# The Political and Economic Causes of Satisfaction with Democracy in Spain – A Twofold Panel Study<sup>+</sup>

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This study tests the links between political and economic performance and satisfaction with democracy (SWD) in Spain. Contrary to the dominant theoretical paradigm that explains the aggregate evolution of and the individual-level differences in SWD mainly by means of economic factors, we present evidence that evaluations of the political process are equally relevant to account for both changes in individuals' SWD over time and the evolution of SWD at the national level. Unlike most existing literature, this study supports its argument by combining analyses of a micro-level panel dataset (CIUPANEL) and of a pooled aggregate-level panel dataset based on the Spanish samples in the Eurobarometer and the Latinobarómetro between 1986 and 2014.

**Keywords**: Satisfaction with democracy – Economic crisis – Political trust – Corruption – Spain – Panel analysis

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This study analyses the reasons for the increasing public dissatisfaction with the working of democracy in Spain from a longitudinal perspective. In 2005, almost three quarters of the Spanish population were satisfied with the working of democracy, but only ten years later the percentage of citizens satisfied had fallen to an all-time low of less than 20 per cent. How can we explain this tremendous decline in the evaluation of democracy? For Spain, like for other countries such as Portugal, Ireland, Italy or Greece, where people suffered significantly from the consequences of the economic crisis, the literature mainly attributes the declining levels of satisfaction with democracy (SWD) to the Great Recession (Armingeon and Guthmann 2014; Cordero and Simón 2016; Quaranta and Martini 2016a; Morlino and Piana 2014; Sousa et. al 2014).

As this study will show, national economic performance plays a substantial role in shaping the evolution of SWD in Spain, yet to fully understand the dynamics of the Spanish case it is also necessary to take into account a number of important political factors. The present study departs from the well-developed arguments about the effects of the inputs and outputs of a political system on SWD and puts them to a *longitudinal test* in Spain. The study shows that in the Spanish case both lines of explanation are of equal importance: not only the performance of the economy but also the responsiveness and trustworthiness of the political actors and representative institutions play roles explaining changes in SWD. Most notable among these are the direct and indirect effects of the various major corruption scandals that have plagued Spanish politics and also the growing public distrust in the institutions of Spanish democracy.

The Spanish case is a particularly useful context in which to test the effect of these variables from a longitudinal perspective. Spanish SWD has suffered significant ups and downs over the last three decades while at the same time important aspects of the political system and the institutional framework have remained constant. Spain's political and economic performance on the other hand has varied to a considerable degree. Since the 1980s Spain has stumbled into two major recessions with strong political and social repercussions, yet it also experienced a decade of growth from the mid-90s to the 2010s. In addition, it went through a series of political corruption scandals involving all the major parties in the 1990s and again at the beginning of the 2010s. Nevertheless, until very recently the structure of the national-party and government system has remained fairly stable (Orriols

and Cordero 2016), making it an ideal case to study the effects of economic and political performance on SWD.

This study contributes to the academic debate by focusing on the dynamic changes in the evolution of SWD in Spain both at the national and the individual levels. To do this, we analyse two different panel datasets. In the first part of the study, we analyse a pooled aggregate panel dataset which we have constructed by merging repeated cross-sectional surveys from the Eurobarometer and the Latinobarómetro between 1986 and 2014, combining information from more than 70,000 respondents. Analysing this multilevel dataset allows us to conduct a complex longitudinal analysis of the contextual factors affecting the evolution of SWD in Spain. We then complete our longitudinal analysis with a micro-level panel analysis based on a new Spanish electoral panel: the CIUPANEL (Torcal et al. 2016).

## **Argument and Hypotheses**

A number of longitudinal studies have presented comparative evidence that economic growth, price inflation and especially unemployment are exogenous causes of SWD over time (Armingeon and Guthmann 2014; Halla et al. 2013; Quaranta and Martini 2016b). While economic growth might have a positive effect on SWD because more citizens can benefit from the improving economic situation and prosperity, unemployment and the erosion of disposable incomes through rising prices might diminish people's satisfaction with their lives and their evaluations of the incumbent political authorities, thereby decreasing SWD (Clarke et. al. 1993: 1000f.). Taken together, this leads us to our first three context-level hypotheses about the impact of economic performance on the evolution of SWD in Spain:

H1a: Economic growth is positively related to SWD over time.

