

Economic crises, population aging and the electoral cycle: Explaining pension policy retrenchments in 19 OECD countries, 1981–2004

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Abstract

After decades of recurrent improvements in the generosity of public pension programs, since the early 1980s many pension reforms aimed to decelerate pension spending growth and strengthen the finances of these programs by retrenching the duration and/or value of pension entitlements. To understand this historical reversal in public pension provision, this article examines the forces affecting the enactment of contemporary pension retrenchments in 19 OECD countries. Based on a synthetic review of the pension policy literature, it identifies 90 pension retrenchments passed in these countries between 1981 and 2004. A growing literature on pension policy reform suggests that these policy events occur only when policy-makers can devise mechanisms to reduce their political blame. Building on this research, this article argues that the strategic consideration of economic and electoral cycles constitute two blame-avoidance strategies. First, by passing a pension retrenchment early in the electoral cycle, policy-makers can expect to face less electoral retaliation. Second, due to uncertainty in demographic projections, the demographic transition constitutes a weak discursive strategy to legitimate pension retrenchments. For this reason, population aging only affects the likelihood of reform by increasing the impact of economic crises. The article presents results from conditional frailty models for recurrent and sequential events that support this argument.

Keywords

economic crisis, pension policy, population aging, retrenchment, social security

Introduction

How can we account for the numerous retrenchments of public pension generosity in affluent democracies? After decades of recurrent improvements in the generosity of public pension programs, since the early 1980s many pension reforms aimed to decelerate pension spending growth and strengthen the finances of these programs by retrenching the duration and/or value of pension entitlements (Arza and Kohli, 2008; Myles and Quadagno, 1997; OECD, 1998). As Paul Pierson notes, ‘in case of health and pensions, . . . cost containment is *the issue* in most countries’

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(2001: 427, italics in original). Based mainly on case studies, the enactment of these pension cut-backs is commonly explained as a response to demographic and economic pressures (Bonoli and Shinkawa, 2005; Hicks and Zorn, 2005; Hinrichs, 2002; Immergut and Anderson, 2007). In this view, policy-makers recognize that the demographic transition and lower economic growth rates harm the financial health of these programs, creating incentives for cost-cutting pension reforms. Pension policy experts also concur that pension retrenchment proposals are ultimately possible because policy-makers devise strategies to reduce the political costs for these unpopular changes (Myles and Pierson, 2001; Pierson, 1997).

However, previous quantitative research has not satisfactorily clarified the conditions that facilitate pension retrenchments because it employs indicators that do not adequately identify these legislative events. Previous analyses relied primarily on evidence based on aggregate spending data, synthetic replacement rates for just retired individuals (Hicks and Freeman, 2009), and indices of these replacement rates and benefit coverage rates (Tepe and Vanhuyse, 2011), which are insufficient to reflect the wide diversity of measures used to reduce pension generosity during the previous three decades. Most importantly, these are retrospective indicators that only capture changes for current beneficiaries. Consequently, they discount changes in pension calculation and eligibility rules for prospective beneficiaries that characterized many recent pension reforms (Myles and Pierson, 2001; Weaver, 1998). A forward-looking approach, in contrast, examines the likely consequences of each reform, and therefore allows us to identify all pension laws according to their impact on the future generosity of these programs.

This article follows this forward-looking approach by examining the determinants of the enactment of reforms that retrench public pension generosity for current and prospective beneficiaries in 19 affluent democracies between 1981 and 2004.¹ The contemporary transformation of public pension programs involves a series of recurrent legislative events. Consistent with this fact, based on a review of the pension policy literature, I identify 90 pension retrenchments passed in these 19 countries during this period. In Germany, for instance, pension retrenchments occurred in nine years (1982, 1983, 1989, 1997, 1996, 1998, 1999, 2001, and 2004). Given this structure of the data, the appropriate analytical strategy consists of conditional frailty gap time models for recurrent and sequential events (Box-Steffensmeier et al., 2007). These survival models reveal the forces shaping the hazard rate of pension retrenchment laws, while controlling for event dependence and unit heterogeneity.

My main argument is that pension retrenchments depend on the electoral cycle and the combined influence of economic crises and population aging. First, population aging has a more gradual and uncertain impact on public finances than economic crises. This means that, although high population aging predisposes policy-makers to reconsider pension policy arrangements, it does not suffice to legitimate a reform project. For this reason, population aging may affect the likelihood of a retrenchment only by increasing the likelihood that an adverse economic scenario will trigger a pension retrenchment. Consistent with this expectation, the positive impact of economic crises on the probability of a reform is largest when the country faces more population aging. Second, the stage of the electoral cycle also shapes the likelihood of reform. In particular, policy-makers draw on a strategic consideration of the electoral cycle to minimize the retaliation of retrenchment measures. Consistent with this expectation, the likelihood of a pension retrenchment is higher in the post-election year than in any other year of the electoral cycle.

Theoretical background

Following new politics theory (Pierson, 1994), most welfare policy experts now concur that the maturation of public pension systems and the widespread satisfaction with these programs

contributed to ameliorating distributive struggles between income groups in this policy field. Instead, today pressures for pension reform emanate from economic and demographic factors, particularly population aging and adverse macroeconomic scenarios (Goul Andersen, 2001; Myles, 2002). However, pension retrenchments remain largely unpopular. Large majorities of citizens in affluent democracies are opposed to reductions in public pension spending (Hicks, 2001), while only one-third of Europeans support increases in the retirement age or cutbacks in benefits in order to compensate the costs produced by population aging (European Commission, 2007). For this reason, although political factors are not expected to bring the pension policy issue back onto the reform agenda, they remain relevant through the strategies devised by policy-makers to neutralize opposition to reform plans (Pal and Weaver, 2003; Pierson, 1997). In this regard, recent case studies indicate that a concertational style and long implementation lags largely contribute to minimize the political costs of these reforms (Bonoli, 2000; Bonoli and Palier, 2008).²

Building on the blame-avoidance literature, this article suggests two additional blame-avoidance strategies related to the timing of the policy event. First, although previous research treats economic and demographic conditions as exogenous shocks unrelated to the content of the blame-avoidance strategy, they may be endogenous to the legitimation process. In particular, in a context of a high level of population aging, which predisposes policy-makers to address the financial health of these schemes, adverse economic scenarios can help to legitimate the need for reform. Second, the strategic consideration of the electoral calendar constitutes another blame-avoidance strategy. Owing to voters' myopia, politicians can expect to face less retaliation if they launch the reform right after the elections (Bartels, 2008; Fair, 1996).

