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Mutually Canceling Social Forces in Welfare States:

Public Pension Generosity in OECD countries, 1980-2002

Chapter 4

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What is the relationship between public old-age pension generosity, interest groups' pressures and expectations regarding budgetary strains in these welfare programs? Central to the contemporary debate on the evolution of pension programs is the question of the capacity of distinct interest groups to expand or sustain welfare benefits in light of the growing concerns regarding the financial sustainability of these programs. For the last decades main theories of welfare development have held that the these policies' generosity is determined by the mobilization capacity of either the working class (Korpi 1983; Stephens 1980), the beneficiaries of these programs (Pierson 1994) or "deindustrialized" workers (Iversen 2005). But since the early 1980s pressure groups' expansionary demands have been confronted with opposing attempts aimed at preparing welfare programs for the inevitable expenditure increases brought by population aging (Bonoli and Shinkawa 2005). Therefore, a central question regarding the recent evolution of these schemes is which are the specific roles of pressure groups and socioeconomic projections in the recent evolution of old-age pension generosity.

Another subsidiary discussion revolves around the resilience of the postwar expansionary trend in public welfare effort during the last 25 years. While for the most part of the 20th century, particularly between the 1930s and the mid-1970s, welfare benefits tended to increase in OECD countries (for old-age pensions, see Palme 1990), in recent years the expansive trend has been disrupted in various nations, leading to a widely-held perception that welfare programs have recently entered into a distinct historical stage. However, a consensus regarding the extent of the transformation in each scheme in yet to be reached. Observers identifying beneficiaries as the key actors sustain that these programs have entered in an era of "austerity" in which generosity levels have only stabilized (Myles and Pierson 2001), while observers identifying organized labor as the key actor have concluded that unemployment and sickness benefits have declined (Allan and

Scruggs 2004; Korpi and Palme 2003). But whether pension benefits have increased, decreased or stalled in a large majority of OECD countries has not been elucidated yet.

This paper contributes to these controversies. To do so it examines the levels and determinants of pension generosity in 27 OECD countries during the 1980-2002 period. Unlike most quantitative research on welfare and pension policy that has been limited to the 18 medium or large size OECD countries with capitalist and democratic structures spanning from Second World War, this study considers 27 OECD member states but only for the periods during which they had capitalist democracies with universal public pension systems.[1]

Gross replacement rates provided by the standard and minimum entry pensions, which identify the proportion of the gross average national salary replaced by a gross pension awarded to a former employee with an average professional career, are used to evaluate changes in generosity. Based on the evidence, the paper suggests that on average OECD public pension systems have proven resistant to change during the 1980s and 1990s. Despite the fact that pension generosity kept increasing until the mid-1990s when it stalled, over the whole period the replacement rate has changed very limitedly, in percentage terms less than five points over the whole period.

Taking stock of the stability of pension programs, the second part of the paper evaluates the impact of different interests groups and socioeconomic conditions. Through panel data techniques, it is demonstrated that the stability of public pension systems resulted from the mutual cancellation of four main social forces. Deindustrialized workers and the elderly population partially succeeded in increasing pension benefits. By contrast, expected accelerations of the pace of population aging and GDP growth induced retrenchments in current benefits. The paper shows that class-based analyses from do not provide satisfactory accounts of the changes affecting pension effort. These

[1] OECD-18 includes Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom and United States. OECD-27 includes OECD-18 plus the Czech Republic, Greece, Iceland, Hungary, Luxembourg, Poland, Portugal, the Slovak Republic and Spain.

conclusions indicate that the mobilization of occupational and age interest groups as well as the systems' reflexivity to demographic change lie at the heart of changes in the financially and socially most salient area of welfare policy in advanced capitalist democracies.

The paper is structured as follows. Section 1 reviews the main theories on welfare state expansion and stabilization, along with an alternative perspective. Section 2 discusses the potential indicators of pension generosity and presents descriptive evidence on the evolution of gross replacement rates. Section 3 justifies the selection of indicators and statistical techniques. Section 4 examines the results from the parametrization. And section 5 discusses the theoretical implications of the paper.

1. Theoretical background

Despite welfare state theorization has consistently taken an ensemble of diverse programs as its unit of analysis forfeiting the identification of idiosyncratic programmatic dynamics, this approach has proven functional as all-encompassing theories have been confirmed with general and program-specific data. Hence, this analysis draws from general welfare state theories. Four models will be considered: power resources, new politics and deindustrialization theories and the reflexivity hypothesis.

Social democratic or power resources theory

The social democratic or power resources model was formalized in the late 1970s by Korpi (1978; 1983) and Stephens (1980) as a neo-marxist alternative to functionalist understandings of the expansion of the welfare state, which sustained that industrialization generated the affluence and social dislocations that made welfare programs both possible and necessary (Kerr, Dunlop et al. 1964; Wilensky 1975). In contrast, the social-democratic theorists claimed that welfare policy is not

the mechanical result of social structures, but a contingent outcome of collective cooperative and conflictive relationships in the form of class struggle. For power resources theorists, welfare state generosity results from the capacity of labor parties and trade unions to attain democratic control of the state and enact policies that pursue the interest of workers by redistributing resources away from the capitalist class.

The model, therefore, takes off from the Marxist principle that modern societies are defined by the struggle between the two classes originated in the field of economic production: the dominant capitalist class and the dominated working class. Working from this premise, the model underscores the possibilities opened up by democratic political regimes for the transformation of power distributions in capitalist societies. In Korpi's formulation (1983), political rights transform the contexts of the class struggle because it strips the capitalist class from its former monopoly of political mobilization, enabling both classes to employ their "power resources". The power resource of capital consists of their control over the means of production, which provide extensive leverage in the state apparatus (Korpi 1983: 16), while the potential resource of a working class lies in "the disciplined action of sheer numbers" (Shalev 1983: 321; Esping-Andersen 1985: 22). Under these conditions, the working class therefore has the potential to effectivtely mobilize its institutional power resources consisting of its industrial unions and labor parties to influence state policy.

If organized labor gains control of the state, the model claims, it may utilize the state's power to enact policies aimed at fostering the objective interests of the working class. Central to this political project are welfare state policies, which the social democratic model perceives as the instrument by which the working class has historically improved through collective action its living conditions. In Stephens (1980: 89) words, these policies even "represent a step towards socialism."

According to this approach, welfare policies are particularly beneficial to the working class because they enable their "decommodification" (Esping-Andersen 1990): as these policies guarantee

an income for economically inactive individuals, they undercut the essential inequality in capitalist societies of the exclusive obligation on the working class to commodify themselves thorough their labour if they want to ensure their livelihood.

The social democratic theory, succinctly, sustains that through (a contingent) effective mobilization of trade unions and labor parties, the working class can gain state power and use it to transform the distribution of power in society. Thus, it claims that the strength and growth of unions and working class parties are the primary factors in the development and generosity of welfare programs. To this central argument it has also been added that right-wing parties are as much as a hindrance to welfare generosity as left-wing parties champion these programs (Castles 1982: 85).

The theory has been tested through diverse samples and in light of various indicators and statistical models, finding in general that the results confirm its claims for the "golden age of welfare". Left party rule has been positively associated with overall social security and welfare expenditure during the 1960s and 1970s (Hicks and Swank 1992: 663; Huber and Stephens 2001: 214), as well as the most redistributive retirement income schemes (Myles 1989: 85; Palme 1990: 118). Since the 1970s, central proponents of the social democratic theory, such as Esping-Andersen, sustain that the theory should continue to be valid for the new era of austerity.[2] In the new context, organized labor should vigorously oppose to retrenchments, while the right should support them. However for this period little supporting evidence has been found regarding social expenditure in general (for a review, Kittel and Winner 2005: 25-26), or pension expenditure in particular (Huber and Stephens 2001: 215).

Hypothesis 1a: When leftwing political parties increase their influence on governmental policies, pension generosity grows.

[2] "But a theory that seeks to explain welfare-state growth should also be able to understand its retrenchment or decline." (1990: 32, cited by Pierson 1996: 154)

Hypothesis 1b: When trade unions increase their total membership, pension generosity grows.

Hypothesis 2: Leftwing parties and trade unions have a greater effect on poverty-prevention and minimum pension than on income-maintenance programs.

New politics theory

The new politics theory formulated by Pierson (1994; 1996; 1997) sustains that while the expansion of welfare programs up to the 1970s was achieved rough the mobilization of organized labor, with the maturation of these programs in the 1980s the dynamics in this policy arena have been profoundly transformed. The central proposition in Pierson's new politics theory is that mature welfare schemes have created a large mass of beneficiaries concerned with the preservation or expansion of their entitlements, who have become the central advocates of these policies. Since the recipients of welfare benefits constitute a network with selective and homogeneous interests in the programs that cut across social classes, they form an electoral constituency substituting the working class as the main collective actor supporting these public programs. As Pierson wrote, "maturing social programs develop new bases of organized support that have substantial autonomy from the labor market." (1994: 29) Recently, diverse case-studies and comparative studies of OECD pension reforms have mobilized this model, making it a widely accepted theory in empirical pension reform research.

Similarly to the social democratic model, the new politics theory is grounded on the rational action assumption that the expansion or persistence of welfare provision results from the mobilization of social groups whishing to maximize their economic wellbeing. However the two approaches differ fundamentally in their treatment of the social institutions of welfare policies. Korpi and Stephens basically conceptualize welfare state structures as a passive outcome of political

relationships (e.g. the class struggle in the democratic political arena), while for Pierson welfare policies are an influential precondition for political mobilization.

The new politics theory posits that once welfare programs mature (i.e. they peak in their benefits provision and are universalized among coherent groups) they become institutions that influence future developments. First, they create a beneficiary identity among individuals that formerly did not consider themselves as sharing a common trait. Furthermore, welfare benefits also provide resources to participate in political action. But most importantly, they provide incentives for interest group mobilization. Since with mature welfare programs beneficiaries attain concentrated or selective interests in the preservation of historically-peaking benefits, they have incentives for the defense of their position through political engagement.

