

# Voting in the aftermath of a pension reform: the role of economic-financial literacy

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## Motivation

Reforms are commonly viewed as difficult to implement because citizens may punish the governments which impose them a burden in the next electoral round.

The wedge between the technical and the popular view of reforms is well known to policy makers, as exemplified by the aphorism by Jean-Claude Juncker (*The Economist*, 2007):

*“We all know what to do, but we don’t know how to get re-elected once we have done it”*

**In our paper,**

- we study the electoral costs of reforms that have a relevant economic impact on the population at large, such as major reforms to the pension system,
- and explore if economic-financial literacy may help reducing their political toll (if any).

## Reforms and electoral outcomes

Recent economic studies:

- Empirically, economic reforms do not seem to imply significant electoral costs (Alesina et al., 2013; Buti et al., 2010)
- Several reasons why it is difficult to carry out economic reforms and under which circumstances they are more likely to occur (Alesina et al., 2006; Prati et al., 2013; Bonfiglioli and Gancia, 2016)

Focus mainly on real and financial markets reforms

## Economic-financial literacy

In the last couple of decades, *financial (il)literacy* has been conceptualized, measured, analyzed, correlated to:

- *various aspects of individual behavior*, from savings to portfolio choices, from retirement decisions to pension plans participation, from human capital formation to debt taking up  
(Lusardi Mitchell, 2007; Bucher-Koenen Lusardi, 2011; Fornero Monticone, 2011; Guiso Jappelli, 2008; Van Rooij *et al.*, 2011)
- *macroeconomic variables*: lack of portfolio diversification, inequality  
(Jappelli, 2000; Lo Prete, 2013, 2016)

Little has been done to include *Economic-Financial Literacy (EFL)* in models which study why governments are reluctant to introduce ***economic reforms***:

- Experiments on individual support to pension reforms (Fontoura Gouveia, 2017)
- Attitudes towards redistribution in UK (Montagnoli *et al.*, 2017)

## Our paper

We try to answer the following questions:

- Is there a «political toll» to be paid in the case of pension reforms?
- Is the political cost of reforms reduced when people better understand the reform?

### **Findings:**

- the electoral cost of major pension reforms is lower in countries where the level of EFL among the population is higher
- this finding does not hold when we use more general indicators of human capital

# DATA

Parliamentary elections held between 1990 and 2010 in 21 advanced countries.

## Re-election

- the head of the government is elected for a second-term of office;
- the head of the government is from the same party of his/her predecessor.

## “Major” pension reform

- introduces a structural change that - according to valuations of the international institutions - has an impact in terms of financial sustainability and/or income adequacy;
- has a broad scope, that is, it affects the generality of workers and not only specific categories.

## Pension reforms in our dataset

<i>Country</i>	<i>Year of election</i>	<i>Major pension reforms signed into law before the election day</i>
Austria	2006	Austrian Pension Reform (2003), Harmonization of Austrian Pension Systems Act (2004)
Belgium	1999	Framework Act (1996)
Canada	2000	Canada Pension Plan reform (1998)
Czech Republic	1996	Pension Reform (1995)
Finland	1999	Pension reform law (HE 189/1996)
Finland	2007	Pension reform laws on earnings-related pensions (HE 118/2005) and on national pensions (HE 119/1995)
France	1993	Balladur reform (1993)
France	2007	Pension Reform Act (2003)
Germany	1994	Pension Reform Act (1992)
Germany	2002	Riester reform (2001)
Germany	2009	Retirement Age Adjustment Act (2007)
Hungary	1998	Pension Reform Acts LXXX on Eligibilities and finances of social insurance and private pension (1997), LXXXI on Social security pensions (1997), LXXXII on Private pensions and private pension funds (1997)
Italy	1994	Amato reform (1992)
Italy	1996	Dini reform (1995)
Italy	2006	Maroni reform (2004)
Japan	2000	Pension system reform (2000)
Japan	2004	Pension system reform (2004)
Netherlands	1998	Privatization of the public pension fund ABP (1996)
Netherlands	2006	Life Course Savings Scheme (2006)
Norway	2009	Flexible Retirement Act (2009)
Poland	2001	Pension reform (1999), Act No. 887 on the Social Insurance System (1998), Act No. 162 on Old-Age and Disability Pensions from the Social Insurance Fund (1998)
Portugal	1995	Law 329/93 (1993)
Portugal	2005	Law 60-B/2005 (2005)
Slovak Republic	2006	Social Insurance Act (2003), Old-Age Pension Savings Act (2004), Supplementary Old-Age Pension Savings Act (2004)
Spain	2000	Royal Decree 6/1997 (1997)
Sweden	1998	Pension reform (1998)
Sweden	2010	Reform of the ITP occupational pension plan (2007)
United Kingdom	2010	Pensions Act (2007)