Structural conditions and the arrival of the pension policy issue on to the pension agenda

Pension policy experts commonly suggest that *demographic*, *economic* and *fiscal* pressures were catalysts for the reconsideration of retirement income arrangements in affluent democracies (Immergut and Anderson, 2007; Weaver, 1998). In terms of *demographic* pressures, public pension benefits were traditionally determined on the basis of past wages or residence requirements and not life expectancy. Hence an increase in the ratio of beneficiaries to contributors necessarily accelerates the growth in public pension outlays, creating pressures to ensure the sustainability of these programs via changes in social security provisions. Given this prominent causal connection between aging and pension spending, most experts argue that policy-makers recognized the scope of the demographic challenges (Immergut and Anderson, 2007; OECD, 1998; Weaver, 1998), and introduced pension generosity cutbacks to decelerate future pension expenditure growth (Bonoli and Shinkawa, 2005; Hicks and Zorn, 2005; Hinrichs, 2002; Whiteford and Whitehouse, 2006).

Analyses of pension policy reform also underline the role of *economic* and *fiscal* pressures. In general, economic crises have an immediate negative impact on public finances, contributing to the perception of the failure of past economic policies and the need for policy changes (Williamson and Haggard, 1994). In relation to pension systems poor economic growth depresses consumption levels and triggers unemployment growth that reduces tax revenues that sustain public pension provision. Hence, due to its immediate adverse consequences, low economic growth facilitates the justification of cost-cutting reforms in large social expenditure items such as pension programs (Huber and Stephens, 2001; Myles and Quadagno, 1997). For these reasons, poor economic performance and high population aging increase the likelihood of a pension retrenchment.

H1: Countries with older populations are more likely to pass pension retrenchment legislation.

H2: Countries with lower economic growth are more likely to pass retrenchment legislation.

Although research persuasively argues that the demographic transition creates incentives for pension reform, there are reasons to believe that population aging does not have a direct, unmediated influence on pension retrenchments. First, population aging does not have a unidirectional but a countervailing influence. On the one hand, population aging undermines the financial health of pension systems (financial effect), while, on the other hand, it increases the proportion of voters dependent on these benefits (political effect) (Galasso, 2006). Second, population aging has a financial impact that is gradual and concentrated mostly in the future. Because the impact of population aging must be estimated with projections, it cannot be specified with precision (OECD, 2011). This high level of uncertainty means that, according to most citizens, the demographic change provides a weak justification for pension retrenchment.³ In other words, population aging does not provide a firm empirical basis to legitimate pension retrenchments. In contrast, economic crises have sudden, measurement-error free, and immediate impact on public finances. Hence, by providing a more reliable empirical basis, economic crises facilitate the legitimation of welfare cost-cutting measures *better* than population aging.

However, even if economic crises may have larger legitimation potential for pension reforms, population aging may still influence these policy events by shaping the role of economic crises. Independently of citizens' preferences, recurrent forecasts conducted by highly skilled actuaries during the past three decades raised policy-makers' and experts' awareness of the extent of the demographic challenge in their country (Chlon-Dominczak and Morak, 2003). For this reason, in countries facing more aging, policy-makers should be more concerned about pension programs, which may affect their responsiveness to economic crises. Given that economic crises have more potential to legitimate reforms, politicians in countries with older populations may be particularly likely to react to the opportunity presented by adverse economic scenarios and propose cutbacks in pension generosity. In this fashion, population aging has mainly a mediational effect. Instead of affecting pension retrenchments autonomously, it reinforces the influence of adverse economic scenarios.

H3: In countries with higher population aging, the effect of economic growth is larger.

Policy-making with an eye to the electoral cycle

This article proposes a second blame-avoidance strategy related to the timing of the policy event. In particular, I hypothesize that initiating the legislative process immediately after the elections allows governments to undercut the political costs associated with the legal changes. As theorized by the 'political business cycle approach' (PBC) (Nordhaus, 1975: 184; see a review in Drazen, 2000) and shown by recent research (Bartels, 2008; Fair, 1996; Lewis-Beck and Paldam, 2000), voters tend to be myopic because they give more weight to economic and policy events which occur just before elections than to events which occurred years before, early in the electoral cycle. Hence, if the reform is enacted right after a new government comes into office, the risk of an electoral backlash should be smaller than if it is passed closer to the next election.

When considering the enactment of unpopular measures, (re)elected governments can also benefit from the legitimacy bestowed by their electoral victory. Incoming governments enjoy a 'honeymoon period', when governments are better equipped to enact controversial reforms because popular 'support is high and opposition is muted' (Williamson and Haggard, 1994: 571). In sum, policy-makers can take advantage of their additional political capital and voters' cognitive bias to reduce the political costs of pension retrenchments by passing them right after the elections. Thus,

pension policy retrenchment should be more likely in the year immediately after the elections than in any other year of the electoral cycle.

H4: The likelihood of a pension retrenchment is higher in the post-election year.