Due to the fact that these interest networks have become sizable electoral bodies, rational elected officials seeking their reelection can be expected to incorporate their demands into their political agenda and discard the pursuit of programmatic retrenchments (Pierson 1994; Pierson 1996: 176). In short, an expanding welfare constituency increases its electoral leverage over elected officials hampering the prospects of retrenchment projects.

In the case of old age pension schemes pensioners and pensioner's dependents obviously constitute the key constituency (Castles 2004: 132). These schemes have pensioners or the elderly as the basic interest group in the democratic politics of this welfare-state arena. Therefore, concerning pension politics, Pierson's model converges with the more empirically-oriented research of Pampel and Williamson, who went further sustaining that the aged can act as a "strong interest group that can influence public policy in ways that welfare models, the unemployed, children, and the poor cannot." (1985: 782) In this way, consistent to Pierson's theory, Pampel and Williamson hypothesized that, under the institutional conditions of pluralist democracy, the aged population have legitimate avenues to voice their interests. They further showed that even during the

expansionary period of the 1960s and 1970s, the percentage of the aged population had a positive and autonomous impact on the national pension expenditure *per aged* of democratic polities, while it lacked it in non-democratic polities (Pampel and Williamson 1985: 791; Pampel, Williamson and Stryker 1990: 541; Williamson and Pampel 1993: 195-201). In short, the aged constitute a particularly large and easy to mobilize interest-group, which has transformed the political dynamics of the pension policy field from class-based to aged-based.

Hypothesis 3: When the share of elderly population over all adult population increases, pension generosity grows.

Skill-specificity theory

A third approach underscores another constituency as the central promoter of the welfare state. Whilst the social democratic and new politics theory point, respectively, to the working class and welfare beneficiaries as the referential vested-interest groups in the arena of social policy, the skill-specificity theory formulated by Iversen (2001; 2005) suggests that the long period of welfare expansion begun in the 1960s should be attributed in large part to the political mobilization of formerly industrial (and agricultural) workers with industry-specific skills. According to this theory the specificity of occupational skills determines how vulnerable a worker's income is to labour market dislocations, which has consequences for the worker's social policy preferences. For instance, industrial workers usually attain industry-specific skills, thus they face sharper wage declines if they are forced to leave their occupational branch. Consequently, these workers have vested interests in welfare policies that can cushion their income fluctuations. Essentially, the asset theory of the welfare state hypothesizes that welfare state expansion has its driving force in the speed of deindustrialization.

> "Because deindustrialization represents a serious threat to those workers who have made significant investment in firm- or industry-specific skills, (…) it is associated with a rise in electoral demands for public compensation and risk sharing." (Iversen 2005: 16-17)

The skills-specificity theory draws from neoinstitutional economic theory (Williamson 1985), which has identified human capital specificity as a critical factor in economic exchanges' forms. Expanding this idea, Iversen claims that the level of skills specificity constitutes a basic social cleavage that determines the worker's bargaining position in the relations of production. If the skills or human capital assets are not specific, they can be transferred across economic settings with little or no devaluation, so the worker tends to maximize his/her economic wellbeing in the market. However if the skills or assets are firm- or industry-specific the market may not provide the best solution. Due to the low transferability of her skills, if conditions in their economic branch worsen, the worker's economic position will be especially undermined. As the availability of jobs in that branch declines, workers will be forced to migrate to other sectors where their skills are unlikely to be recognized, with the result that they suffer a sharp drop in their income. Furthermore, since employers in these industries tend to provide benefits that are also industry-specific, if workers leave the industrial sector, they may lose part of their employer-based benefits.

Because under changing economic conditions skills-specificity induces higher income fluctuations, workers with non-generic assets tend to improve their economic wellbeing through these public policies. Concretely in the case of retirement-income insurance, state-programs present a better deal for these workers because future public benefits are not harmed by transitions across economic sectors (Iversen 2001: 187); and because of their generally redistributive orientation, end-of-career wage drops will have less repercussions on their retirement income. For this reason, workers with specific skills are likely to support the income-protection provided by public pension systems and mobilize accordingly.

To Iversen an exemplary case for his asset-specificity theory is the process of deindustrialization. Most occupational skills in the industrial and agricultural sectors are poorly transferable to the service sector. Thus, given that during the last four decades OECD economies have undergone through a massive sectoral shift from the industrial and agricultural sectors to the service sector, industrial and agricultural workers have seen their skills increasingly devalued. These "deindustrialized" workers have little incentives to transit to the service sector where their bargaining position is poor. They can only maximize their economic position through public welfare programs, turning into a major vested-interest group in favor of these policies.

Hypothesis 4: When the share of deindustrialization increases, pension generosity grows.

Reflexivity and policy learning model

Although welfare state theorizing has remained focused on distributional struggles, in the last two decades a growing discussion has emerged around the long-term financial standing of these schemes. The periodical production of analytical reports on their expected future development has become a constant in all OECD countries, and these reports have been reflexively used in the reform projects designed by policymakers. Indeed, these reflexive dynamics in institutional fields have been noted by European sociologists such as Giddens (1984; 1990) and Beck (1998) as axial to modern societies. Since social life is constantly monitored by involved actors (Giddens 1984: 3), reflexive dynamics are ever-present processes in which reflection intertwines with action within structures, to reshape the structural conditions for that action. As Beck wrote, "the more societies are modernized, the more agents acquire the ability to reflect on the social conditions of their existence and to change them in that way." (1994: 174)

Since the mid-1980s welfare policymaking has been especially prone to reflexive process partly as a result of the proliferation of econometric projections that provided the main evidence for

policy analyses. In the last twenty years, policymakers have required increasingly accurate and detailed information regarding the future financial strain of the programs, while demographers have been able to provide this information in terms of projections or forecasts that over time have strengthened their technical reliability (bolstered by the lengthening of statistical series and improvements in econometric methodology), leading to increasingly confident expectations over future developments (Aaron 2000). The reliance on these forecasts has expanded to such extent the possibilities in the monitorization of welfare policies that it has profound reshaped the nature and speed of policymaking in this field. It has shifted a presentist discussion of distributional effects towards the consideration of connections between a foreseeable future and the present. Furthermore, since most forecasts have revealed somber financial prospects for these programs, they have been utilized to justify the need of retrenchments, ultimately facilitating the path towards reform.

In this time, these somber expectations have resulted fundamentally from the effect of population aging. Since the mid-1980s a growing stream of reports produced by national public agencies and international organizations alike has concurred that the constant expansion of the elderly population over the active population aged 15 to 64 (the so-called old-age dependency ratio) endangers the future sustainability of pension programs (Holzmann 1988; World Bank 1994; Chand and Jaeger 1996). Both decreasing mortality rates of the elderly and more significantly the declining fertility rates in industrialized societies since the mid-twentieth century are transforming demographic structures through a rapid expansion of the proportion of elderly population in a process that is expected to accelerated in the near future: all OECD-27 countries are expected to increase their old-age dependency ratio between 1980 and 2025 (Ogawa and Takayama 2006: 166; United Nations several years). Under the prospect of accelerated population aging, public pension

systems face a constant expansion in their expenditure that most observers interpret as imperiling their long-term financial solvency.

Yet the impact of population aging is not expected to be homogeneous. The pace and extent of population aging has been more marked in Western Continental Europe and Japan than in Anglo-Saxon, Eastern European and Scandinavian countries. Hence, cross-nationally, rational policymakers should not react uniformly to this demographic change. Furthermore, systems relying on defined benefit, pay-as-you go (DB-PAYG) programs (most of them (OECD 2005: 29-30)) face extra difficulties due to the financing and benefit-calculation mechanisms. Benefits in these cases are calculated strictly in relationship to past earnings, thus the outlays are linearly related to the length of retirement. Similarly, the programs' revenues are also sensitive to demographic and labor trends because benefits are financed by taxes levied on current workers. Hence, other things being equal, the financial stability of DB-PAYG programs depends strictly on the number of pensioners relative to contributors, captured by the old-age dependency ratio(Gruber and Wise 2002: 57-58). For these reasons, increases in the old-age dependency ratio are conventionally held responsible for the compression of programmatic surpluses and more generally the financial strain in public pension systems (OECD 1998a).[3]

Thus, the integration of econometric projections in policy analysis has contributed to generalize the disquiet with the future of the programs among observers, public officials and legislators, which have led to increasingly-accurate forecasts of demographic trends (OECD 1998b; United Nations several years), expenditure levels (Holzmann 1988; McHale 1999) and financial

[3] Ongoing maturation of the programs (Holzmann 1988) along with declining activity rates between the ages 50 to 65 in all OECD countries (Ebbinghaus 2006) have also been indicted for the expansion of old-age dependency ratios and unbalanced pension expenditures. Yet population ageing constitutes the main threat for the sustainability of pension programs in most OECD countries. A recent projection conducted for the European Commission concluded that the old-age dependency ratio weighs by far more than the employment rate in the expected increase in population ageing (Salomäki 2006: 20).

liabilities (van de Noord and Herd 1993; Chand and Jaeger 1996) that have ultimately strengthened collective concerns (Disney 2000: F11).[4]

Faced with the foreseeable financial imbalances of their public pension systems, during the last two decades OECD-27 governments were presented with two main options: tax receipts could be increased and benefits could be decreased (Gruber and Wise 2002: 62). Evidence collected by the OECD indicates that, at least during the 1990s, total social security contributions tended to increase (2002: 410). But cuts in deficits also represented a reliable measure to decelerate increases in net pension liabilities. In fact, diverse case-studies indicate that policymakers of diverse OECD-27 countries have reacted to the expected pension growth by passing reforms that undermine the generosity of the schemes (for a review, Bonoli and Shinkawa: 2; also Kalisch and Aman 1988: 24). In a word, widely held expectations over the long-term increasing outlays of public pension schemes grounded on constantly-changing state of the art econometric projections may have been instrumental in recent reforms that downgraded the benefits provided by these programs.