H1b: Increasing unemployment is negatively related to SWD over time.

H1c: Increasing price instability is negatively related to SWD over time.

When we move our focus of analysis from the contextual level to the individual level, we can identify a second line of literature that links *perceptions* of the political and economic outputs with SWD. This shift in perspective offers a number of benefits as it allows the effects of egotropic and sociotropic evaluations to be disentangled and also allows assessments of economic and policy performance to be distinguished. Waldron and Moore (1999: 38) neatly summarize our expectations regarding egotropic evaluations: 'It is generally accepted that economic evaluations affect political perceptions. Advocates of rational behaviour argue that individuals evaluate their past, current and future circumstances and calculate what serves their best interests [...] Such calculations influence preferences [...] Individuals may prefer and support democracy because it satisfies their best interests.' A number of *cross-sectional studies* provide evidence that the personal economic wellbeing of a respondent is correlated with SWD (Anderson and Guillory 1997; Lühiste 2014; Waldron and Moore 1999). In this article we intend to test whether a similar linkage can also be observed *longitudinally*:

H2a: Worsening personal economic situations lead to declining SWD over time.

However, Waldron and Moore (1999) also argue that the concept of self-interest can be extended beyond the personal to the national interest – from ego-centric to socio-tropic evaluations. Similarly, Mattes and Bratton (2007: 197f.) suggest that strict instrumental-rational calculations in which persons are motivated primarily by (economic) short-term self-interest may be limited and rather naive. Instead, they argue that citizens might judge democratic performance not only in terms of material criteria but also according to the delivery of political goods. Again, there exists considerable *cross-sectional evidence* in favour of a linkage between sociotropic evaluations and SWD. Research has shown that perceptions of the national economy are correlated with SWD at the individual level (Armingeon and Guthmann 2014; Bratton and Mattes 2001; Huang et. al. 2008; Waldron and Moore 1999). Moreover, there is also evidence of a link with evaluations of policy outputs in areas such as health care, social protection and education (Bratton and Mattes 2007; Huang et. al. 2008; Lühiste 2014; Stockemer and Sundström 2013).

H2b: Worsening individual evaluations of the national economy lead to decreasing SWD over time.

H2c: Worsening individual evaluations of policy outputs lead to decreasing SWD over time.

Notwithstanding the prominence of economic/policy output explanations in the current academic debate, there exists a second category of output-hypotheses that link SWD with the fairness and impartiality of the decision-making process. Although the existing evidence only comes from cross-sectional studies, a number of these have shown that corruption, the existence of the rule of law and an effective public administration are correlated with SWD at the *contextual level* (Anderson and Tverdova 2003; Ariely 2013; Dahlberg and Holmberg 2014; Norris 2011; Peffley and Rohrschneider 2014; Stockemer and Sundström 2013). Similarly, at the *individual level* there is evidence that negative perceptions of corruption are associated with lower SWD (Ariely 2013; Bratton and Mattes 2001; Mattes and Bratton 2007; Huang et. al. 2008; Linde 2012; Peffley and Rohrschneider 2014). This seems to be a likely explanation for Spain since the country has experienced a series of major political corruption scandals over the last decades.

H3a: The increasing salience of political corruption leads to decreasing levels of SWD.

H3b: Worsening individual perceptions of political corruption decrease SWD over time.

We also expect that corruption scandals might result in a deterioration of political attitudes related to the *input side* of the political system, such as trust in political actors and other institutions of representation, indirectly contributing to declining SWD. According to Miller and Listhaug (1990: 358), political trust should reflect evaluations of whether or not the political authorities and institutions are performing in accordance with the normative

expectations held by the public: of them being fair, equitable, honest, efficient and responsive. Indeed, corruption has been described as the 'antithesis' of political trust (van der Meer and Dekker 2011: 98). Moreover, there is already significant empirical evidence linking corruption with erosion of trust in the government and parliament (Torcal and Bargsted 2015; Bratton and Mattes 2001; van der Meer and Dekker 2011; Torcal 2014)<sup>1</sup>. In turn, trust in representative institutions has been shown to be positively associated with SWD at the individual level (Ariely 2013; Bratton and Mattes 2001; Zmerli and Newton 2008). Similarly, respondents' evaluations of government performance are closely correlated with SWD (Bratton and Mattes 2001; Curini et al. 2011; Huang et. al. 2008; Sanders et al. 2014; Stockemer and Sundström 2013).