The institutional structure of the pension system

Beyond the pressure for reform and the blame-avoidance strategies, the scholarship on pension policy reform also suggests that the institutional structure of the pension system could also affect the likelihood of a reform (Castles, 2004; Myles and Pierson, 2001). Since the mid-1980s there have been widespread concerns about the unintended, negative consequences of large-scale public pension spending for employment levels. First, generous public pension systems have in-built incentives for early retirement, inducing lower participation rates among older workers (Ebbinghaus, 2006; Gruber and Wise, 1999). Second, extensive public pension provision demands large social security contributions that may harm the competitiveness of low-skilled service sector firms (Esping-Andersen, 1996; Scharpf, 2000). This means that, due to perceptions regarding their unintended macroeconomic consequences, higher pension generosity may increase the likelihood of pension retrenchments.

H5: Countries with more generous pension systems are more likely to pass pension retrenchments.

Limitations of previous operationalizations of welfare retrenchments

Retrenchment pension reforms are multidimensional legislative events affecting a wide range of provisions and with consequences in different time horizons. These reforms involve changes to eligibility conditions and/or pension determination rules, which could have an impact in the short, medium and long term. To this effect, available indicators of welfare generosity – including decreases in expenditure, synthetic replacement rates for just retired citizens, average replacement rates, generosity indexes and coverage rates – (Castles, 2004; Hicks and Zorn, 2005; Tepe and Vanhuyse, 2011) can shed light on one or more dimensions of pension policy retrenchment. But none of them can simultaneously encompass multiple dimensions of pension generosity that were affected by recent reforms.

Aggregate expenditure data and generosity indexes only allow us to identify cutbacks if the short-term consequences of a reform surpass the growth caused by programmatic maturation. But more importantly, the five types of indicators mentioned above are retrospective and only reflect implemented legislation. For this reason, they remain insensitive to changes that concentrate their consequences on future beneficiaries, despite the fact that many recent pension reforms were characterized by grandfather or phasing-in clauses (Hinrichs, 2007). Finally, pension reforms vary substantially in their implementation time-lag. Available indicators do not provide evidence to specify when each concrete law was passed. This evidence can clarify the context of the implementation of reforms, but cannot accurately clarify the context of the enactment of reforms.⁴

An alternative operationalization of pension retrenchments

In contrast to conventional indicators, proxies of retrenchment based on microeconomic projections and foreseeable individual-level implications of reform are not restricted to certain aspects of

welfare generosity (Pierson, 2001). Following this forward-looking approach, this study conceptualizes pension retrenchments as laws that, in the short or long term, reduce the duration and/or the generosity of public retirement income benefits for most citizens affected by the reform (for equivalent definitions, see Green-Pedersen, 2007; Pierson, 1994). Moreover, consistent with recent research on welfare retrenchment (Hicks and Zorn, 2005; Korpi and Palme, 2003; Tepe and Vanhuyse, 2011), I dichotomize pension reforms as retrenchments or not retrenchments.

The use of a dichotomous dependent variable produces some loss of information with respect to a continuous dependent variable. However, the wide diversity of pension policy parameters and the limited number of financial projections conducted for each reform make this option the most defensible one. In the absence of projections for all reforms, a continuous dependent variable would require many highly arbitrary decisions on the relative impact of poorly comparable retrenchment measures such as a pension indexation freeze and an increase in the pensionable age. Instead, the principles of the economics of welfare policy and the limited number of projections available provide a reliable basis to classify all contemporary pension reform legislation as retrenchments or not retrenchments. The process of constructing the dependent variable involved two steps. First, I identified the content and year of enactment of pension reforms passed in these 19 countries during the period under study. To generate a detailed dataset of pension reform packages, I conducted a systematic review of the pension policy literature, which provides an organized way of handling findings from the studies under review.

In particular, I analyzed a minimum of six case studies per country, comparative studies on pension policy-making, annual issues of comparative reports and datasets, and for a few concrete reforms domestic experts provided me detailed descriptions of the changes (e.g. International Social Security Association, selected years; OECD, selected years; Scruggs, 2004). In all, I analyzed more than 520 publications. This systematic review allowed me to identify 189 reform packages. The second stage in the construction of the dependent variable involved distinguishing from the rest those reforms with a net retrenchment impact. To do so, I constructed a coding protocol to classify all the provisions. This protocol includes three general policy dimensions and 13 sub-dimensions (Table 1).⁵ It constitutes the road map for reviewing the pension policy studies.

According to these principles, if the reform package only includes expansionary or retrenchment measures, I could confidently classify it as, respectively, a non-retrenchment or a retrenchment event. Based on this logic, I identified 88 reforms as expansionary because they only include expansionary provisions. All the remaining 101 reforms have at least one retrenchment provision. Most of them (54) only include generosity decreasing provisions. Those 54 were thus classified as retrenchment reforms. To classify the remaining 47 events that combine expansionary and retrenchment provisions, I searched for evidence on microeconomic projections. Explicit bibliographic references reveal evidence of generosity-decreasing effects for 32 of the reforms and generosity-increasing effects for only three reforms. Concerning the remaining 12 reforms, no financial projections have been published. To determine the expected impact of these reforms, first I contacted five pension policy experts on those specific countries. According to the expert judgment of these researchers, two⁶ and four⁷ reforms must have, respectively, reduced and increased generosity levels. Regarding the remaining six reforms, based on expectations of contemporary publications, two⁸ reforms were classified as retrenchments and two⁹ other ones as non-retrenchments. Finally, I classified two remaining reforms as cost-expansionary.¹⁰ In sum, the analysis reveals that in total between 1981 and 2004 these 19 OECD passed 90 retrenchments (Table 2).^{11,12} Given that this article seeks to explain the collective decision of pension retrenchment, the following analysis focuses on the date of enactment – not implementation – of the reform legislation.