Hypothesis 5: When the expected old age dependency ratio for the next decades increases, pension generosity grows

2. Public pension generosity in OECD-27 between 1980 and 2002

Replacement rates vs. Programmatic expenditure

Since its inception, cross-national quantitative research of public pension generosity in OECD countries has relied on two indicators. The first are aggregate expenditure measures of old age and survivor programs (Castles 2004; Huber and Stephens 2001; Pampel and Williams 1985; Wilensky 1975). The second, which refers to the individual consequences of old age pension

[4] As an illustration, the average expected old-age dependency ratio in 2025 for OECD-27 countries was estimated by the UN (several years) in 1980 in 28.7%, and the 2002 estimation (several years) for the same ratio for 2025 was 34.8%.

schemes, is the earnings replacement rate (also replacement rate), which yields the percentage of preretirement earnings replaced by the welfare benefit for a hypothetical average worker meeting certain assumptions (Aldrich 1982; Day 1978; Eurostat 1993; Hannes-Olsen 1978; Horlick 1970; OECD 2005; Palme 1990; Scruggs 2006). Endorsing the principles of the individual-level approach, this paper uses synthetic replacement rates to gauge public pension generosity in 27 OECD countries between 1980 and 2002. The rest of the section discusses the evolution of OECD replacement rates and presents five hypotheses derived from the theories discussed on Section 1. Yet considering the persistent methodological bifurcation in the literature, it is firstly needed to justify the use of replacement rates.

The appropriateness of individual-level indicators of welfare effort ultimately stems from the established conceptualization of the welfare states. After decades of research, specialists now concur that welfare programs are constellations of public policies that protect against diverse social risks through the provision of either public goods and services or direct income transfers (Baldwin 1990; Esping-Andersen 1985; Hicks 1999; Korpi 1989). To respond to risks associated with old age, sickness or unemployment that could subject an individual to means of subsistence below poverty levels, these programs grant political rights for the "decommodification," of individuals, so that a person can "maintain a livelihood without reliance on the market." (Esping-Andersen 1990: 22)

Individual-level indicators adjust better to this conceptualization because since the role of welfare programs is specifically to insure against diverse risks, its relevance should be measured in terms of their impact on the citizens' individual life chances (Allan and Scruggs 2004). In other words, welfare effort or programmatic generosity should therefore be predicated upon the schemes' capacity to grant workers' economic autonomy away from the labor market. To this effect, aggregate expenditure measures cannot inform us of the programs impact on individual life chances, because they only indicate the proportion of total resources facilitated by a polity to this task. But unlike

aggregate measures, synthetic replacement rates validly measure welfare generosity as they provide a measure of the salience of the pension at the time of retirement relative to immediate preretirement earnings.

A complementary advantage of replacement rates over aggregate expenditure measures is that synthetic replacement rates address more effectively the compositional variations of pension schemes. Public pension systems have an acute "temporal character" (Pierson 1997: 278) so that at a fixed moment they include groups of pensioners, whose benefits vary according to their working history as well as the legal benefit-calculation formula at the time of their retirement. Furthermore, pension systems contain time-changing distributions of pensioners under the income-maintenance and insurance rubrics. This means that even when expenditure data is divided by the number of pensioners to generate average (not synthetic) replacement rates, variations in the group composition of pension programs would still affect estimates of cross-national generosity (Horlick 1970: 5).[5] But unlike the average replacement rate, synthetic replacement rates are not necessarily affected by compositional variations, because the latter rely on homogeneous assumptions to estimate entry pensions that allow isolating benefit formula provisions from cross-sectional and temporal changes in work histories.

This paper analyzes the evolution and determinants in the gross pension replacement rates of 27 OECD countries between 1980 and 2002. Data for 18 OECD countries[1] were drawn from Scruggs' (2004) seminal Comparative Welfare Entitlements Dataset (CWED), which has already been successfully analyzed by welfare state research (Brady, Beckfield and Seelib-Kaiser 2005; Scruggs 2006). For the other nine nations, I estimated the replacement rates using the same assumptions than the CWED. For the periods considered, all the 27 nations were capitalist

[5] That indicator would still be sensitive to the proportion of pensioners whose benefits were determined according to revoked benefit formulas.

democracies with pension programs universalized both across pensioners and contributors.[6] Thus, given their similar structural conditions, all countries in the sample shared the structural preconditions identified by leading theories of the development of contemporary pension systems.

To estimate pension generosity unaffected by compositional variations, the CWED and my own calculations distinguish standard from minimum pension programs and then mobilize homogeneous assumptions in the estimation of synthetic pension benefits. The standard pension applies to workers who contributed to the national social security during their whole career, whereas the minimum pension applies to individuals who did not contribute any year to this agency. As most pensioners receive standard benefits, the rest of the paper focuses on these schemes.

Departing from Scruggs' reliance on net replacement rates, I only use gross replacement rates, which dismiss the tax treatment of average salaries and pension benefits. The reason for this decision is theoretical. The approaches reviewed in Section 1 were developed on the basis of expectations over the sociopolitical dynamics specific to the welfare policy field and it is unclear whether the dynamics in the pension policy field were mirrored in the fiscal policy field. It is possible that adjusting gross salaries and pensions by their fiscal liabilities, empirical results may underscore theoretically-undisclosed processes. In fact, although direct evidence is missing, according to the conclusions of the research, policy fields evolve idiosyncratically.

> "all [studies] serendipitously arrived at the conclusion previously reached by many political scientists: that politics proceeds primarily in numerous relatively self-contained policy domains, each operating more or less autonomously with its own issues, actors and process." (Burstein 1991: 329)

Therefore the small gain in purchasing power representativity associated with net rates[7] is offset by the loss of face validity resulting from the transition from expenditure to synthetic replacement rates.

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[6] Two additional OECD member states, Mexico and Turkey, have not been included in the expanded sample due to the fact that in the early 1990s their public pensions still had coverage rates below 50% (World Bank 1994: 356-357).

Resilience of the OECD pension replacement rates in the 1980s and 1990s

Figure 1 illustrates the evolution of the standard replacement rate and shows that the common pattern across OECD countries has been of an overall intense stability. Interestingly, this evolution is consistent across the four groups of countries considered. For all groups, the average pension effort tended to increases until the mid-1990s, had an inflection point in 1994 and has since remained stagnant. However, these variations have been minor, as the gaps between the minimum (1981), maximum (1994) and final (2002) values in the three groups have remained below 6 percentage points. This ultimately indicates the resistance to change of pension generosity levels during the 1980s and 1990s. For OECD-27 in 2002 the mean replacement rate was 56.4% meaning that the average benefit awarded to a newly-retired worker with an average salary replaces slightly more than half of the average national salary.

FIGURE 1 ABOUT HERE

To associate general patterns to specific national histories, it is also useful to take into account the diverse institutional architecture of national public pension systems. Here the literature identifies two ideal types of retirement income provision: the social solidarity and social insurance systems. Built on distinct moral and organizational principles established in the first third of the twentieth century and despite some limited convergence, in recent decades these models of retirement income provision have remained distinctive. [8] Social solidarity systems (e.g. Denmark) are founded on a poverty-prevention principle and they have crystallized into unrestricted and highly

[7] In addition, as Scruggs recognizes (2006: 352), cross-national differences in the tax treatment of welfare benefits are limited. The use of net or gross replacement rates does not substantially alter the cross-national rakings of welfare effort. Correlation coefficients for rakings of gross and net welfare expenditure in 18 countries in 1997 (Adema 2001), and gross and net pension replacement rates in 12 European countries in 1989 (Eurostat 1993) and OECD-18 in 1993 (Scruggs 2004) are, respectively, .843, .979 and .906.

[8] As Hinrichs (2000: 354-355) noticed, contrary the distinction between social insurance and social solidarity systems, Esping-Andersen's threefold classification of welfare regimes fits poorly within the social relationships and institutional foundations of central program s such as pension schemes. Unlike other Anglo-Saxon countries, the US benefits are income-related, whereas contrary to its neighbors, the Swiss system is structured around the solidarity principle.

redistributive programs granting low replacement rates for average citizens. In contradistinction, social insurance systems (e.g. Germany) are structured around the principle of income preservation and crystallized into programs with stringent conditionality rules and high replacement rates (Gordon 1988; Myles and Quadagno 1997; Overbye 1994).

Despite social insurance and social solidarity countries with series spanning until 1981 show a large gap in their average generosity levels, both groups indicate an equivalent trajectory. With the minor difference of the deeper contraction in social insurance countries in the late 1980s, the welfare effort of both groups increased weakly from 1981 and 1994 and since then it has been at a standstill. The overall rises between 1981 and 2002 for these groups of social insurance and social solidarity systems were, respectively, of only 4 and 5 percentage points. Even if we make a counterfactual extrapolating linearly the trend from 1981 to 1994 until 2002, the gap between the effective value in 2002 and the alternative extrapolated value for that same year is of only 5 points. This evidence indicates that no major overhaul took place in the mid-1990s (figure 1).

Figure 2 disaggregates the information detailing the trends for all OECD countries. Comparatively, a few countries deviated from this general trend, but most of these deviations were due to the fact that their pension systems were still in the maturation stage. Considering an arbitrary 10 percentage threshold as a substantial change in generosity levels (Castles 2004: 61), Denmark, Finland, Italy, Luxembourg, Norway, Portugal and UK expanded substantially their replacement rates between 1980 and 2002, whereas over the period only Belgium, France, Greece and Sweden have passed substantial rollbacks.

FIGURE 2 ABOUT HERE

To conclude, on average the standard pension replacement rates in OECD countries have shown a large continuity between 1981 and 2002. Although in the period the trend was not fully flat as social solidarity and social insurance countries abandoned the slow rising pattern in the mid-

1990s, neither group shows a substantive expansion nor retrenchment during these two decades. In reaching this conclusion, this paper concurs with careful analyses of the development of welfare programs in the 1980s and 1990s, which agree on the resilience of these policy structures in the face of mounting pressures (Castles 2004: 31-39; van Kersbergen 2000: 30).