H4a: Trust in representative democratic institutions is positively related to SWD over time.

H4b: Positive evaluations of government performance are positively related to SWD over time.

#### The Evolution of Satisfaction with Democracy in Spain

In Figure 1 we display the evolution of SWD over the last thirty years (1985 to 2015) in Spain. Together with this trend, we also show the evolution of evaluations of the economic and political situations. As we can see from this figure, SWD has suffered important variations over time and they seem to be very closely related to the evolution of assessments of the political and economic situations (Montero et. al. 1997).

--- Figure 1 ---

Additionally, we can identify four periods in the evolution of SWD. In the first, between 1985 and 1992, the percentage of citizens satisfied with democracy remained fairly

<sup>&</sup>lt;sup>1</sup> Testing this erosive relationship is not the focus of our current analysis. However, as we will show in the next section, the occurrence of political corruption is closely associated with a decline in trust in the Spanish parliament.

stable, oscillating around 60 per cent. The second period, which started in 1992 and lasted until 1996, shows a dramatic decline in SWD. At the peak of this downswing at the end of 1993 SWD was only about 30 per cent. However, this was followed by a quick recovery until 1996, when SWD reached its pre-crisis level. In the third period, from 1996 to mid-2008, despite some important fluctuations SWD reached levels close to 80 per cent, similar to countries such as Canada, Denmark, Switzerland and Luxembourg. During the last period, which initiated with the beginning of the financial crisis in 2008, SWD suffered a tremendous decline, falling to a very low 20 per cent, similar to countries such as Greece, Portugal, Italy and Ireland which also experienced a very significant decline.

As we can see from Figure 2, we can attribute these dynamics to the wellbeing of the Spanish economy. In particular, the degree of unemployment mirrors the development of SWD in Spain. Economic growth is also closely related to SWD but to a lesser extent than the previous measures. Inflation on the other hand is not related to SWD longitudinally, even when we focus on the period before the introduction of the euro in 1998.

## --- Figure 2 ---

Nevertheless, there exists a second plausible explanation for the dramatic decline in SWD. As it happens, the two economic recessions coincided with periods of great political distress caused by a series of major corruption scandals in the mid-1990s and the beginning of the 2010s. As we can see from Figure 3, the salience of political corruption to the public over time seems to go hand in hand with the evolution of SWD. Thus, the first period of discontent in the early 90s was also marked by increasingly critical opinions about the government's performance after a number of political scandals over party funding and corruption involving members of the PSOE administration (Montero et. al. 1997). Similarly, the newly-elected prime minister, Mariano Rajoy, had not only to face the debt crisis in 2012 but was also confronted with a series of corruption scandals and their salience on the political agenda (Orriols and Cordero 2016). At the same time, we can observe a similar decline in confidence in the Spanish parliament, which is also highly correlated with the salience of corruption (R=0.76). However, although there have been signs of modest economic recovery and a modest decrease in the unemployment rate since the end of 2013,

unlike in the 1990s there is no evidence that the economic growth is translating into higher levels of SWD, implying the importance of political factors as an alternative explanation.

--- Figure 3 ---

#### **Research Design**

As our dependent variable, we use answers to the classical question on how satisfied people are with the working of their democracy. SWD is measured on a 4-point scale by relying on the following question: 'On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the way democracy works in your country?' Public opinion research usually analyse two sources of cross-sectional variation: between individuals (type 1) and between countries (type 2). However, there are two more sources of variation we can exploit if we have longitudinal data (see Table 1): for individuals over time (type 3) and within countries over time (type 4).