Table 1. Main elements of the coding protocol and data extraction sheet

Dimension	Operationalization of retrenchment	Economic studies supporting this interpretation
<i>Qualifying conditions</i>		
Minimum qualifying period	Increase in the period	Lindbeck and Persson (2003); OECD (1988)
Minimum pensionable age – Men	Increase in the pensionable age	Lindbeck and Persson (2003)
Minimum pensionable age – Women	Increase in the pensionable age	
Expected pensionable age – Men	Increase in the pensionable age	Whiteford and Whitehouse (2006)
Expected pensionable age – Women	Increase in the pensionable age	
<i>Calculation formula</i>		
Years taken into consideration	Increase in the years taken into consideration	Whiteford and Whitehouse (2006); OECD (1988, 2007)
Past-wages indexation mechanism	Any temporary suspension or partial or total transition from wage to price indexation	Whiteford and Whitehouse (2006); OECD (2007)
Accrual rate	Reductions in the accrual rate	Lindbeck and Persson (2003); OECD (1988, 2007)
Maximum pension	Reductions in the maximum pension	OECD (1988)
Years needed for maximum accrual rate	Increase in the years needed	
Penalization for early retirement	Increase in the percentage of pension withdrawn for each year of early retirement	Jaag et al. (2010)
Homogenization of pension calculation formula	Convergence of the rules for smaller, privileged funds towards the main social security fund	
<i>In-payment pensions indexation mechanism</i>	Temporary suspension, or partial or total transition from wage to price indexation	Lindbeck and Persson (2003); Whiteford and Whitehouse (2006); OECD (1988, 2007).

Data and methods

Independent variables

It is now possible to present the independent variables of the event history analysis. Following Hicks and Zorn (2005), the baseline models include *economic growth*, *public deficit*, *unemployment rate*, *deindustrialization*, *average pension replacement rate*, and *trade openness*. According to the economic approach, lower *economic growth* and higher *unemployment rate* should boost the likelihood of a pension retrenchment. Moreover, if *deindustrialization* has an expansionary effect on welfare generosity (Iversen and Cusack, 2000), it may also undermine the likelihood of pension retrenchments. If the generosity, maturity and scope of pay-as-you-go programs shape the process of reform, this should be reflected in a positive impact of the *average pension replacement rate* on the hazard of an event. The average pension replacement rate is the percentage of the GDP per

capita that is replaced by the average public pension. I include this indicator because (contrary to public pension spending) it is not sensitive to the level of population aging, which can be captured more specifically through the current and projected level of population aging. *Elderly population*, which is the share of population 65 or older, captures the level of current aging. *Projected elderly population in 2025*, which is obtained from biannual projections estimated by United Nations (1982, several years) since 1980, captures the level of population aging at the peak of the demographic transition.

Six variables consider the role of political factors. Following the convention in the literature, I include the percentage of *left party cabinet portfolios* and *Christian Democratic party cabinet portfolios*. *Union density* reflects the role of the entrenchment of trade unions. Responding to the expectation that political institutions could create opportunities to block reform projects, *constitutional structure* is an index of five formal veto points: bicameralism, decentralization, majoritarian representation, presidentialism and frequent referenda. As the Maastricht Treaty could exert pressures for cost-cutting welfare reform (Ferrera and Gualmini, 1999), I consider the role of *Maastricht Treaty signatory*. Finally, *post-election year* allows us to capture the strategic consideration of the electoral cycle controlling for the length of the electoral cycle. The Appendix provides a definition and sources for all independent variables. All continuous independent variables are centered and all independent variables except *post-election year* are lagged one year.

Analytical approach

Given that the data structure of this study includes time-varying independent variables and a dichotomous dependent variable, the appropriate analytical strategy involves duration or event history methods. Event history methods analyze changes in the hazard rate, which is the probability that an event occurs in an interval, given that it did or did not occur in the previous interval. Thus, contrary to logit and linear regression, event history models simultaneously reveal the determinants of an event occurrence and the timing until that event (Petersen, 1991). A positive impact of a covariate on the hazard rate implies an increase in the hazard or likelihood of an event.

Of all event history models I estimate a specific type of Cox (1972) models, in particular, conditional frailty gap time models with stratification by event rank. Conditional frailty models have the valuable property that they address the possible presence of unit heterogeneity by calculating a frailty or random effect shared by all the events of each country (Box-Steffensmeier et al., 2007). Moreover, the stratification on failure order allows us to address the fact the event k th is influenced by event $k-1$. Prior reforms are likely to have administrative and political effects on pension politics.¹³ In this context, ‘stratif[ication] by event, allowing the baseline hazards to vary with the number of events and subject experiences – also accounts for correlation in event times due to event dependence’ (Box-Steffensmeier et al., 2007: 240). Finally, following most previous research on policy reform using event history models for repeated events, risk times are restarted after each event because these risks occur sequentially. Case studies (Immergut et al., 2007) indicate that pension retrenchment project j is not launched until the final enactment or abortion of project j_{-1} had occurred.

Finally, the distribution of countries per number of events is positively skewed, as few countries have many events. Therefore, to avoid biases in the baseline hazard rates produced when few countries have high number of events, following Box-Steffensmeier et al. (2007) I collapse all the strata for the fifth or higher event ($90/19 = 4.74$). It is noteworthy that the results presented below are not sensitive to the type of gap-time survival model. Conditional gap time models with and without stratification provide equivalent results.

