across all the observed range of an old age dependency ratio, left-leaning governments are less likely to rely on private pension schemes, leading to lower private pension expenditure. This finding supports our second hypothesis. Our first and second findings together indicate that with respect to the size of expenditure, partisan effects strongly exist for both public and private pension expenditure.

[Figure 4 here]

[Figure 5 here]

Our third and fourth hypotheses predict that incumbent partisanship affects benefit levels as well as coverage of pensions. We test these hypotheses in the fifth and six columns. The visualized results are displayed in Figures 5 and 6. Figure 5 confirms our third hypothesis that left-leaning incumbency is more likely than right-leaning incumbent governments to have a high pension replacement rate in the face of a higher elderly population. The downward graph in Figure 6 indicates that the marginal effect of left incumbent partisanship reduces as population aging deepens. As a positive change in an old age dependency ratio deepens, more left-leaning incumbency has a bigger negative impact, decreasing the pension coverage rate. This finding is consistent with the fourth hypothesis.

[Figure 6 here]

Our findings indicate that partisan difference exists in the degree to which incumbent government relies on public vs. private pension schemes and, more importantly, incumbent governments differ in their use of public pension replacement levels vs. coverage rates in response to increasingly graying population.

Conclusions

Rapid population aging, as seen in many advanced as well as developing countries, poses a double challenge for political elites. On the one hand, a growing number of senior citizens increases policy demand for pensions and other social services to improve elderly citizens' well-being. On the other hand, mounting fiscal burdens puts incumbent parties under pressure to scale down public spending. In order to maintain the sound welfare state, even pro-welfare parties cannot pursue expansionary policies without considering fiscal sustainability. Contrarily, given popular support for the elderly, even right-wing parties cannot simply cutback or ignore growing public demands for the elderly support.

In this paper, we develop arguments that partisanship affects incumbent parties' decisions on the balance between public and private benefits and services for the elderly, as well as on replacement and coverage rates. Confirming our prediction, the analysis of OECD economies demonstrates that left-leaning governing parties are more likely than right-leaning parties to rely on public benefits when an old age dependency ratio is high. Conversely, conservative parties rely more on private systems in supporting the elderly.

The large partisan difference is found in public pension replacement and coverage rates as well. In case of a high senior population, pension replacement rates are higher in left-leaning governments while coverage rates are higher in right-leaning governments. This is true even when issue specific parties such as greens and populist right-wing parties as well as Christian Democratic parties are separately controlled.

This study demonstrates that partisanship still matters even for life course-related policy decisions. In particular, partisanship influences governments' choices of policy measures: the size of public vs. private pension expenditure, and coverage versus replacement rates. This means that governing parties not only adjust the amount of welfare spending, but also the "modes" of public spending within existing partisan constraints, when faced with a demographic change. On this note, this study also highlights the need to examine various aspects of policy behavior, going beyond the overall benefit levels and public expenditure.

Our empirical analyses only examine the limited time scope leaving out trends in recent years due to a data availability issue. Nevertheless, given the rapid populating graying trends in the past decade, we believe that our findings are very relevant and they carry important implications for partisan responses to a recent demographic trend. Given rapid population graying, the salience and relevance of old-age programs will significantly increase, putting greater pressure on governments to address growing needs of elderly-related public support. Against this backdrop, we expect that partisan effects will be manifested in their choice of policy instruments besides the size of expenditure itself as incumbent parties try to balance between their ideological commitment and public policy demand.