--- Table 1 ---

In a single-country case study like the one we propose here, we can analyse variation of types 1, 3, and 4. Our research design rests on a combination of two distinct panel studies at the individual level and at the aggregate level. At the *respondent level*, we use an individual-level panel dataset based on the CIUPANEL to explain variation of types 1 and 3. This allows us to study the effects of changing *political and economic perceptions* on SWD for individuals and between them. At the *contextual level*, we analyse a pooled dataset based on repeated cross-sectional surveys performed in Spain by the Eurobarometer and the Latinobarómetro between 1986 and 2014, which enables us to study variation type 4. Analysis of this variation allows us to assess which changes in the *objective economic and political performance* caused the dramatic decline in SWD at the national level. Although panel data is typically defined as data based on repeated observations of the same units over time, when we move our focus to the society as a whole, it is possible to think of our data as a panel (Fairbrother 2014: 122).

### **Explaining Aggregate Trends in SWD**

To test the contextual effects of economic and political performances on the evolution of SWD over time in Spain, we have constructed a dataset based on 92 representative surveys by the Eurobarometer and Latinobarómetro (see Table A and Table B in the Appendix).<sup>2</sup> This includes individual-level information from more than 70,000 respondents covering a time span between 1986 and 2014. By relying on temporal information from three decades, we are able to provide findings that cover a very long period of Spanish democracy, including two recessions and two periods of economic boom. Given the abundance of survey data even for the same years, we have decided to not only use country-years as the contextual level but also country-months. Thus, our unit of analysis is the survey respondent (level 1) who is nested in months (level 2), which are nested in years (level 3). Since we are also able to measure most context-level explanatory variables on a monthly basis, the maximum potential lag between cause and effect decreases to less than one month.

### Explanatory Context-Level Variables

For the measurement of our explanatory variables we have chosen to use *objective indicators* wherever this is possible. In this way we guarantee the exogenous character of the independent variables. The most frequently used longitudinal variables to describe the performance of an economy are unemployment, economic growth and inflation (Armingeon and Guthmann 2014; Clarke et. al. 1993; Halla et al. 2013; Quaranta and Martini 2016b). Longitudinal evidence is strongest for unemployment, which has been shown to decrease SWD substantially. In our study, we use the *unemployment rate* measured as a percentage of the total Spanish labour force. Our second economic performance indicator is *GDP growth*. We expect economic growth to increase SWD over time, while periods of recession should diminish satisfaction. The *inflation rate* is measured using the Consumer Price Index. Our assumption is that higher price instability should lead to decreasing SWD. The unemployment and inflation rates are measured on a monthly basis, while GDP growth is captured yearly and the data come from OECD.Stat (2016).

<sup>&</sup>lt;sup>2</sup> Data accessed at: <a href="http://www.latinobarometro.org/lat.jsp">http://www.gesis.org/eurobarometer-data-service/search-data-access/data-access/data-access</a>

To tap into political performance, we use a measure that captures the salience of political *corruption* to the public. To track corruption, we use the percentage of respondents who answer that 'corruption and fraud' are among the 'three principal problems that currently exist in Spain.' The data come from the monthly barometers of the *Centro de Investigaciones Sociológicas* in Spain (CIS).<sup>3</sup> This indicator has several advantages. Unlike other subjective indictors based on expert surveys, such as the Perception of Corruption index compiled by Transparency International and the one by the World Bank, which only start in the mid-90s, the CIS corruption data actually stretches back into the 1980s. Furthermore, Transparency International and the World Bank's aggregate measures of corruption remain unexpectedly stable for Spain between 1995 and 2015 despite the serious political corruption scandals in the mid-90s and the beginning of the 2010s.

#### Context-Level Controls

Political institutions such as the electoral system, the parliamentary type of executive, the role of the Supreme Court or the asymmetrical bicameralism remain constant for the period under consideration. Furthermore, the disproportionality of the Spanish PR-system has led to a two party system with an alternation of power between the socialist PP and the conservative PSOE, where, until very recently, only regional parties could successfully compete with both parties and only in few electoral districts (Torcal and Lago 2008). This has severely limited party system fractionalization in the legislature, leading to highly concentrated single party governments (compare Figure A in the Appendix). However, despite the continuity of the institutional context, since 2011 there has been a significant change in the supply of electoral parties which might have altered citizens SWD (Miller and Listhaug 1990).<sup>4</sup> In our study, party supply is measured using the effective number of electoral parties (ENEP).<sup>5</sup>