Table 2. Pension retrenchments in 19 OECD countries, 1981–2004

Australia	1983, 1984, 1994, 1996, 2004
Austria	1984, 1987, 1992, 1993, 1995, 1996, 1997, 2000, 2003, 2004
Belgium	1981, 1982, 1984, 1986, 1995, 1996
Canada	1995, 1997
Denmark	1982, 1999
Finland	1984, 1992, 1993, 1995, 1999, 2003, 2004
France	1987, 1993, 2003
Germany	1982, 1983, 1989, 1996, 1997, 1998, 1999, 2001, 2004
Greece	1983, 1990, 1992
Ireland	1983, 1984, 1985, 1986, 1989, 1990, 1994
Italy	1983, 1992, 1994, 1995, 1997, 2004
Japan	1985, 1994, 1999, 2004
Netherlands	1982, 1983, 1984, 1992, 1993, 1994, 1995
Norway	1992
Portugal	1993, 2000, 2002
Spain	1983, 1985, 1997
Sweden	1981, 1991, 1992, 1993, 1994, 1995, 1998, 2001
United Kingdom	1986, 1995
United States	1981, 1983

Descriptive results

It is useful to being the analysis with a descriptive overview of the pattern of pension retrenchments. Table 2 reveals substantially differences in the number of retrenchments. Austria, Finland, Germany, Ireland, the Netherlands and Sweden passed seven or more retrenchment laws. Australia, Belgium, France, Greece, Italy, Japan, Portugal and Spain passed between three and six laws. Canada, Denmark, Norway, United Kingdom and United States passed between one and two. In sum, Continental countries enactment more pension retrenchments than Southern European and Anglo-Saxon countries.

Figure 1 depicts the annual number of events enacted during the period under study. The figure does not reveal a linear increasing or decreasing trend. Instead I observe a cyclical trend with three historical peaks in the early 1980s, the 1992–1995 period, and 2004. The absence of a clear downward trend suggests that these series of legislative events do not constitute a brief pause in the century-long expansion in the generosity of public pension provision, but, on the contrary, a critical development in contemporary pension policy-making since 1980.

Multivariate results

Table 3 presents four models for the passage of pension retrenchments during the period 1981–2004. Because *elderly population* and *projected elderly population in 2025* are highly collinear ($r = .676, p < .05$), they are always included in separate models. Models 1 and 2, which consider only the role of socioeconomic factors, indicate that the levels of economic growth and the generosity of the public pension system shape the hazard of an event. Concerning the indicators of the macroeconomic scenario, *economic growth* has the expected negative sign and is significant.

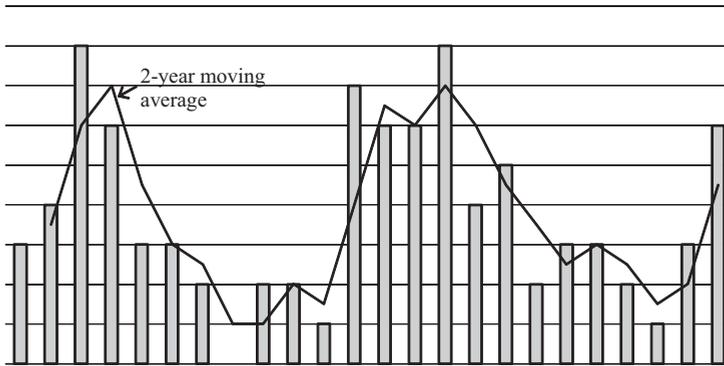


Figure 1. Pension retrenchment events in 19 OECD countries, 1981–2004.

Consistent with the expectation that economic crises facilitate the enactment of cost-cutting welfare reforms, lower economic growth increases the risk of a pension retrenchment. Moreover, *average pension replacement rate* is positive and significant, which supports the claim of neoinstitutionalist scholars that the scope of pension provision matters for cutbacks in this policy field. Models 1 and 2 do not reveal a positive statistical association between the current or prospective extent of population aging and the hazard of a retrenchment. Neither *elderly population* nor the *projected elderly population in 2025* has a direct and significant impact on the dependent variable.

Model 3 considers the role of political factors. In this model only two of the six independent variables are significant. Public pension retrenchments are significantly more likely in countries with more entrenched Christian Democratic parties and in post-election years. The latter result reveals that pension retrenchments are more likely in the post-election year than in any other year of the electoral cycle. In contrast, the variables *left party cabinet portfolios*, *union density*, *constitutional structure* and *Maastricht Treaty signatory* are not statistically significant.

To examine the robustness of the findings obtained so far, Models 4 and 5 (Table 3) include all the socioeconomic and political factors. In these models, the two indicators of population aging remain statistically insignificant. This is inconsistent with H1. Moreover, *economic growth* and *average pension replacement rate* are still highly significant. This is consistent with H2 and H5. In Model 5, *public deficit* becomes insignificant. Concerning the political factors, once controlling for socioeconomic factors, *Christian Democratic party cabinet portfolios* is rendered insignificant. This means that the partisan structure of government does not have a robust impact on the likelihood of a pension retrenchment. This result is in line with the claim of declining partisan effects on public pension generosity (Huber and Stephens, 2001). In the full models of Table 3, *post-election year* remains positive and significant. Based on Model 7 (Table 4), Figure 2 provides the exponentiated coefficient and the 95 percent confidence intervals. It indicates that the hazard rate of a pension retrenchment is 75.2 percent higher in a post-election year than in any other year of the electoral cycle. This is consistent with H4. Therefore, Table 3 reveals that the level of economic growth, the generosity of the public pension system and the stage in the electoral period are the main determinants of pension retrenchments.