# DATA

## Education

- Economic-financial literacy
- PISA scores, school attainment

## Control variables

- Macroeconomic conditions: output gap, government primary balance, inflation, median age of the population
- Political characteristics: proportional/majoritarian, presidential/parliamentary, constitutional term of office
- Political juncture: margin of majority, political orientation, early dissolution of the legislature, concurrent elections



## Empirical model

$$REEL_{jt} = REF_{jt'} * EFL_{jt} + X_{jt} + \varepsilon_{jt}$$

We consider the outcome of a parliamentary election (REEL) in country  $j$  at time  $t$ , and if a major pension reform was enacted in a year of the previous legislature  $t'$ , where  $t-n \leq t' \leq t$ , and  $n$  represents the constitutionally specified term of office of the legislature.  $X$  represents a set of control variable that may or may not vary across countries  $j=1, \dots, J$  and over time  $t=1, \dots, T$ .

Estimation method: OLS and LSDV (similar results by using Probit).

# Results

Dependent variable: Re-election of the head of the government							
Estimator:	LPM	LPM	LPM	LPM	LSDV	LSDV	PROBIT
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Pension reform	0.141 (0.106)	-1.015** (0.434)	-1.008** (0.409)	-0.877** (0.393)	-1.231** (0.457)	-1.662*** (0.551)	-1.219** (0.484)
Reform*EFL		0.218** (0.087)	0.211** (0.083)	0.182** (0.080)	0.257*** (0.079)	0.350*** (0.096)	0.245*** (0.088)
EFL		-0.033 (0.046)	-0.005 (0.042)	0.011 (0.041)	-0.016 (0.086)	0.013 (0.111)	-0.033 (0.041)
Output gap	0.049*** (0.017)	0.047*** (0.017)	0.037** (0.015)		0.021 (0.019)	0.009 (0.023)	0.043*** (0.015)
Gov. balance	-0.002 (0.007)	0.006 (0.007)	0.001 (0.004)		0.013* (0.007)	0.013 (0.008)	0.006 (0.008)
Inflation	-0.036** (0.016)	-0.025 (0.018)	-0.011 (0.015)		0.004 (0.021)	-0.000 (0.015)	-0.024 (0.018)
Median age	-0.054** (0.023)	-0.057** (0.024)	-0.023 (0.018)		-0.000 (0.031)	-0.084 (0.100)	-0.054** (0.022)
Proportional	-0.072 (0.174)	-0.100 (0.170)		-0.065 (0.168)			-0.101 (0.163)
Presidential	-0.257** (0.113)	-0.246** (0.117)		-0.134 (0.095)			-0.240** (0.105)
Consitut. tenure	-0.193 (0.144)	-0.192 (0.140)		-0.044 (0.130)			-0.176 (0.138)
Margin of majority	0.764 (0.594)	0.736 (0.598)		0.311 (0.510)	0.970 (0.736)	1.449 (0.931)	0.683 (0.504)
Left wing	0.027 (0.103)	-0.006 (0.103)		0.020 (0.090)	-0.004 (0.092)	-0.033 (0.091)	-0.001 (0.090)
Early election	-0.008 (0.102)	-0.004 (0.101)		-0.062 (0.093)	-0.115 (0.128)	-0.181 (0.109)	-0.003 (0.095)
Concurrent elect.	-0.087 (0.145)	-0.121 (0.138)		-0.066 (0.117)	-0.263 (0.204)	-0.392** (0.167)	-0.092 (0.122)
Country effects					X	X	
Time effects						X	
Observations	108	108	108	118	108	108	108

Notes: Robust standard errors in parenthesis. (\*) (\*\*) (\*\*\*) denote significance at the (10) (5) (1) percent level. LPM estimates in columns from (1) to (4), LSDV estimates in columns (6) and (7), Probit average marginal effects in column (7).