<sup>&</sup>lt;sup>3</sup> Data accessed at:

http://www.cis.es/cis/opencms/ES/NoticiasNovedades/InfoCIS/2014/PlataformaOnLineBancodeDatos.html

The Spanish political landscape is undergoing much transformation during the time that this article is being prepared. The entrance of two strong national political parties on the left (Podemos) and on the centreright (Ciudadanos) in the European election in May 2014 put an end to the old party system where two dominant parties, the PP and PSOE, competed for power (Orriols and Cordero 2016).

<sup>&</sup>lt;sup>5</sup> Data comes from Gallagher (2015).

Furthermore, we control for whether a survey was conducted during or shortly after a parliamentary election, since democratic elections can be expected to enhance people's feelings about their political institutions and the political process (Banducci and Karp 2003; Blais et. al. 2015; Esaiasson 2011). We do so by including a dummy variable which captures *proximity to elections* by taking value 1 if a survey was conducted during the six months after a national parliamentary election.

The third aggregate control variable we have added is an index that measures the extent to which the Spanish government has a balanced budget. *Budget deficit* is measured as general government net lending/ borrowing, calculated as revenue minus total expenditure. Budget deficit data are only available on a yearly basis and come from the IMF WEO Database (2016).<sup>6</sup> Our expectation is that a budget deficit is negatively related to SWD as it limits the ability of governments to be responsive to citizen's needs (Armingeon and Baccaro 2012; Schäfer and Streeck 2013; Morlino and Piana 2014).

#### Individual-Level Controls

At the individual level, we control for socio-demographic variables such as *age*, *gender* (reference category=female) and *education* (Norris 2011). Age is measured in years, while education is measured categorically as the age at completion of studies (reference category='over 19', other categories='less than 15', '15 to 19' and 'still studying'). Furthermore, we add the *employment status* (reference category='employed, student, retired or other', other category='unemployed') and the *civil status* of the respondents (reference category='single, separated, widowed or divorced', other category='cohabitating or married'). The inclusion of any other individual-level variable would create large temporal gaps in the dataset. Furthermore, many variables of interest, such as evaluations of the economy, are only included in relatively recent waves of the Eurobarometer. However, we believe that these limitations are outweighed by the fact that we are able to estimate our model on the basis of hierarchical data covering three decades of Spanish democracy.

<sup>&</sup>lt;sup>6</sup> Data accessed at: https://www.imf.org/external/pubs/ft/weo/2016/01/weodata/index.aspx

#### Method and Model

Since SWD is an ordinal variable, we estimate an ordered multi-level probit regression where survey respondents (i) are nested within months (j), which are nested within years (k):

$$probit\{Pr(y_{ijk} > s \mid x_{ijk}, \zeta_{jk}, \zeta_k)\} = \beta_1 x_{ijk} + \beta_2 x_{jk} + \beta_3 x_k + \zeta_{jk} + \zeta_k + \varepsilon_{ijk} - k_s$$

where  $Pr(y_{ijk} > s \mid x_{ijk}, \zeta_{jk}, \zeta_k)$  is the probability that survey respondents express a level of SWD higher than the threshold s,  $x_{ijk}$  is an individual-level covariate, e.g. employment situation, while  $x_{jk}$  and  $x_k$  refer to time-varying covariates at the monthly or yearly level such as the unemployment rate or budget deficit.  $\zeta_{jk}$  is the intercept of the cumulative probit model varying over quarter months, while  $\zeta_k$  denotes the intercept for the year level.  $\varepsilon_{ijk}$  denotes the unique error term for each i, which is assumed to follow a standard normal distribution.  $\kappa_s$  are the thresholds of the ordered probit.