4. Data and analytical approach

Data

The dependent variable, therefore, is the gross pension replacement rate, which is the percentage income replaced by a pension awarded to an individual retired in a given year with respect to the average wage of an average worker in that same year (equation 1). However to reflect the existence of the distinct logic of the standard and minimum pensions, for each type of entitlement different assumptions are mobilized. The standard pension applies to a hypothetical worker who started working at age 21, had a 40-year-long professional career, a wage continually matching the income of an "average production worker" as defined by the OECD and continually contributed during her career to the national social security agency. This standard replacement rate captures the generosity of an average citizen's old age pension. In contrast, the minimum pension applies to a hypothetical individual who at the time of retirement did not contribute any year to the social security agency, and so reflects the generosity of a low-income citizen's old age pension. Since in most systems this benefit applies only to a small minority of pensioners, it will receive less attention than the standard replacement rate.[9] The sources used for the estimation of the replacement rates for OECD-18 and OECD-9 involve national legislation, case-studies, international reports and information from national experts.

[9] In Poland, recipients of the Minimum Guaranteed Pension represent only 15% of the pensioners (Zakład Ubezpieczeń Społecznych 2006: 29), whereas in the United States only 5% of all elderly (65+) are recipients of the Suplemental Security Income (Social Security Administration 2006: 1).

$$Replacement\ rate = \frac{\text{Gross entry pension}_{(t1)}}{\text{Gross average national wage}_{(t1)}} \quad (1)$$

We can now turn our attention to the independent variables.[10] The social democratic theory is operationalized in three variables. Following prior research, party-strength was measured through control of the executive (e.g. Hicks 1999: 186). Parties position in the left-right spectrum was drawn from Swank's (2007) and Armingeon, Leimgruber, et al.'s (2006) datasets. Left-wing parties include communist, socialists and social democratic parties, whereas right-wing parties include conservative, liberal, christian-democratic or catholic parties. All other parties were considered center parties. To discern the net effect of right and left parties, the models include the *Left-party cabinet members* and *Center-party cabinet members* variables, which represent the percentage of executive cabinet seats controlled by either left or right parties. Furthermore, despite the disregard of union density by recent power resources research, I follow the original formulation of the theory (Korpi 1983: 198) and asses the role of *Trade union membership* over the total national workforce.

The new politics theory is tested through the *Share of the population aged 65 or older over all population aged 15 or older*. This provides a better gauge of the elderly population's influence than the share of elderly population over the whole population (Williamson and Pampel 1993: 194) as it is more representative of the voting age populations.[11] The variable testing the skills-specificity theory is defined as the share of agricultural and industrial employment over the total working age population, not as a share of the total active workforce. This is consistent to Iversen's operationalization (2001: 61), however, to make the interpretation more intuitive, the variable is called *Industrial workforce* and not deindustrialization.

[10] A technical report detailing the calculation mechanisms of the replacement rates for OECD-9 as well as the sources for all country-year values of the independent variables is available upon request.
[11] A more precise measure would have consisted of the elderly over all adult population (18+), but the scattered nature of the data in OECD and United Nations publications concerning the 15-18 cohorts impedes using this indicator.

The reflexivity hypothesis is tested through the "medium variant" of the *Expected old age dependency ratio in 2025* (population 65+ as a proportion over the population aged 15 to 64) based on data published in the United Nations' biannual forecasts (1982; several years). During the last three decades UN projections have remained "(…) the ones whose figures are most widely and authoritatively used by countries, international agencies and scientists (…)." (El-Brady and Kono 1986: 41) Yet, despite its reputation, the biannual estimates included errors that led to adjustments in the estimates. From one forecasts to another, the projected elderly population for a given country in 2025 was commonly increased due to the realization that future mortality rates had been overestimated (Keilman 1988; 2001). This has led to time-varying rises in the expected old-age dependency ratio for 2025.[12]

Five control variables, which have been theorized or found empirically relevant for welfare or pension effort, are included in the statistical models along with the main explanatory variables. The first two controls are *Annual GDP growth per capita* and *Public deficits of general governments*. Political economists suggest that economic crises facilitate pro-market (or recommodifiying) reforms because they transform the interest of collective actors and give ground the reformist positions (Williamson and Haggard 1994: 563-4), thus, the two most common indicator of macroeconomic performance are considered. The third control variable is the *Share of 65+ population over employed labor force* or the systematic dependency ratio. The economics of public pensions indicates that if reforms were strictly driven by financial conditions, net of the payroll tax rate they should be driven by changes in the balance between retirees (expenditure side) and contributors (revenue side) conceptualized as the systematic dependency ratio (Gruber and Wise 2002). The fourth variable is *Veto points*, which controls for the constitutional structure of the country that political scientists expect to shape the chances of welfare reforms (Tsebelis 2002). Finally, the widespread expectation that economic

[12] For instance, the expected old-age dependency ratio for Japan in 2025 grew 58% from the 1980 projection to the 2002 projection, whereas during this period for Hungary the ratio increased only 7%.

globalization has some impact on welfare effort (Brady, Beckfield and Seeleib-Kaiser 2005: 921) is measured through *Trade Openness* ((Total imports+exports)/GDP). [13] Table 1 provides descriptive statistics for all variables.

TABLE 1 AROUND HERE

Analytical approach

To extract the utmost information from the data, I employ three techniques to analyze variations in the standard and minimum pension replacement rates (RR). Firstly and most importantly, I fit fixed-effects (FE) regression models with uncorrected errors, which are captured in Equation 2. Essentially, the FE or within estimator recognizes the grouped nature of the data with sequential observation for each country, so that the parameter estimates cover the deviation of each variable with respect to the average value within each country. Since parameter estimates in this model describe only variations within and not between countries, they do not absorb country-specific effects (each denoted in (3) by D_i). Given this specification, $\in_{it}$ only captures the idiosyncratic (e_{it}) and not the country-specific error (v_i).

$$
\begin{aligned}
RR_{it} = {} & \beta_{0FE} + \beta_{1FE}\,\text{Left - party cabinet members}_t + \beta_{2FE}\,\text{Center - party cabinet members}_t \\
& + \beta_{3FE}\,\text{Union density}_t + \beta_{4FE}\,65+\text{population over 15}_t + \beta_{5FE}\,\text{Employees in industrial sector}_t \\
& + \beta_{6FE}\,\text{Expected 65}_t + \text{population in 2025}_t + \beta_{7FE}\,\text{Veto points}_t + \beta_{8FE}\,\text{Public deficit}_t \\
& + \beta_{9FE}\,\text{GDP per capita growth}_t + \beta_{10FE}\,65+\text{population over employed labor force}_t \\
& + \beta_{11FE}\,\text{Trade openness}_t + \alpha_{it} D_i + \in_{it}
\end{aligned}
\qquad (2)
$$

FE models were selected to test the hypotheses posited in Section 2 for two reasons. Firstly, they take advantage of the data's panel structure to reveal effects of changes in explanatory variables on changes in the dependent variables. Thus, like random effect (RE) models, FE models enable estimations of the effect of changes over time. But secondly, FE models are preferable over RE models, because they protect the parameter estimates of the measured and time-varying variables

[13] Financial openness as foreign direct investment has not been included due to lack of data for Luxembourg.

from biases and inconsistencies produced by the omitted-variable or heterogeneity bias. In other words, the main advantage of FE models relies on the fact that they are the only ones that save measured variables from the potential influence of time-constant variables not included in the model (Allison 1994; Petersen 2004).[14] This is achieved by dismissing or "throwing away" even from the error term all time-constant variation between cases ($\alpha_{it} D_i$) (Haliby 2004: 522-3), leading to unbiased and consistent parameter estimated for the measured variables.

But although hypotheses are tested with FE models, a second type of model is analyzed below: the "total estimator"(2), which regresses the countries series' replacement rates on country-year values of the independent variables (IVs), which are treated as independent. Thus it delivers results consistent to cross-section regression analyses (Equation 3).

$$
\begin{aligned}
RR_{it} = {} & \beta_{0T} + \beta_{1T}\,\text{Left - party cabinet members}_t + \beta_{2T}\,\text{Center - party cabinet members}_t \\
& + \beta_{3T}\,\text{Union density}_t + \beta_{4T}\,65\text{+ population over 15}_t + \beta_{5T}\,\text{Employees in industrial sector}_t \\
& + \beta_{6T}\,\text{Expected 65}_t\text{+ population in 2025}_t + \beta_{7T}\,\text{Veto points}_t + \beta_{8T}\,\text{Public deficit}_t \\
& + \beta_{9T}\,\text{GDP per capita growth}_t + \beta_{10T}\,65\text{+ population over employed labor force}_t \\
& + \beta_{11T}\,\text{Trade openness}_t + \varepsilon_{it}
\end{aligned}
\qquad (3)
$$

It is useful to analyze the results from both the total and FE estimators because they provide complementary information that shed light on different aspects of the data. By contrast to the FE model, the total model reveals under what common and country-specific conditions the values of the dependent variable increase, therefore a contrast of the FE and total parameter estimates indicates whether country-specific factors channel the impact of the considered explanatory variables (Petersen 2004: 341-342).

Furthermore, comparing the total and fixed-effect error variance components we obtain an indication of whether the variances associated with unobserved variables are larger between or

[14] Since in this case these time-constant variables are equivalent to enduring country-specific characteristics, which can be substantive, they may induce large biases in the measured time-changing variables.

within countries. Because $\hat{\sigma}_{\epsilon}^2$ is provided by the fixed-effects model, while $\hat{\sigma}_{\varepsilon}^2$ through the total-effects model, it is possible to estimate $\hat{\sigma}_{v}^2$ and contrast it to $\hat{\sigma}_{\epsilon}^2$. This comparison is revealing because the variations between and within countries produced by unmeasured variables provide a proxy of the total variation in the dependent variable between and within countries (Petersen 2004: 342).

Complementarily, a third type of regression model involving an OLS estimator with panel corrected standard errors (OLS-PCSE) is reported. Since Beck and Katz (1995) identified the risks of heteroskedasticity and errors autocorrelation in fixed-effect models of cross-national political economy research and suggested a mechanisms to obtain panel corrected standard errors, this estimation procedure has become almost standard in recent research. For this reason, models with panel corrected and uncorrected errors are reported. Nevertheless, table 2 indicates the type of fixed-effect model has little bearing on the substantive conclusions.