## Robustness checks - political variables and government's popularity

Dependent variable: Re-election of the head of the government		(1)	(2)	(3)	(4)	(5)	(6)
Pension reform		-0.951** (0.452)	-1.705*** (0.537)	-0.898** (0.415)	-1.554** (0.620)	-1.200** (0.532)	-1.667** (0.766)
Reform*EFL		0.216** (0.088)	0.356*** (0.091)	0.200** (0.082)	0.328*** (0.105)	0.251** (0.107)	0.373** (0.144)
EFL		-0.026 (0.046)	-0.006 (0.102)	-0.052 (0.047)	-0.004 (0.112)	-0.059 (0.060)	0.314 (0.267)
Years of office		0.019 (0.017)	-0.020 (0.018)				
Newly appointed gov.		-0.097 (0.144)	-0.011 (0.174)				
Demo. projections				0.003 (0.014)	-0.021 (0.036)		
Polarization				0.080 (0.059)	-0.016 (0.100)		
Civil unrest						-0.180 (0.190)	-0.269 (0.249)
Country effects			X		X		X
Period Effects			X		X		X
Observations		108	108	105	105	77	77

Notes: Robust standard errors in parenthesis. LPM and LSDV estimates. (\*) (\*\*) (\*\*\*) denote significance at the (10) (5) (1) percent level. All specifications include controls for political, macroeconomic, and demographic conditions.

## Robustness checks - same party and presidential elections

Dependent variable:	Same party	Same party	Head of the government	Head of the government
	(1)	(2)	(3)	(4)
Pension reform	-1.216*** (0.439)	-1.520*** (0.587)	-0.652 (0.456)	-0.885** (0.363)
Reform*EFL	0.282*** (0.080)	0.347*** (0.099)	0.159* (0.085)	0.212*** (0.065)
EFL	-0.019 (0.055)	-0.047 (0.116)	-0.044 (0.045)	-0.088 (0.082)
Country effects		X		X
Period Effects		X		X
Observations	108	108	129	129

Notes: Robust standard errors in parenthesis. All specifications include controls for macroeconomic, political, demographic conditions, country and time effects, not reported.

## Endogeneity issue

Dependent variable: Re-election of the head of the government		(1)	(2)	(3)	(4)
Pension reform	0.153 (0.355)	-0.561 (0.341)	-2.368** (0.929)	-1.367* (0.819)	
Reform*EFL			0.383** (0.196)	0.141 (0.141)	
EFL			-0.089 (0.056)	-0.052 (0.121)	
Country effects		X		X	
Period Effects		X		X	
Observations	108	108	108	108	

Notes: Robust standard errors in parenthesis. All specifications include controls for macroeconomic, political, demographic conditions, country and time effects, not reported.

## Other measures of education

Dependent variable: Re-election of the head of the government						
Indicator of education:	PISA score	PISA score	Secondary schooling	Secondary schooling	Tertiary schooling	Tertiary schooling
	(1)	(2)	(3)	(4)	(5)	(6)
Pension reform	-3.530 (2.364)	-8.784*** (2.960)	-0.528 (0.476)	-1.242 (0.832)	-0.425 (0.269)	-0.569 (0.511)
Reform*EFL	0.007 (0.005)	0.018*** (0.006)	0.012 (0.008)	0.027* (0.015)	0.031** (0.015)	0.041 (0.026)
EFL	-0.001 (0.003)	-0.022 (0.016)	-0.006 (0.004)	-0.052*** (0.013)	0.001 (0.009)	0.015 (0.020)
Country effects		X		X		X
Period Effects		X		X		X
Observations	108	108	108	108	108	108

Notes: Robust standard errors in parenthesis. LPM and LSDV estimates. (\*) (\*\*) (\*\*\*) denote significance at the (10) (5) (1) percent level. All specifications include controls for political, macroeconomic, and demographic conditions.

## Policy implications

- EFL could become a new, more transparent alternative to concealing from citizens the unpleasant consequences of reforms, a potentially key element in the relationship between citizens and politicians.
- Since such literacy is primarily a result of education, government policy could thus indirectly induce long-run support for virtuous reforms.
- EFL is not, per se, a sufficient condition for the success of reforms; illiteracy can, conversely, thwart their effectiveness by exerting sufficient pressure on politicians to either establish an excessively long phase-in period or undo reforms approved by a previous government.