One possible concern with these findings is that they could be affected by multicollinearity. *Economic growth*, *average pension replacement rate* and *post-election year* may be significant only due to the additional socioeconomic and political variables. To examine this possibility, Model 6 in Table 4 includes only the three variables that were significant in the expected in

Table 3. Conditional frailty models for the passage of pension policy retrenchments, 1981–2004

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Socioeconomic factors</i>					
Economic growth _(t-1)	-.205** (.068)	-.210** (.068)		-.220** (.071)	-.226** (.070)
Public deficit _(t-1)	.070* (.033)	.060+ (.033)		.063+ (.034)	.055 (.034)
Unemployment rate _(t-1)	-.009 (.040)	-.018 (.039)		.001 (.039)	-.001 (.037)
Deindustrialization _(t-1)	.004 (.034)	.010 (.032)		-.002 (.036)	.011 (.037)
Average pension replacement rate _(t-1)	2.649** (1.041)	2.877** (.981)		2.132+ (1.134)	2.438* (1.129)
Trade openness _(t-1)	.006 (.005)	.004 (.005)		.004 (.006)	.002 (.006)
Elderly population _(t-1)	-.014 (.074)			-.020 (.079)	
Projected elderly population in 2025 _(t-1)		-.074 (.052)			-.079 (.056)
<i>Political factors</i>					
Left party cabinet portfolios _(t-1)			.004 (.004)	.004 (.006)	.004 (.004)
Christian Democratic cabinet portfolios _(t-1)			.011* (.005)	.004 (.006)	.006 (.006)
Union density _(t-1)			.004 (.007)	.005 (.007)	.006 (.007)
Constitutional structure _(t-1)			-.020 (.089)	.059 (.109)	.044 (.108)
Maastricht Treaty signatory _(t-1)			.284 (.319)	-.033 (.343)	.025 (.347)
Post-election year			.606* (.250)	.554* (.261)	.555* (.263)
θ	.000	.000	.000	.000	.000
R ²	.071	.065	.024	.072	.076
Likelihood ratio χ^2 for θ	.000	.000	.000	.000	.000
Log-likelihood	-151.5	-150.6	-160.2	-148.7	-147.8
Wald χ^2	25.7**	27.2***	11.2*	29.1**	31.1***
N	456	456	456	456	456

+ $p < .07$; * $p < .05$; ** $p < .01$; *** $p < .001$. Standard errors in parentheses.

direction in previous models. However, the effects of these three variables are not affected by the other variables, because they remain statistically significant and maintain the same sign. Another possible problem is that policy-makers are not concerned with the potential negative macroeconomic impact of more generous pension systems, but with the overall costs of these programs. To reflect this concern, Model 7 substitutes the variable *average pension replacement rate* by *public pension*

Table 4. Conditional frailty models for the passage of pension policy retrenchments, 1981–2004

	Model 6	Model 7	Model 8	Model 9
<i>Socioeconomic factors</i>				
Economic growth _(t-1)	-.226** (.066)	-.219** (.070)	-.249*** (.075)	-.264** (.076)
Public deficit _(t-1)		.062+ (.034)	.060 (.034)	.056 (.035)
Unemployment rate _(t-1)		.002 (.039)	.005 (.039)	-.017 (.041)
Deindustrialization _(t-1)		-.001 (.036)	.001 (.036)	.009 (.037)
Average pension replacement rate _(t-1)	2.304** (.891)		2.277* (1.142)	2.535* (1.139)
Public pension expenditure _(t-1)		.152* (.080)		
Trade openness _(t-1)		.005 (.006)	.004 (.006)	.001 (.001)
Elderly population _(t-1)		-.087 (.094)	-.048 (.082)	
Projected elderly population in 2025 _(t-1)				-.109 (.065)
Elderly population _(t-1) *Economic growth _(t-1)			-.035 (.029)	
Projected elderly population in 2025 _(t-1) *Economic growth _(t-1)				-.031 (.018)
<i>Political factors</i>				
Left party cabinet portfolios _(t-1)		.004 (.004)	.004 (.004)	.004 (.004)
Christian democratic cabinet portfolios _(t-1)		.004 (.006)	.005 (.006)	.005 (.007)
Union density _(t-1)		.005 (.007)	.006 (.007)	.005 (.008)
Constitutional structure _(t-1)		.055 (.109)	.067 (.108)	.071 (.109)
Maastricht Treaty signatory _(t-1)		-.030 (.343)	-.041 (.344)	-.009 (.352)
Post-election year	.539* (.248)	.561* (.261)	.557* (.260)	.526* (.264)
θ	.000	.000	.000	.000
R ²	.056	.066	.069	.077
Likelihood ratio χ^2 for θ	.000	.000	.000	.000
Log-likelihood	-152.7	-148.7	-148.0	-146.1
Wald χ^2	24.0	29.6**	31.1**	33.8**
N	456	456	456	456

+ $p < .07$; * $p < .05$; ** $p < .01$; *** $p < .001$. Standard errors in parentheses.

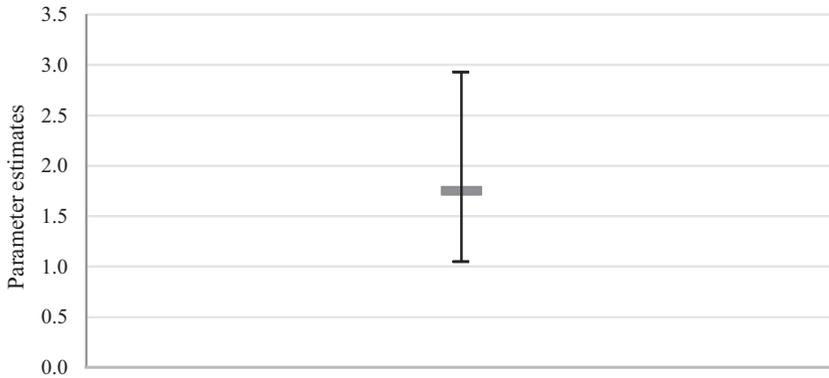


Figure 2. Exponentiated coefficient and 95% confidence intervals of post-election year (from Model 7 in Table 4).

expenditure. Still consistent with the institutionalist expectation, the variable *public pension expenditure* remains positive and significant.