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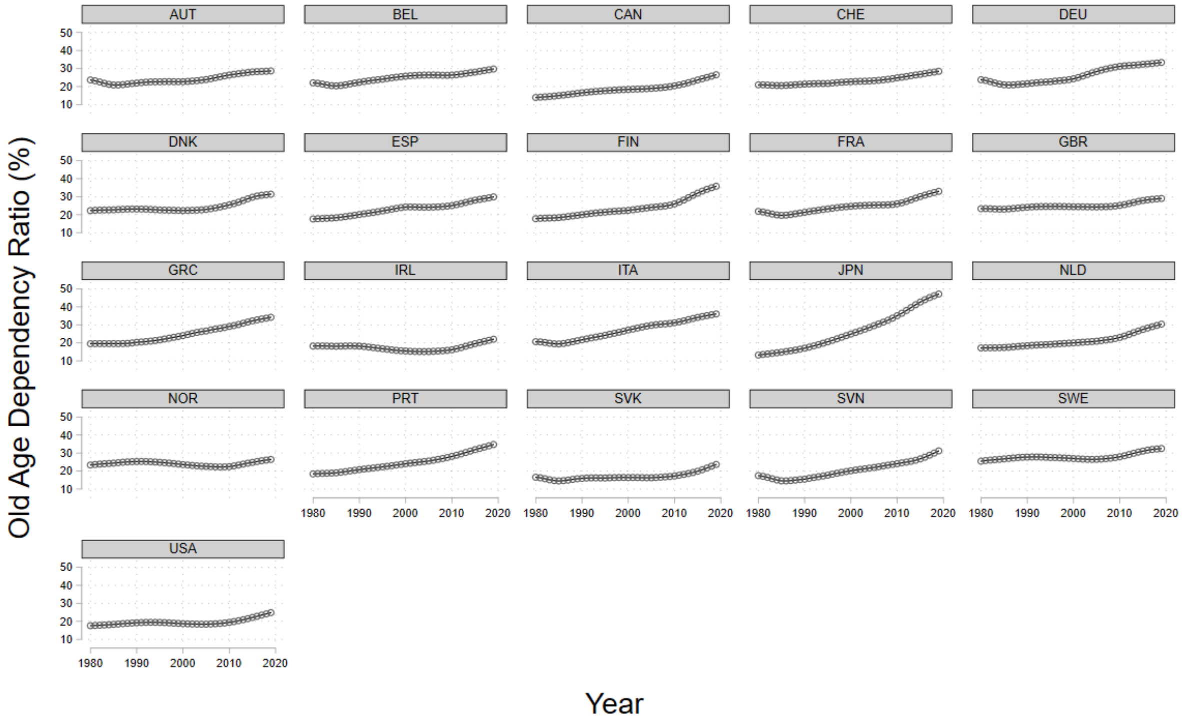
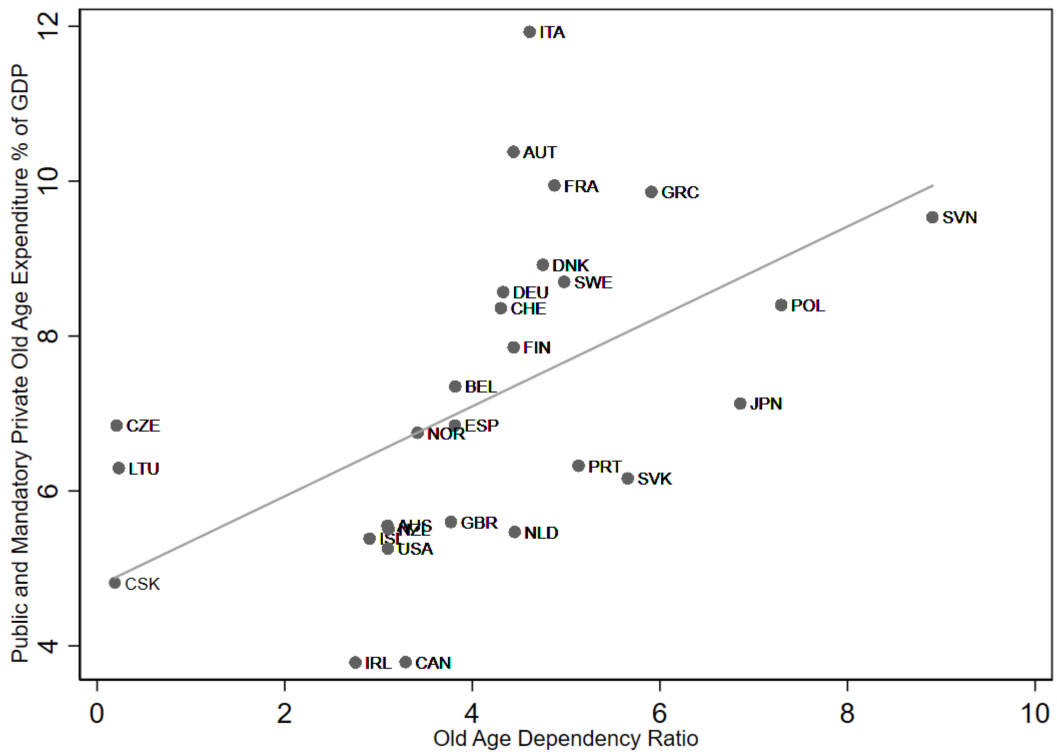
Figure 1. Old Age Dependency Ratio across Countries (1980-2019)