In ordered probit models, a latent response is estimated as a linear function of explanatory variables and a number of thresholds. Assuming survey respondents i are nested in months j, nested in years k, observed ordinal responses  $y_{ijk}$  are generated from a latent continuous response  $y_{ijk}^*$  with a threshold model (Rabe-Hesketh and Skrondal 2012: 594), where Kappa ( $\kappa$ ) denotes the cut-off points (or thresholds). Since there are four categories, SWD is related to the latent response by:

$$y_{ijk} = \begin{cases} \text{Not at all satisfied if} & -\infty \leq y_{ijk}^* < \kappa_1 \\ \text{Not very satisfied if} & \kappa_1 \leq y_{ijk}^* < \kappa_2 \\ \text{Fairly satisfied if} & \kappa_2 \leq y_{ijk}^* < \kappa_3 \\ \text{Very satisfied if} & \kappa_3 \leq y_{ijk}^* < \infty \end{cases}$$

<sup>&</sup>lt;sup>7</sup> We follow the recommendation of Schmidt-Catran and Fairbrother (2015) to include random effects at all potentially relevant levels and specify a three-level model since data for budget deficit and GDP growth was only available at a yearly basis. As can be seen in Table D in the Appendix, the differences between a two- and a three-level model are visible in the standard errors but do not affect the substantive interpretation.

#### **Specification**

We first decompose the variances in SWD by estimating an empty model. This 'null' model provides the information to compute the Intraclass Correlation Coefficients (ICC) which reflects the share of variation in SWD that can be attributed to the individual and the aggregate levels. Model 1 includes the individual-level control variables previously discussed, the context-level control variables and the objective economic performance variables. Model 2 adds our political performance variable, the salience of political corruption. While Model 1 covers the whole period between 1986 and 2014, the inclusion of our corruption measure leads to time gaps in the data. Overall, the inclusion of the corruption measure leads to a loss of about one third of our sample (compare Figure 3). For this reason, we have decided to estimate a second model and compare the robustness of the estimates.

#### Results

The results of our longitudinal contextual-level analysis are summarized in Table 2. To facilitate interpretation of the output of the estimation we report standardized coefficients and changes in predicted probabilities. The underlying scale of a probit model also has a standard deviation of one so all coefficients can be easily interpreted. In addition, we report the predicted probabilities of changing from not satisfied (not at all satisfied, not satisfied) to satisfied (very satisfied, fairly satisfied) over the range of the explanatory variables (maximum observed value – minimum observed value) in Figure 4, holding all the other variables at their means.

### --- Table 2 and Figure 4 ---

The two null-models in Table 2 show the results of the decomposition of the variance in SWD (ICC). As we can see, between 86 and 88 per cent of the variation in the data can

<sup>&</sup>lt;sup>8</sup> Continuous variables can be interpreted as the standard deviation increase in SWD associated with a one standard deviation increase in the explanatory variable, holding all other variables constant. For categorical explanatory variables, the coefficients reflect the standard deviation increase in SWD when the variable switches from zero to one.

be attributed to the respondent level. Conversely, about 12 to 14 percent of the variance belongs to the year and month levels, which is a sizeable degree of clustering. This underlines the necessity of modelling both types of variance in a multilevel analysis because a pooled regression model would probably underestimate the standard errors of the context-level coefficients (Arceneaux and Nickerson 2009).

Let us turn now to the results of the longitudinal context-level analysis. The economic performance indicators (economic growth, unemployment rate) in Model 1 are significant and point in the expected directions (confirming hypotheses 1a and 1b). However, there are important differences in the magnitude of the effects. The factor with the strongest impact on SWD is unemployment: an increase of one standard deviation in the unemployment rate causes SWD to decrease by more than two-fifths of a standard deviation. A similar increase in GDP growth also has a substantial effect, leading to an increase of about one-fifth of a standard deviation in SWD. However, we find no effect for inflation (leading to the rejection of H1c). Finally, it is also noteworthy that the effect of the employment status of a respondent is largely consistent with the results of our contextual-level analysis: Respondents who are unemployed tend to be substantially less satisfied.