Thus, adverse economic scenarios, the generosity of public pension systems and the stage in the electoral cycle have a direct impact on the likelihood of a pension retrenchment. However, the models considered so far do not allow us to examine the possibility that population aging has an indirect impact on contemporary policy-makers. As hypothesized in Section 2, population aging could have an indirect influence on pension retrenchments. Given that population aging produces a less immediate deterioration of public finances and has a lower legitimization potential, policy-makers may only launch pension retrenchment projects when population aging and economic crises are intense. Consistent with H4, the interaction terms *elderly population*economic growth* and *projected elderly population in 2025*economic growth* are negative (Models 8 and 9). This suggests that a higher level of population aging reinforces the negative effect of economic growth. However, Models 8 and 9 do not allow us to determine the impact of *elderly population* and *projected elderly population in 2025* over the whole range of *economic growth* (Brambor et al., 2006). To this effect, Figure 3 depicts the coefficients of *economic growth* at different standardized values of *elderly population* and *projected elderly population in 2025*. It shows that the effect of *economic growth* is insignificant at low levels of population aging. However, *economic growth* is positive and significant for the 71.16 percent highest values in *elderly population* and the 84.0 percent highest values in *projected elderly population in 2025*. Population aging does not have a direct but a mediational impact on pension retrenchments.

Discussion

Since the early 1980s, all affluent democracies have introduced reforms to recalibrate the generosity of their public pension programs. After a century of expansionary reforms in which generosity levels were repeatedly ratcheted up, the contemporary period has seen many reforms involving retrenchments in eligibility and benefit levels. The dataset constructed for this article reveals that between 1981 and 2004 the 19 affluent democracies considered in this study passed 90 pieces of legislation designed to bring about pension retrenchment.

To understand this historical reversal in public pension provision, this article has examined the forces affecting the enactment of contemporary pension retrenchments. A growing literature on

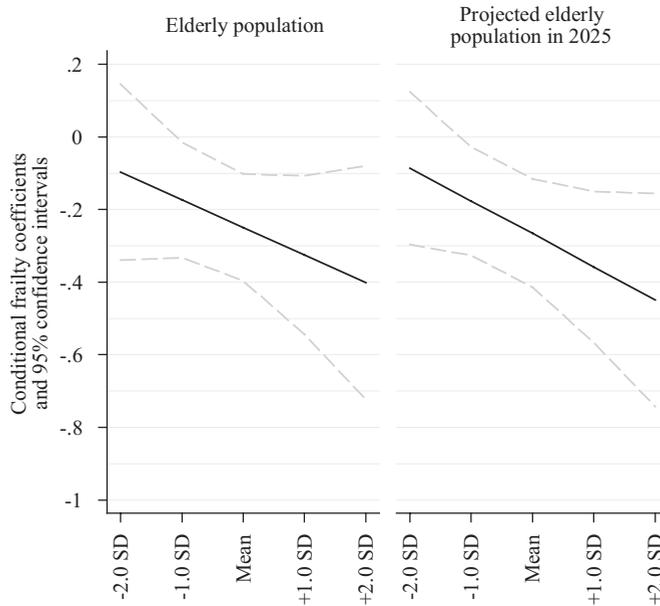


Figure 3. Coefficients relating economic growth to the enactment of pension retrenchments at different standardized levels of elderly population and projected elderly population in 2025.

pension policy reform suggests that, due to the widespread satisfaction with intensive public pension retrenchments, these policy events occur only when policy-makers can devise mechanisms to reduce their political blame (Pierson, 1994; Schludi, 2005). Since pension retrenchments are largely unpopular reforms, cabinet members and policy-makers rely on political strategies to reduce the partisan costs of these changes. Building on this literature, my main argument is that the strategic consideration of the timing of the reform constitutes another blame-avoidance strategy.

First, although the impact of population aging on public finances is gradual and relatively uncertain, the financial impact of economic crises is immediate and free of measurement error. This means that economic crises provide a firmer empirical basis to legitimate pension retrenchments. Under these conditions, policy-makers in countries with more population aging, who should be more predisposed to reform old-age pension policy, may take advantage of economic crises to launch cost-cutting reforms. Consistent with this expectation, this study shows that a higher level of population aging reinforces the influence of economic crises on the likelihood of a pension retrenchment. In fact, low economic growth only increases the risk of a pension retrenchment at medium and high levels of current and projected population aging.

Second, the strategic consideration of the electoral calendar constitutes an important political maneuver to elude political blame for welfare retrenchment projects. Initiating the legislative process right after the last vote allows policy-makers to capitalize on the fact that voters are not likely to give a lot of weight to policy events that occur early on in the electoral cycle. It also allows policy-makers to benefit from the extraordinary political capital garnered by their recent electoral victory. Consistent with this expectation, the empirical analysis reveals that the likelihood of a pension retrenchment is highest in post-election years. For this reason, further research could examine if the impact of pension retrenchments on the incumbent's party electoral performance vary depending on when the retrenchment was passed.

Admittedly, the analysis has empirical limitations. As noted above due to primary data issues, a truly multidimensional and forward-looking identification of pension retrenchments can only emerge from a dichotomous distinction between retrenchment and non-retrenchment reforms. However a dichotomous codification comes at a cost. It does not reflect quantitative differences in the extent of retrenchments. In this sense, further research could suspend this multidimensionality and focus on concrete dimensions of pension policy (e.g. minimum or expected pensionable ages) to describe and explain variations in the degree of retrenchment.

The findings outlined above suggest two theoretical implications. This study contributes to the emerging ideational approach which argues that, beyond self-interest and objective external pressures, framing and discursive strategies are critical dimensions in the enactment of cost-cutting welfare reforms (Mehta, 2010; Schmidt, 2010). In particular, it suggests that potential justifications for welfare reform vary in the reliability of their supportive evidence. For instance, a justification structured around population aging includes empirical evidence with some degree of measurement error, which allows opponents' attacks and undermines the legitimacy of the justificatory frame. For this reason, our understanding of welfare policy reform could benefit from a closer consideration of the politics of interpretation of socioeconomic indicators. In this regard, certain national 'knowledge regimes' (Campbell and Pedersen, 2010) could contribute to the emergence of consensual interpretations that may facilitate the passage of reform.