Sensibility analyses were conducted through additional models. They included different combinations of all independent variables and the elimination of all countries one by one. In these alternative models, all key independent variables significant in the FE model of Table 2 (except union density) preserve their statistical significance and present similar coefficients. Therefore, unless noted below, the main results are robust and not driven by outliers.

5. Results of regression analysis

Section 3 showed that public pension generosity in OECD countries remained largely steady between 1980 and 2002. Despite the transition from the expansionary stage to the stagnation stage in the mid-1990s, on average the old age pension effort indicated a strong resistance to change. This section reexamines the development of public pension income arrangements to answer a key question: Which social forces have provoked the described resilience in the public pension

generosity of these countries? It demonstrates that the resilience was due to the mutual cancellation of social forces that promoted rises or reductions in pension generosity. Two forces converged in the protection and expansion of replacement rates: deindustrialization and population aging. But over the period these changes due to group-based pressures were offset by expectations over the long-term pace of population aging. When this pace increased more than had been expected, governments reacted with cutbacks in the replacement rates.

In this way, these programs' resilience has not resulted from a lack of collective interest mobilization in this key policy area or the inability to translate collective demands into effective policy change. It came about through the limited success (or partial failure) of persistent and widespread retrenchment and expansion projects, which clashed into each other to, unintentionally, reinforcing the status quo. The section is developed as follows: an analysis of the residual variances firstly, serves to asses the sources of variation in the standard pension replacement rates; then the discussion addresses into the factors upgrading and downgrading pension generosity; and finally changes in the minimum pension replacement rates and its determinants are examined.

Over time cross-national variation outweighed internal variation

As noted in Section 4, comparison of the numerical values of the residual variances associated with different panel data regression estimators yields two proxies of the relative variation between countries and within countries over time. Table 2 shows that for the central models (Equations 2 and 3) the variation *between* countries in the impact of unmeasured time-constant variables ($\hat{\sigma}_v^2$) is more than seven times larger than the variation *within* countries in the impact of unmeasured time-varying variables ($\hat{\sigma}_e^2$). This means that unmeasured variables account for a much larger proportion of the replacement rate variance between countries than within them. But, by extension, as the models fitted to estimate these variances have included the same array of variables,

they sustain the inference that variations in replacement rates were mainly due to cross-national disparities in the public pension calculation formula. In other words, between 1980 and 2002 cross-national variation in pension generosity outweighed internal variations.

This result provides a numerical corroboration to the overall stability of OECD pension replacement rates underscored in Section 3. It confirms that the reform wave initiated in the early 1980s did not generally overhaul basic characteristics of national retirement income systems. On the one hand, no major transition from social insurance to social solidarity systems has occurred or vices versa, as pension programs have preserved their institutional logic established in the postwar decades. On the other hand, in the cases where they have been implemented, cutbacks have been moderate in order to avoid the negative electoral repercussions or substantial retrenchments (Hinrichs 2000).

TABLE 2 ABOUT HERE

The role of deindustrialization and population aging in promoting public pension

If the resilience of the average replacement rate is due to mutually canceling forces, an important question is: which forces triggered increases in pension generosity between 1980 and 2002? According to the results of Table 2, the expansion in standard pension replacement rates in OECD countries can be attributed to the processes of deindustrialization and increases in the proportion of elderly population.

Social democratic theory. As the first FE model in table 2 shows, the share of trade union membership has a substantive and *negative* impact on the standard replacement rate. Hence this result proved opposite to the social democratic theory's predictions about the general relationship between unions and welfare states in capitalist societies (Korpi 1983; Stephens 1980) and more specifically in the post-oil-crisis era of welfare austerity (Brugiavini, Ebbinghaus, Freeman et al. 2001: 187).

Hypothesis 1b is thus disproved.[15] However, the effect of union density is not robust: it hinges on a single outlier, Portugal, which in the period observed a substantial improvement in the replacement rate along with a substantial reduction in the unionization rate. Hence it would be inaccurate to generalize from this case for the rest of the sample, so the only reliable conclusion is that union density does not significantly affect pension generosity.

Regarding the role of partisan politics on pension generosity, the models in table 2 indicate that the effect of the variable is contingent on the codification of the variable and the procedure used to estimate the standard errors. Using a linear codification and PCSE, neither the left-party nor the center-party variables are statistically significant. But using a dichotomous codification, if the standard errors are uncorrected (second FE model), the left-party variable has a positive and statistically significant effect.[16] Changing from predominantly right-wing (>49% of the cabinets) to a predominantly left-wing cabinet, the average increase in the replacement rate is of 1.0 percentage point. Therefore, in the period studied the impact of partisan politics remained relatively small and non-robust. All in all, the results do not provide strong support for hypothesis 1a. They furthermore coincide with the lack of substantial partisan effects found by recent expenditure research (Huber and Stephens 2001: 217) and Palme's (1990: 118) analysis of the standard pension replacement rates of OECD-18 countries in 1980.

Yet, the total estimator shows that countries that on average have more leftwing cabinets have significantly higher replacement rates. Although this cannot be confirmed with this data, these seemingly paradoxical results between the FE and total estimators are likely due to a profound change in the politics of pension reform occurred in the 1980s. In the golden era of welfare spanning until the mid 1970s, left party governments and welfare generosity may have been mutually

[15] Consistently, the only cross-national and time series analysis of pension effort since 1980 that included union density also found a significantly negative impact (Brugiavini, Ebbinghaus, Freeman et al. 2001: 127).
[16] The measurement of the left-wing cabinet hypothesis as a linear variable has been criticized on the grounds that left parties can only establish new policies when they control most cabinet portfolios.

reinforcing. As Esping-Andersen (1985) showed for Scandinavian countries, when left-wing governments of the 1960s and 1970s passed increases in the replacement rates, they were electorally rewarded, in some cases bolstering their political dominance that in the long-term reinforced their positive covariation with high replacement rates. Therefore, although since the early 1980s other actors have substituted left parties in championing public pension generosity, they may have continued benefiting from the expansionary reforms, remaining in power in the countries where decades earlier implemented higher welfare effort expansions.

New politics theory. One of the major forces pulling the replacement rate upwards during this period consisted of the network of pension beneficiaries or, put simply, the elderly. Using the proportion of elderly over the population aged 15 or older as a proxy for the political influence of pensioners, increases in the proportion of elderly translated into significant increases into the standard pension replacement rate. It is estimated that on average an expansion in the share of the elderly equivalent to a standard deviation in the range of elderly population over population aged 15 or older (see table 1) expands the replacement rate in 1.7 percentage points. Hypothesis 3 is therefore confirmed.

The positive impact of the high level of population aging on pension generosity is in line with the new politics theory and the nowadays commonly held principle that welfare generosity has a central constituency in the programs' beneficiaries. The data presented here confirms that as the population grows older, pensioners (who are mostly aged 65 or older) become an increasing electoral force, which acts rationally exerting increasing political pressure to have their benefits increased.

In addition, this result provides evidence for the claim that pension politics since 1980 have involved a generational struggle between contributors and beneficiaries with opposite interests. Discussing the conditions for pension reforms, Pierson (1997: 281) suggested that an

intergenerational consensus regarding pension benefits has prevented an open confrontation in the policy preferences of different generations in Western Europe. However, this claim is inconsistent with his basic theoretical claim that beneficiaries are driving the new welfare politics: if we follow his theory to its logical end, pension politics (with beneficiaries as the key constituency) must necessarily involve an intergenerational conflict as young workers pay the pension of their parents without confidence that they will enjoy similar benefit levels. And this is reflected in the evidence presented here. Since 1980, the elderly have succeeded in increasing the benefits only when they increased their relative electoral salience.

Skills-specificity theory. In contrast to the irrelevance of partisan politics for changes in the replacement rates, the politics of deindustrialization is critical in the extension of pension generosity. Indeed, despite the fact that entry pension replacement rates data constitutes a more conservative and stricter test for the skills-specificity theory than Iversen's focus policy preferences (which may not turn into legislation) and welfare expenditure (which may be propelled by deindustrialization via early retirement arrangements), entry pension replacement rates have proved to be substantively related to deindustrialization. In this case there is more to be gained from assessing the effect of declines in the relative industrial workforce than of increases in this workforce because the agricultural and industrial employment as a proportion of the working age population has not increases but has shrunk substantially in all OECD countries. From this point of view, a decline in the industrial workforce equivalent to a standard deviation in the range of industrialization rates increases the standard pension replacement rate in 2.0 percentage points. This result lends strong support for hypothesis 4. The data thus confirms that, through their political mobilization, deindustrialized workers constitute a central defense of OECD public retirement income programs and have come to reinforce overall pension generosity in these countries.

Furthermore, a comparison between the OLS and FE coefficients is also informative. Although the dwindling of industrial and agricultural sectors led to increases in the replacement rates, the most industrialized countries had higher replacement rates. This apparent contradiction can also be accounted for by the fact that pension politics have probably changed in the early 1980s. Before 1980, the process of industrialization generated the resources to finance increasing transferences of economic resources to the elderly through public income retirement policies. But once industrialized peaked in these countries, the massive sectoral shift to the service sector led to a large mass of vulnerable deindustrialized workers, who demanded increases in pension generosity.

Expectations for the pace of population aging and GDP growth as a hindrance to pension generosity

While deindustrialization and population aging outstood as the primary expansionary forces of public pension generosity, pension retrenchments were driven by two forces: expectations regarding the pace of population aging and GDP growth per capita. In combination, these forces have offset pressures for the expansion of the retirement income effort, leading to the mutual cancellation that has ultimately preserved OECD pension generosity levels in a standstill during the 1980s and 1990s.