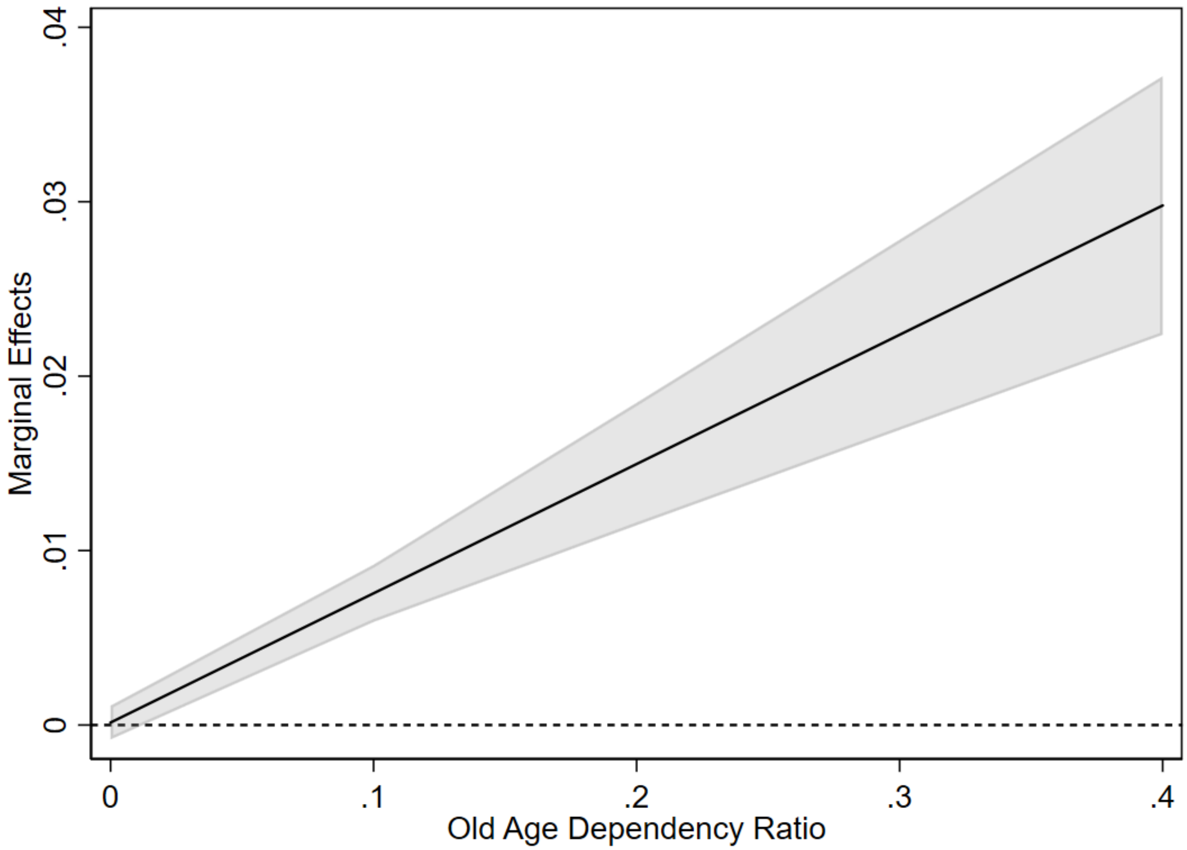
Source: OECD Statistics (Accessed Feb 10, 2021)

Figure 2. Average Old Age Expenditure and Average Old Age Dependency Ratio of OECD Countries (1980-2017)