Moreover, this study suggests that future research should pay more attention to the influence of the stage of the electoral cycle and the type of election in the process of welfare reform. Due to the combination of voters' myopia and the generalized support for generous welfare provision, these factors could be influential for both expansionary and retrenchment reforms. This study shows that pension retrenchments are more likely in the post-election year than in any other year of the electoral cycle. Hence, it would be worth examining the influence of different elections (national, regional, local) on expansions and retrenchments in different welfare programs. In this regard, we can expect national elections to be more influential on welfare policy-making in general, while larger welfare programs should be particularly affected by the electoral cycle.

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Appendix

Economic growth: Average percentage annual change in GDP per capita in US\$ at current prices and PPP (reference year 2000) at t_{-1} (OECD, 2009).

Public deficit: (Government net lending as a percentage of the GDP at t_{-1})*-1 (OECD, 2009).

Unemployment rate: Unemployed population as a percentage of the active labor force at t_{-1} (OECD, 2009).

Deindustrialization: 100 minus the percentage of the population employed in the agricultural and industrial sectors over all the active age population at t_{-1} (OECD, 2008a).

Public pension spending: Public pension spending on old-age pensions as a percentage of the GDP at t_{-1} (OECD, 2008b).

Average pension replacement rate: (Public pension spending as percentage of GDP)/(Percentage of elderly population). It reveals the proportion of the average GDP per capita in country j that is replaced by the average public pension in country j .

Trade openness: Sum of exports and imports of goods and services as a percentage of the GDP (World Bank, 2006).

Elderly population: Percentage of the population aged 65 or older at t_{-1} (OECD, 2008a).

Projected elderly population in 2025: Expected percentage of the population aged 65 or older in 2025 at t_{-1} . Based on biannual projections from United Nations (1982; selected years) and interpolated years.

Left party cabinet portfolios: Percentage of cabinet portfolios held by members of left parties at t_{-1} (Swank, 2009).

Christian Democratic party cabinet portfolios: Percentage of cabinet portfolios held by members of Christian Democratic parties at t_{-1} (Swank, 2009).

Union density: Percentage of the working age population that is a member of a trade union (OECD, 2008a).

Constitutional structure: Additive index with five dimension: bicameralism (0 if unicameral system or second chamber with very weak powers, 1 if weak bicameral system, 2 if strong bicameralism); federalism (0 if absence, 1 if weak and 2 if strong); presidentialism (0 if parliamentary or other, 1 if presidentialist); majoritarian representation (0 if proportional representation, 1 if modified proportional and 2 if majoritarian); and frequent referenda (0 if no, 1 if yes). Based on data from Armingeon et al. (2010).

Maastricht Treaty signatory: Dichotomous variable that differentiates (1) 10 signatories of the Treaty on the European Union (Austria, Belgium, Finland, France, Germany, Greece, Italy, Portugal, Spain, and Sweden) from other country-years. For Belgium, Finland, France, Germany, Greece, Italy, Portugal, and Spain the value is 1 between 1992 and 1997. For Austria and Sweden the value is 1 between 1995 and 1997.

Post-election year: Year after the elections for the first or second chamber of legislative elections and presidential elections in the US (Keefer, 2007).

Notes

1. The countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, Norway, Portugal, Spain, Sweden, United Kingdom and the United States. New Zealand and Switzerland were not included in the analysis due to the lack of data regarding their public deficits.
2. In fact, these strategies may be so successful that they prevent electoral retailion for incumbent parties (Giger and Nelson, 2009).
3. A large majority of citizens recognize the challenge posed by population aging. According to a 2001 Eurobarometer, 91.1 percent recognize it as a 'problem' (European Commission, 2001). However, most citizens oppose retrenchments aimed at countervailing the demographic change. Only 22 percent and 12 percent of citizens in the EU-15 support, respectively, increases in the retirement age and cutbacks in benefits (European Commission, 2007).
4. Another strategy involves comparing rates of growth of projected public pension spending (Schneider, 2009). But this approach still has the major limitation that it does not allow to determine at which points in time were retrenchments introduced and which was the context of those retrenchments.
5. The construction of the dependent variable does not consider changes in social security contribution rates or the tax rates paid by pensioners because pension reform packages do not include all changes in the taxation of pensions, and there is not comprehensive information regarding the net impact of fiscal changes on all types of pensioners.

6. Austria 1984 and Portugal 1993.
7. France 1982, Greece 2002, Norway 1983 and Portugal 1982.
8. Belgium 1981 and 1984.
9. Italy 1982 and Norway 1981.
10. The 1988 and 1991 pension reforms in Ireland were classified as expansionary because the costs associated with the expansion of eligibility for the self-employed (1988) and part-time workers (1991) must outweigh the savings produced by partial indexation freezes in those years.
11. A list of all these measures and the evidence used to classify reforms comprise a 90-page documentation that is available upon request.
12. All in all, the methodological approach used to construct the dependent variable differs substantially from that of available datasets, namely Korpi and Palme (2008) and Scruggs (2004). First, contrary to these two sources, I did not consider tax regulations. Second, my data are more up to date (2004 instead of 2002 and 2000, respectively). Third, my data consider more dimensions of pension policy than both previous alternatives, specifically, indexation procedures of pensions in payment, early retirement regulations and the existence of occupation-specific public pension programs. Finally, more importantly, contrary to other sources, for each reform, my data consider immediate as well as grandfather clauses.
13. Prior reforms are likely to affect pension politics for political and administrative reasons. Most simply, an expansion of the reference period to the whole working career eliminates future possibilities to use that dimension to retrench benefits, affecting the content of the next reform. In addition, pension retrenchments may increase tolerance towards additional changes.

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