Reflexivity hypothesis. Observers agree that recent pension reforms aimed at cutting expenditures have been framed under the argument that population aging and expenditure growth will enhance the financial strain of the programs, although this dynamic has not been demonstrated quantitatively in a representative group of OECD countries. This research provides key evidence demonstrating this relationship. The monitoring of pension programs has indeed induced adaptations in the retirement income arrangements, because *changes* in the forecasts over the evolution of population aging have induced cutbacks in contemporary standard pension replacement rates. The total model in Table 2 indicates that countries with expected larger old-age dependency

ratios have higher replacement rates, however the FE models show that increases in this projected old-age dependency ratio for 2025 have a significantly negative effect on the replacement rate. It is estimated that a variation equivalent to a standard deviation in the range of the forecasted old-age dependency ratios induce a decline of 1.6 points on the average replacement rate.

As the underestimation of elderly mortality rates forced forecasters to recalculate their projections, these forecasts provided easily interpretable indicators of the faster-than-expected pace of population aging. This information reinforced alarmist perspectives over the future prospects of pension systems that reached policy-makers, who reacted by passing retrenchments. We therefore have solid evidence that in this period OECD governments have closely monitored the evolution of public pension programs, introducing preventive cutbacks to forestall programmatic deficits and enhance the long-term sustainability of these welfare schemes.

Multiple reforms exemplify this process. The Italian 1992 reform, projected to bring a substantial decline in pension liabilities, was possible because "in 1991 a new consensus on the alarming trend of pension expenditure had emerged based on the projects of the Istituto Nazionale della Previdenza Sociale and the General Accounting Office." (Ferrera and Jessoula 2005: 31) The US 1983 retrenching reform was motivated by a bipartisan "awareness of another looming Social Security trust fund crisis." (Weaver 2005: 239) And for the UK, projections of the Department of Social Security pointing the need of a 6-points raise in contribution rates for 2025 "played a large part in the subsequent policies of downgrading the [income-related] SERPS benefits (…)."(Disney 2000: F11)

Thus, the impact of expectations over the future on current retirement income arrangements shed doubts over the claim that "whatever relevance policy learning may have in other contexts, its role in the formation of the agendas of retrenchment advocates has been minimal." (Pierson 1994: 48) By contrast, if we understand policy learning and policy adaptations as justified on

interpretations of the effects of prior policies, pension programs have undergone processes of policy learning. The evidence presented above demonstrates that perceptions over the worsening rate of beneficiaries to contributors where instrumental in reductions of pension generosity. Another indication that through retrenchments "policy learning" has had a transformative effect on pension system is provided by James and Brooks (2001), who found that *ceteris paribus* countries with larger "implicit pension debts" are more likely to pass privatization of pension programs.

Macroeconomic performance. Contrary to the prediction of political economists (Williamson and Haggard 1994), adverse macroeconomic conditions do not facilitate the success of parametric retrenching attempts in pension systems. The impact of changes in public deficits on the replacement rates is statistically and substantially non-significant, while, the variable GDP growth was significant, but the coefficient has the opposite direction than expected. Indeed increases in GDP growth triggered drops in pension generosity levels. An effect equivalent to a standard deviation in the range of GDP growth values lowered the average replacement rates 0.9 percentage points. Since average GDP growth rates do not present a clear increasing or decreasing trend over the period except that for all years they were positive, and they have a negative relationship with the dependent variable, we should interpret economic growth as hampering replacement rates. Thus, together with changes in expectations on the pace of population aging, GDP growth has been a force detrimental to pension generosity.

Although the macroeconomic scenario (GDP growth) and conceptions of future programmatic financial conditions influenced pension efforts, variations in these efforts were not determined and did not respond mechanically to economic changes. As mentioned above, vested-interest collective actors have succeeded in their mobilization for the expansion of pension generosity, meaning that sociopolitical relationships are still central to pension policymaking. Furthermore, the replacement rates have not been significantly affected by variations in the systemic

dependency ratio (elderly as a share of employees) that economic theory identifies as the essential determinant (along with contribution rates) of public pension finances for most OECD countries. This means that pension reforms were not simply a mechanical adaptive process, in which replacement rates are wedded to variations in the microeconomic conditions of the programs. In reality they involved a complex social process where the outcome is dictated by interest mobilization and shared expectations.

Trade openness. As expected, trade openness was inconsequential for the pension replacement rates. The constant and substantial average increases in cross-national trade as a share of national GDP had no statistically significant effect. In the case of this variable, there is a small discrepancy between the FE model and the PCSE-OLS model because for the latter the standard error for trade openness is smaller. Nevertheless in both models the t-value is below the standard significance levels. Hence it is necessary to dismiss a direct causal relationship between trade openness and pension replacement rates. Contrary to the popular expectation, and coinciding with the most careful cross-national and panel-data research (Allan and Scruggs 2004: 507; Brady, Beckfiled and Seelib-Kaiser 2005: 943; Iversen 2005: 199), this paper finds no evidence for the claim that globalization undermines the welfare state in its central components of old-age pensions.

Minimum pension replacement rates between 1980 and 2002

So far the evolution and determinants of the standard pension replacement rates have only been covered, but OECD public pension systems also provide a means-tested final safety net of minimum pensions to elderly who had made no contributions or contributed insufficient years to be awarded the standard pension. While in general only a small minority of the old-age pensioner population receives minimum pensions,[10] since it covers the most economically deprived group of the elderly, it is informative to asses briefly the evolution and determinants of this benefit's

replacement rate. Similar to the standard replacement rate, between 1980 and 2002, the average gross minimum replacement rate maintained a general stability and showed no signs of substantive retrenchment. For OECD-22, the rate fluctuated between 27.1 percent and 32.6 percent, at the same time that for social solidarity countries, it remained at a standstill of 35 percentage points. Only in social insurance countries was the standstill broken as the average rate increased from 19.1 percent to 29.4 percent, mostly due to the instauration of previously-inexistent minimum pension programs in Greece, Luxembourg and Spain. Thus, over the period, minimum replacement rates proved very resilient.

TABLE 3 ABOUT HERE

But what factors account for historical variations in the minimum replacement rates? Like in the case of standard pensions, minimum pension's stable generosity resulted from the mutual cancellation of interest-group pressures for higher generosity and interpretations regarding the evolution of the programs. Nevertheless the combination of expansionary and retrenching forces was distinct for these welfare benefits. Increases occurred first of all from the mobilization of organized labor. As leftwing parties gained control of the cabinet, replacement rates increased; whereas as deunionization continued, the replacement rates decreased. Yet, significant increases in the minimum replacement rates also took place under the conditions of expanding elderly populations and deindustrialization. By contrast, significant declines in minimum pension generosity only happened as a result of increases in the proportion of elderly over employees (systemic dependency ratio) (table 3). Therefore, in standard pension programs cuts were undertook in response to the expected expansion of the future proportion of beneficiaries relative to contributors, while in minimum pension programs cuts responded to the current expansion of that proportion.

6. Conclusions

For the last two decades, policymakers, social scientists and public opinion in all OECD countries have scrutinized public pension programs due to growing concerns over their long-term financial solvency and the impact of economic globalization. It is feared that in a context of universalized benefits and declining activity rates, an acceleration of population aging will boost the outlays of these (assumedly) self-financing programs, ultimately threatening their sustainability. In addition, diverse authors claim that enhanced economic competition brought by globalization has at least reduced the room for maneuver to expand social expenditure because of the pressures to contain domestic production costs. As a result, these processes have motivated a vivid debate regarding the contemporary development of OECD public pension systems. However, due to the use of theoretically inadequate indicators, the literature has not been able to answer compellingly neither if pension generosity levels have been curtailed or if they have remained steady, nor what factors have motivated changes in pension generosity.

To address these questions, this paper examines changes in gross standard pension replacement rates in 27 OECD countries between 1980 and 2002. Descriptive results indicate that public pension generosity has proven highly resilient in this period. Despite the general upward trend until the mid-1990s, on average the standard replacement rates have changed very moderately over these years. Indeed, social solidarity countries, social insurance countries, and those with the longer (OECD-22) and shorter series (Eastern European) coincide in having changed their replacement rates in less than 6 percentage points over the full period. Furthermore, minimum replacement rates also remained stalled in social solidarity countries and increased in social insurance countries. Thus, there are no signs of substantial retrenchments among de-industrializing countries, as pension generosity has shown an intense resistance to change over the last 25 years.

How can we account for this overall stability? In the second part of the paper, four dominant theories of welfare state effort were tested on the standard replacement rates through a FE model and from this analysis it becomes clear that diverse factors had an effect on the replacement rates. On the one hand, deindustrialization and population aging have been the two central forces behind increases in pension generosity. Sharing limitations to enhance their economic wellbeing through market arrangements, "deindustrialized" workers and the elderly had a common objective interest to pressure for rises in public pension generosity, which were partially realized. As these collectives expanded, reinforcing their political influence, they had the replacement rates improved. By contrast, no robust and positive effects for left-wing cabinets and union density were found. In combination, the facts that deindustrialized workers and the elderly championed pension generosity and that organized labor had no relevant positive role lend support to the "new politics" thesis that pension politics in mature systems are distinct from dynamics in the maturation stage.

But not all forces were positive or neutral. On the other hand, changes in the expectation on population aging and GDP growth acted as a hindrance on pension generosity. In the countries where new forecasts revealed that population aging was advancing faster than expected, governments reacted passing preventive cutbacks to undermine the financial threat imposed by burgeoning pension expenditures. The recognition of population aging as a "policy issue" was thus part of a "continuously constructed social phenomenon." (Laumann and Knoke 1987: 15) Interpretations regarding the future balance of dependents per supporters, which were periodically reshaped by scientific prognoses, contributed to the reevaluation and ultimate transformation of contemporary pension benefit-calculation formulas. All in all, the stability of pension generosity in OECD countries between 1980 and 2002 resulted from the mutual cancellation and partial failure of the expansionary (deindustrialization and population aging) and contractionary (expectations over population aging's pace) forces.

By accounting for a lack of substantive policy changes on the basis of a political stalemate between non-dominant contending forces, this study concurs with recent work in political economy. In the same vein, Alesina and Drazen (1991) have argued that delays in adjustments of fiscal imbalances of OECD countries have often occurred due to a deadlock of opposite groups unable to impose on each other the burden of the reform costs.