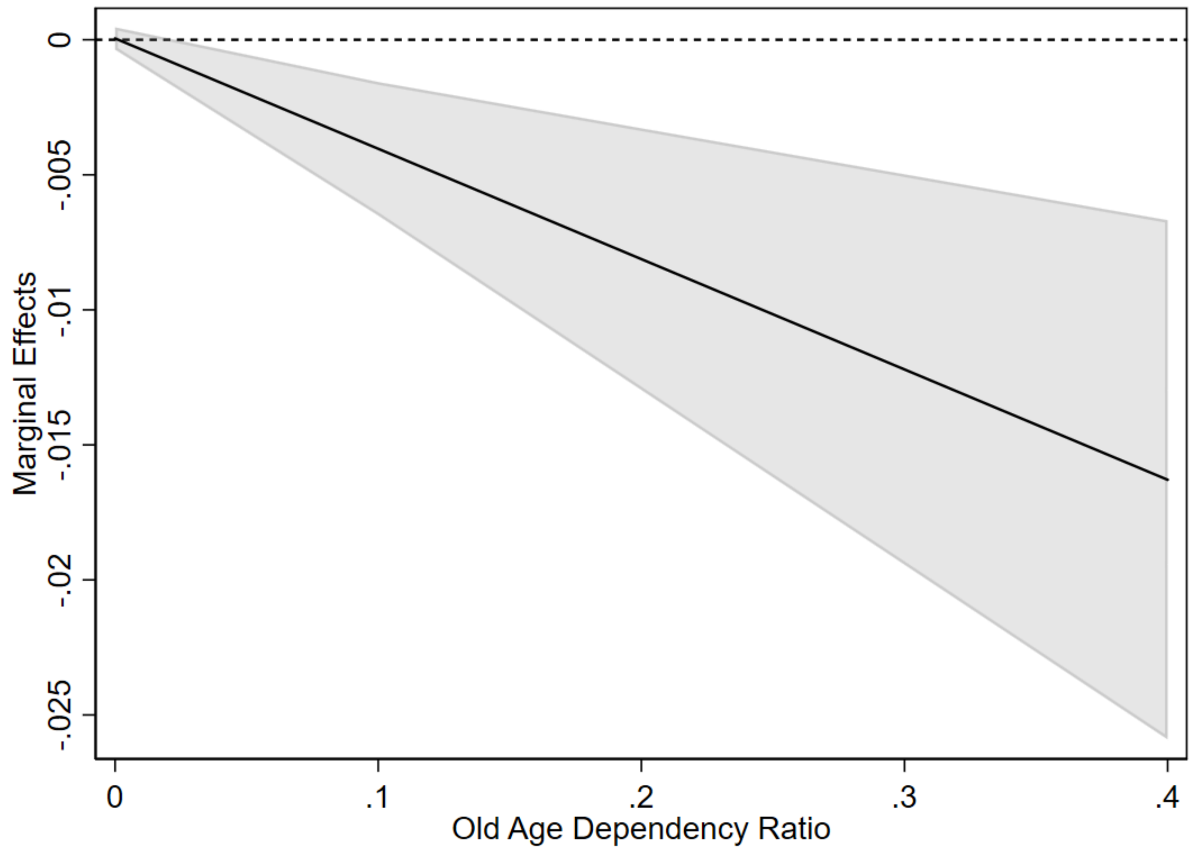
Source: OECD Statistics (Accessed Feb 10, 2021).

Figure 3. Marginal Effects of Left Government Partisanship on % Change in Public Old Age Expenditure over Varying Degrees of Old Age Dependency Ratios