Two main implications for neoinstitutionalist theory can be drawn from these empirical conclusions. First, they challenge the central claims of the rational action approach to pension reform analysis. A core assumption in diverse political science research is that in any given policy domain legislators are utility maximizers, who act with the aim of enhancing their reelection prospects. Following the logic of rational action theory, to improve these prospects, they must respond to the demands of their constituencies maximizing their gains and minimizing their losses (Weaver 1986: 373; Weingast and Marshall 1988: 137; Pierson 1996: 148, 175). In the pension policy domain, given the acute long-term consequences of decisions, this entails a disjuncture in time horizons between the short-termed calculus of elected officials and the long-term costs of decisions (Pierson 1997: 281-2). Thus, according to this approach, legislators have incentives to maintain or preserve benefits and discard retrenchments, a tendency that is compounded by the fact that concentrated constituencies are more likely to punish electorally their losses than gainers to reward their increases (Weaver 1986: 373).

Contrary to this line of argument, the empirical results of this paper show that decisionmakers reacted to changes in demographic forecasts by passing retrenchments with an immediate effect when the pace of population aging was speeding up. This entails two possible processes. One is that legislators did not exclusively react to their particular short-term. They do not invariably act as utility maximizers, contradicting a premise of most political science research of pension reform. The second option is that the constituents' strategy to maximize their gains is not

determined *ex ante*, but within the conditions imposed by the context, and as a result of constructed interpretations regarding what represent "gains" and "losses". Whether elected officials acted in a non-rational manner or if the constituency's perception of gains evolved over time represents an empirical question worth-pursuing for further research that can shed light over the limits of rational action approaches in policy reform.

As well as challenging the basic premises of rational action theory, another theoretical implication of the results presented above refers to the neoinstitutionalist debate on the conditions for institutional reproduction. Over the last three decades, neoinstitutionalist theorists have identified three mechanisms. One is through prescriptions and routines that become reactivated automatically without direct promotion by interested-actors. Under this first sociological approach, institutions have an impact "beyond the discretion of any individual participant or organization" (Meyer and Rowan 1991[1977]: 55), while they are not "reproduced by "action," in the strict sense of collective intervention in a social convention." (Jepperson 1991: 145) Second, an alternative more compromising sociological approach suggests that institutions can be reproduced as part of a domination project carried out by actors with vested interests. "Institutionalized organizational forms are reproduced when actors are willing to do institutional work in order to reproduce them." (DiMaggio 1988: 13; and Fligstein 2001: 117)[17]

Rational choice theorists explain institutional stability in a third way. To them, institutions are reproduced if they constitute efficient devices for the coordination of action for all agents in the field. "An institution is robust in this same sense if after no history of experience would any decisive coalition wish to implement some alteration of the arrangements." (Shepsle 1989: 142)

[17] Bourdieu (1977: 189) lays in an intermediate stance between these approaches because he distinguishes orders that require continuous action for their reproduction, from those that are reproduce without the direct involvement of dominating agents.

But beyond these three accounts of institutional stability, the conclusions of this paper suggest a fourth distinct form for the temporal stability of formal rules and shared understandings. Institutional reproduction may also emerge as an unintended consequence from the mutual cancellation of political transformative projects undertaken by groups with opposite interests and objectives. In this case, (contrary to the first sociological and the rational choice approaches) reproduction emerges from a form of collective mobilization, of diverse groups competing that (contrary to the second sociological approach) all failed at imposing the institution most suitable to their interests. Neoinstitutionalist theory would benefit from future research that sheds light on how generalized each of these four forms of institutional reproduction are.

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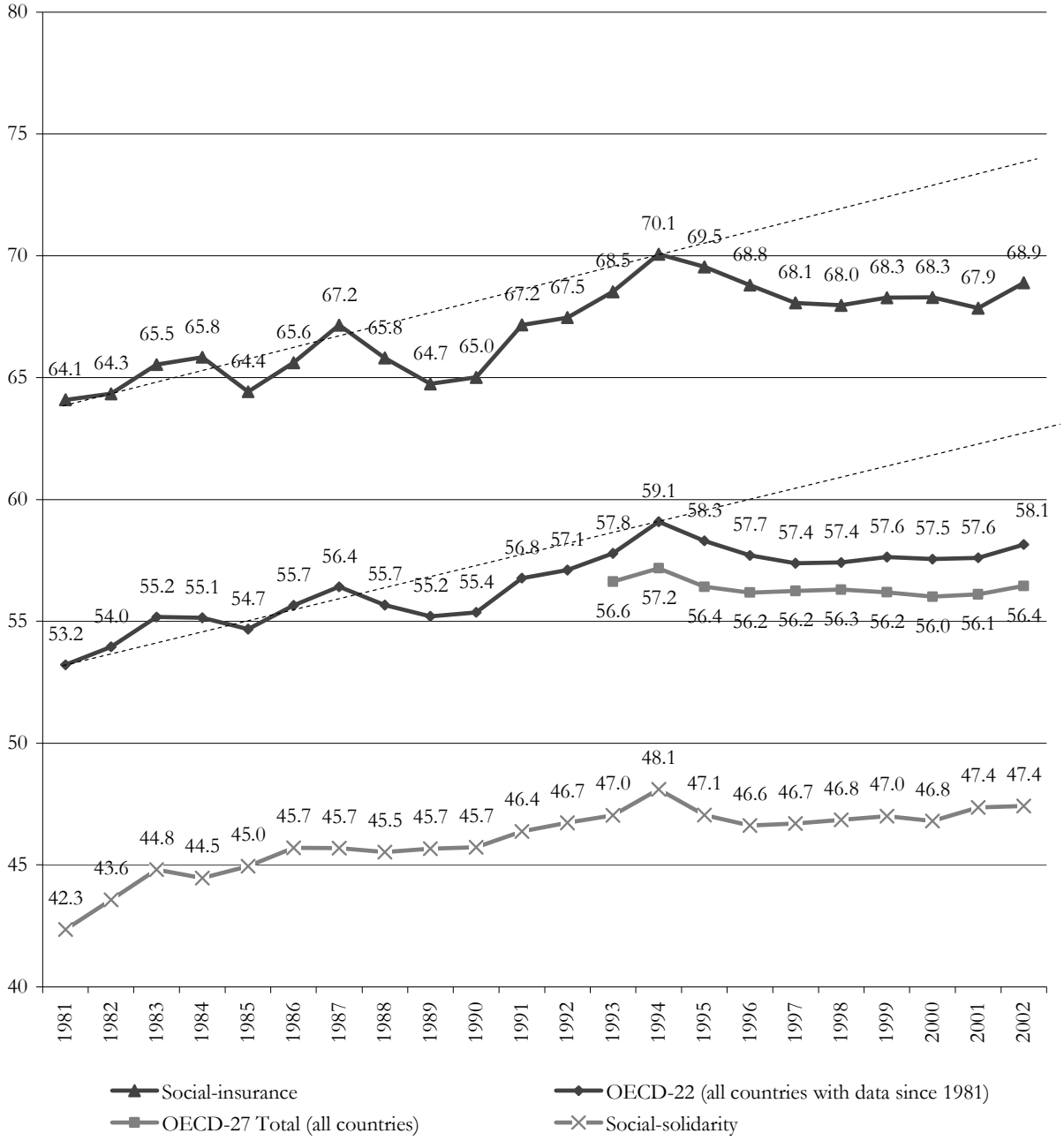
Figures and tables

Figure 1. Replacement rates of standard public pensions in the OECD countries, 1981-2002



Note: OECD-22 includes all OECD countries except Czech Republic, Iceland, Hungary, Poland and Slovakia. Social-insurance countries are Austria, Belgium, France, Germany, Greece, Italy, Luxembourg, Spain, Portugal and the US (Eastern European countries not included for having series starting in the early 1990s). Social-solidarity countries are Australia, Canada, Denmark, Finland, Ireland, Netherlands, New Zealand, Norway, Sweden, Switzerland and UK (Iceland not included for having a series starting in the late 1980s).