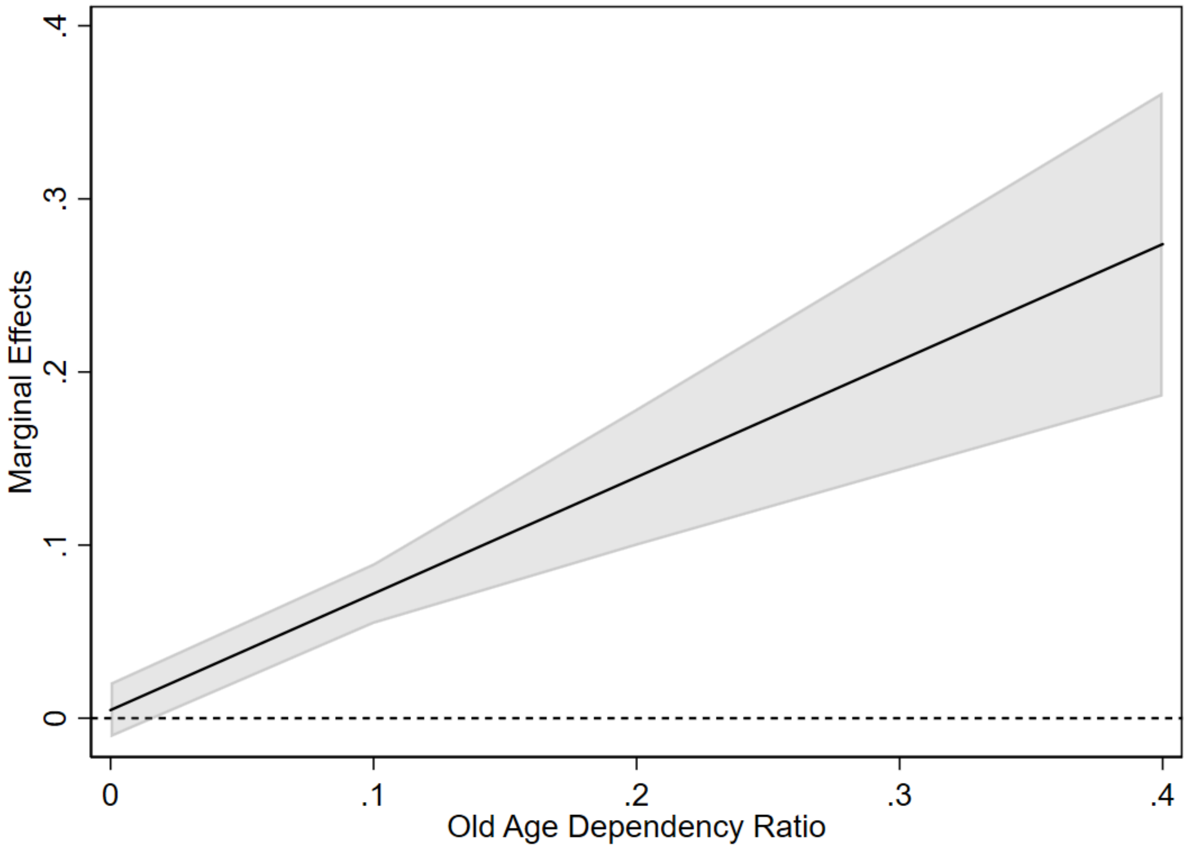
Note: Based on the results presented in the third column in Table 1. Gray areas display 95% confidence intervals.

Figure 4. Marginal Effects of Left Government Partisanship on % Change in Private Old Age Expenditure over Varying Degrees of Old Age Dependency Ratios



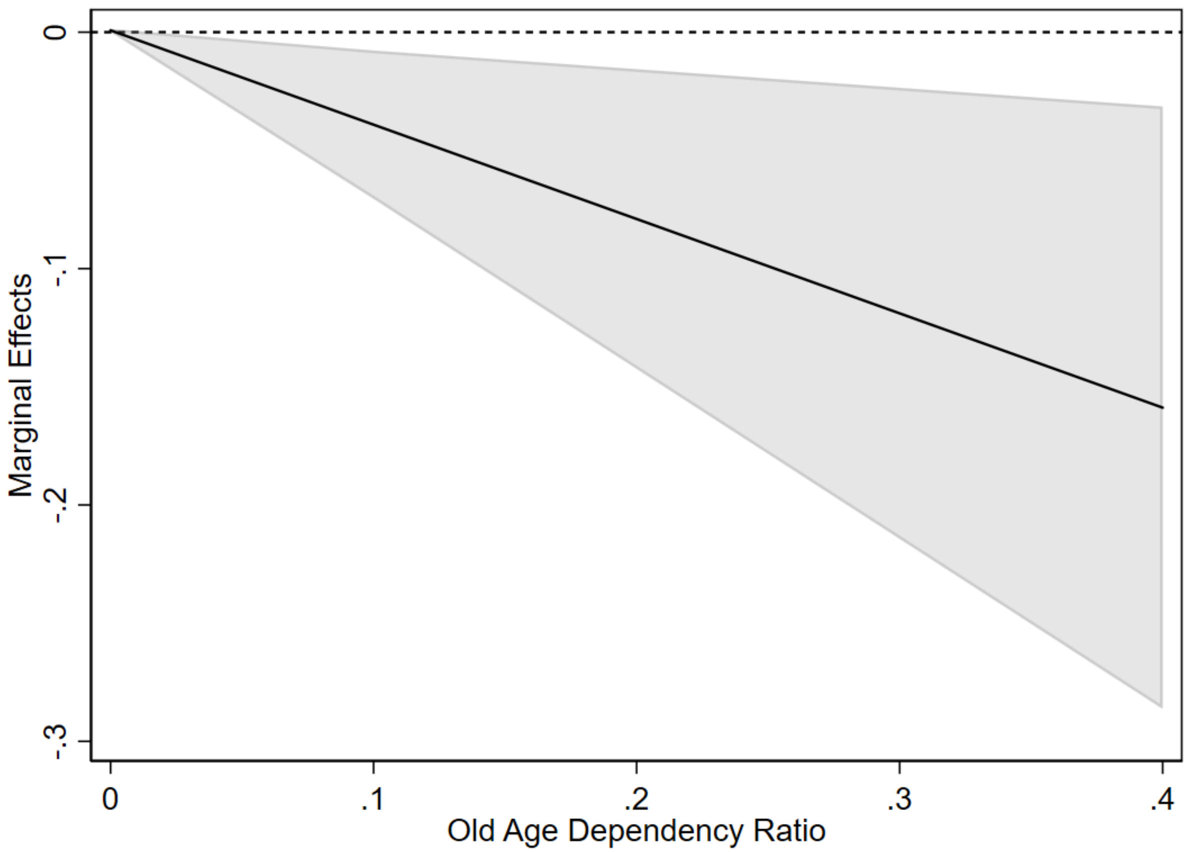
Note: Based on the results presented in the fourth column in Table 1. Gray areas display 95% confidence intervals.

Figure 5. Marginal Effects of Incumbent Partisanship on % Change in Pension Replacement Rates over Varying Degrees of Old Age Dependency Ratios



Note: Based on the results presented in the fifth column in Table 1. Gray areas display 95% confidence intervals.

Figure 6. Marginal Effects of Left Government Partisanship on % Change in Pension Coverage Rates over Varying Degrees of Change in Old Age Dependency Ratios



Note: Based on the results presented in the sixth column in Table 1. Gray areas display 95% confidence intervals.

Table 1. Coefficient Table

	(1) Public Expenditure	(2) Private Expenditure	(3) Public Expenditure	(4) Private Expenditure	(5) Pension Replacement	(6) Pension Coverage
Public pension exp (cabinet yr 1)	-0.002		-0.002			
	(0.002)		(0.002)			
Private pension exp (cabinet yr 1)		0.000		0.000		
		(0.001)		(0.001)		
Replacement rate (cabinet yr 1)					-0.032***	
					(0.011)	
Pension coverage rate (cabinet yr 1)						0.001*
						(0.000)
Old age dependency ratio	5.591***	-0.843	3.299***	0.421	-14.058**	35.733**
	(1.296)	(0.703)	(0.504)	(0.503)	(5.624)	(15.403)
% of left-wing cabinet posts	0.000	-0.000	0.000	0.000	0.005	0.001*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.008)	(0.000)
Dependency × Left-wing cabinet			0.074***	-0.041***	0.673***	-0.399**
			(0.009)	(0.011)	(0.118)	(0.185)
Gov’t deficit	-0.003	-0.003	-0.003	-0.003	-0.018	-0.001
	(0.003)	(0.002)	(0.003)	(0.002)	(0.031)	(0.001)
Real GDP growth	-0.075***	-0.004	-0.075***	-0.004	-0.093	0.003
	(0.012)	(0.003)	(0.012)	(0.003)	(0.056)	(0.002)
Union density	-0.002*	-0.000	-0.002*	-0.000	0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.008)	(0.000)
Constant	0.377***	0.035	0.388***	0.029	1.330**	-0.145**
	(0.077)	(0.032)	(0.079)	(0.033)	(0.512)	(0.069)
Observations	163	160	163	160	168	114
R-squared	0.403	0.054	0.407	0.065	0.075	0.218

Note: Standard errors clustered according to country and they are included in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

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Conflict of interest statement

The authors declare that there is no conflict of interest

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