Figure 2. Gross pension replacement rates in OECD countries, 1980-2002

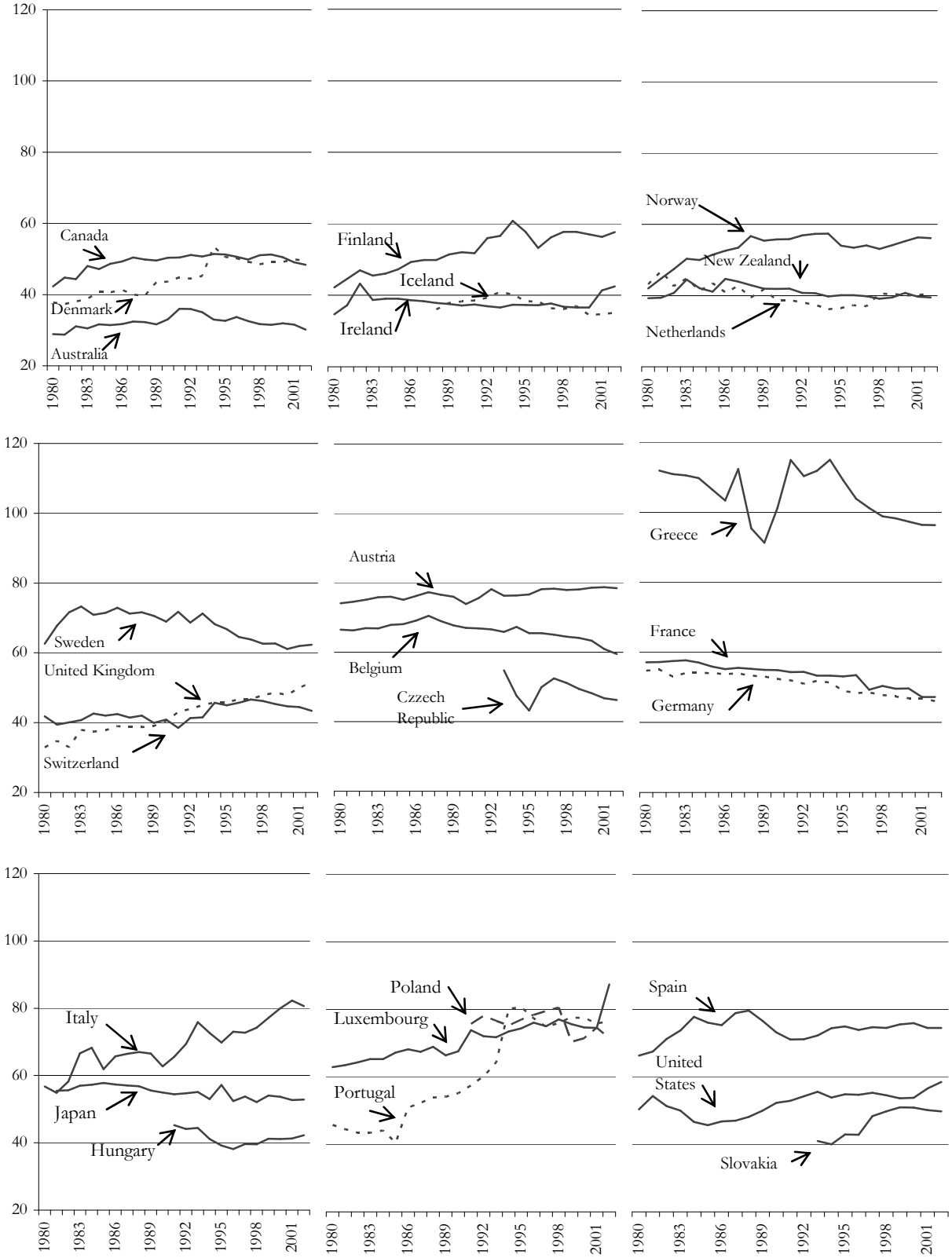


Table 1. Descriptive statistics of all variables

Variable		Mean	Standard Deviation	Minimum	Maximum	Observations
Dependent variables						
Gross standard replacement rate	overall	55.51	16.67	28.73	114.98	563
	between		16.20	32.14	104.84	27
	within		4.71	34.88	75.05	20.85
Gross minimum replacement rate	overall	29.25	13.46	0.00	51.63	562
	between		13.47	0.00	46.53	27
	within		5.34	-3.16	44.02	20.81
Independent variables						
Left-party cabinet members	overall	35.50	37.92	0.00	100.00	563
	between		20.29	0.00	78.68	27
	within		31.84	-43.18	110.50	20.85
Center-party cabinet members	overall	26.62	30.11	0.00	100.00	563
	between		22.39	0.00	66.30	27
	within		20.33	-33.51	105.49	20.85
Unionization	overall	41.96	20.83	7.38	96.36	563
	between		19.82	11.78	87.22	27
	within		7.19	15.29	68.43	20.85
Elderly population over 15+	overall	17.09	2.14	12.17	21.70	563
	between		1.90	14.18	21.27	27
	within		1.08	13.26	22.68	20.85
Industrial workforce	overall	24.37	5.00	15.45	40.66	563
	between		4.40	17.25	34.56	27
	within		2.65	18.13	35.56	20.85
Expected elderly population in 2025 over 15+	overall	32.45	5.17	16.03	49.58	563
	between		4.34	22.39	40.56	27
	within		2.88	23.89	45.71	20.85
GDP growth per capita	overall	2.10	2.35	-11.89	10.56	563
	between		0.84	0.89	4.67	27
	within		2.21	-11.46	8.00	20.85
Public deficit	overall	-3.05	4.41	-31.23	15.37	563
	between		3.09	-9.24	5.00	27
	within		3.27	-25.05	7.33	20.85
Systemic dependent ratio	overall	31.75	6.21	19.73	47.73	563
	between		5.74	21.10	42.00	27
	within		2.62	24.18	42.75	20.85
Veto points	overall	18.03	25.17	0.00	100.00	563
	between		24.73	0.00	100.00	27
	within		2.56	7.16	32.16	20.85
Trade openness	overall	73.42	43.87	15.99	288.75	563
	between		42.60	20.51	217.52	27
	within		11.62	31.40	144.65	20.85

Table 2. Estimates of the effects of several political and economic circumstances on the gross standard pension replacement rate in 27 OECD countries in 1981-2002

	OLS - uncorrected		FE - uncorrected		OLS - PCSE		FE-uncorrected		OLS-PCSE	
Left-party cabinet members (linear)$_{(t-1)}$	0.093	***	0.008		0.008		-	-	-	-
	(.016)		(.006)		(.008)		-	-	-	-
Center-party cabinet members (linear)$_{(t-1)}$	0.104	***	-0.002		-0.002		-	-	-	-
	(.020)		(.010)		(.008)		-	-	-	-
Left-party cabinet members (dummy)$_{(t-1)}$	-	-	-	-	-	-	1.035	*	1.035	
	-	-	-	-	-	-	(.516)		(.723)	
Center-party cabinet members (dummy)$_{(t-1)}$	-	-	-	-	-	-	-0.583		-0.583	
	-	-	-	-	-	-	(.630)		(.536)	
Union membership$_{(t-1)}$	-0.204	***	-0.157	***	-0.157	***	-0.162	***	-0.162	***
	(.033)		(.036)		(.027)		(.036)		(.027)	
65+ population over 15+$_{(t-1)}$	-0.840	+	0.820	*	0.820	**	0.782	*	0.782	**
	(.480)		(.340)		(.253)		(.338)		(.258)	
Industrial workforce$_{(t-1)}$	1.044	***	-0.409	***	-0.409	***	-0.395	***	-0.395	***
	(.119)		(.109)		(.098)		(.109)		(.106)	
Expected old-age dep. ratio in 2025$_{(t-1)}$	0.568	***	-0.304	**	-0.304	***	-0.289	**	-0.289	***
	(.140)		(.100)		(.081)		(.100)		(.082)	
GDP growth per capita$_{(t-1)}$	-0.506	*	-0.356	***	-0.356	***	-0.352	***	-0.352	***
	(.245)		(.092)		(.091)		(.092)		(.090)	
Public deficit$_{(t-1)}$	0.060		0.088		0.088		0.074		0.074	
	(.160)		(.073)		(.058)		(.073)		(.056)	
Systemic dependency ratio$_{(t-1)}$	1.447	***	-0.134		-0.134		-0.149		-0.149	
	(.166)		(.150)		(.116)		(.150)		(.120)	
Veto points$_{(t-1)}$	-0.158	***	-0.200	*	-0.200	***	-0.233	**	-0.233	***
	(.028)		(.080)		(.048)		(.081)		(.057)	
Trade openness$_{(t-1)}$	0.010		-0.012		-0.012		-0.012		-0.012	+
	(.014)		(.020)		(.011)		(.020)		(.011)	
Constant$_{(t-1)}$	-13.676	*	77.715	***	55.144	***	78.746	***	56.607	***
	(6.256)		(6.306)		(3.840)		(6.318)		(14.480)	
Residual variances:										
$\hat{\sigma}_v^2 = \hat{\sigma}_\varepsilon^2 - \hat{\sigma}_\epsilon^2$	139.017									
$\hat{\sigma}_\epsilon^2 = \hat{\sigma}_e^2$			18.686							

Note: The numbers in parentheses are standard errors. # Model estimated with country fixed-effects (not reported)

* p < .05; ** p < .01; *** p < .001 (two-tailed tests), + p < .05 (one-tailed test).

Table 3. Estimates of the effects of several political and economic circumstances on the gross standard and minimum public pension replacement rate in 27 OECD countries in 1981-2002

	Standard Rep. Rate		Minimum Rep. Rate	
Left cabinet$_{(t-1)}$	0.013		0.015	*
	(.008)		(.007)	
Left cabinet$_{(t-1)}$ * Social insurance	-0.022	+	-	
	(.012)		-	
Center cabinet$_{(t-1)}$	0.015		0.029	*
	(.013)		(.011)	
Center cabinet$_{(t-1)}$ * Social insurance	-0.022		-	
	(.018)		-	
Union membership$_{(t-1)}$	0.057		0.139	***
	(.050)		(.042)	
Union membership$_{(t-1)}$ * Social insurance	-0.501	***	-	
	(.071)		-	
65+ population over 15+$_{(t-1)}$	1.087	+	2.534	***
	(.569)		(.394)	
65+ population over 15+$_{(t-1)}$ * Social insurance	0.282		-	
	(.702)		-	
Industrial workforce $_{(t-1)}$	-0.567	***	-0.250	*
	(.150)		(.126)	
Industrial workforce $_{(t-1)}$ * Social insurance	0.440	*	-	
	(.219)		-	
Expected old-age dependency ratio in 2025$_{(t-1)}$	0.134		0.090	
	(.140)		(.116)	
Ex. old-age dep. ratio in 2025$_{(t-1)}$ * Social insurance	-0.850	***	-	
	(.205)		-	
GDP growth per capita$_{(t-1)}$	-0.098		0.001	
	(.130)		(.107)	
GDP growth per capita$_{(t-1)}$ * Social insurance	-0.401	*	-	
	(.173)		-	
Public deficit$_{(t-1)}$	-0.210	*	-0.161	+
	(.104)		(.084)	
Public deficit$_{(t-1)}$ * Social insurance	0.620	***	-	
	(.139)		-	
Systemic dependency ratio$_{(t-1)}$	-0.544	*	-1.050	***
	(.217)		(.174)	
Systemic dependency ratio$_{(t-1)}$ * Social insurance	0.487		-	
	(.298)		-	
Veto points$_{(t-1)}$	(dropped)		-0.041	
			(.093)	
Veto points * Social insurance	-0.198	*	-	
	(.077)		-	
Trade openness$_{(t-1)}$	-0.074		0.078	**
	(.033)		(.024)	
Trade openness$_{(t-1)}$ * Social insurance	-0.089	+	-	
	(.042)		-	
Constant	75.603	***	10.213	
	(7.264)		(7.316)	

Note: The numbers in parentheses are standard errors.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests), + $p < .05$ (one-tailed test).