In Model 2, we add the measure capturing the salience of political corruption issues among the Spanish population. The resulting coefficient seems to confirm a strong and significant relationship with SWD, even when controlling for the other political and economic performance indicators (confirming hypothesis 3a). In fact, its negative effect on SWD is about as strong as that of unemployment. As we can see, the two periods marked by political corruption scandals have decreased the probability of being satisfied with the way democracy works by more than 25 per cent (see Figure 4). Finally, although the inclusion of the corruption measure leads to a loss of about one third of the observed time points, the effects of economic growth and unemployment remain significant. Finally, it is also worth mentioning that our models are capable of explaining most of the longitudinal

<sup>&</sup>lt;sup>9</sup> The relative importance of some contextual economic factors might be conditional on the national economic context and, more importantly, on the individual salience of each of these issues (Singer 2011). In the case of Spain and more generally for Europe, inflation has remained significantly low since the implementation of the EMU, explaining the lower importance for predicting SWD. Outside the European context, however, inflation has emerged as an important factor explaining within and between cross-national variations in political trust (Torcal and Bargsted 2015).

variation in SWD, as can be seen from the substantial reduction in the ICC, especially at the year level.

### **Individual-Level Panel Analysis**

The main purpose of this section is to provide a comprehensive test of the effects of political and economic *perceptions* on SWD from a longitudinal perspective using individual-level panel data for Spain: the CIUPANEL (Torcal et al. 2016). The panel consists of an online sample of the Spanish population followed over six different waves between 2014 and 2016. Quotas were applied for gender, age, education, size of city/village of residence and autonomous regions. For the present study, we make use of waves 4 and 5 of this panel, which were administrated in May-June and December 2015 respectively. <sup>10</sup>

#### Explanatory Individual-Level Variables

To test the effects of the economic outputs of the political system, we rely on a question that asks about respondents' sociotropic *evaluations of the economy*: 'What do you think about the state of the economy in Spain? Would you say it is very good, good, neither good nor bad, bad, or very bad?' Our expectation is that positive economic evaluations lead to more favourable evaluations of democracy, a relationship that has already been well documented in a number of studies (Anderson and Guillory 1997; Armingeon and Guthmann 2014; Bratton and Mattes 2001; Waldron and Moore 1999).

Furthermore, previous studies report a relationship between the personal economic well-being of a respondent and his/her SWD (Anderson and Guillory 1997; Lühiste 2014; Waldron and Moore 1999). In our study, we measure the *personal economic situation* by creating an index based on factor scores for answers to the following questions: (A) 'Today, to what extent are you worried about paying the bills for your home?', (B) 'Today, to what extent are you worried about needing to reduce your standard of living?', (C) 'Today, to what extent are you worried about having a job?', (D) 'Today, to what extent are you worried about paying back bank loans or mortgages?' The correlations between these items

<sup>&</sup>lt;sup>10</sup> Several key variables of our study such as perceptions of corruption or questions related to the policy performance have only been collected in the fourth and fifth wave.

vary between R=0.42 and R=0.64 and reliability is reasonably high, with a Cronbach's alpha of 0.80.

To test the effects of the political outputs of the political system, we construct an index by relying on a set of variables designed to capture *policy performance* in Spain. For this, we rely on four different items that ask about respondent's evaluations of the employment situation, the education system, the healthcare system and immigration policy. The correlations between these items are well above R=0.5 and reliability is high with a Cronbach's alpha of 0.82. The index is created by calculating factor scores for a single unrotated factor solution. Our expectation is that more favourable evaluations of the policy output should be related to higher SWD (Mattes and Bratton 2007).

The second political output measure we use is an index of *perceptions of corruption*. There is already considerable evidence that factors related to the fairness and impartiality of the political decision-making process are connected to SWD. Thus, perceptions about corruption among politicians, the police and judges have been shown to have a negative relationship to SWD, while positive perceptions related to fairness and impartiality have been linked to increasing SWD (Mattes and Bratton 2007; Huang et. al. 2008; Linde 2012; Peffley and Rohrschneider 2014; Sanders et al. 2014; Stockemer and Sundström 2013). Our perception-of-corruption index is based on factor scores from six questions asking about the extent to which corruption is widespread in (A) the Spanish parliament, (B) the political parties, (C) the judicial system, (D) the police and (E) civil servants. The scale reliability is high with a Cronbach's alpha of 0.81.

We tap into evaluations of political system inputs by relying on two important factors, political trust and evaluation of government performance. We measure political trust using two indicators: (A) trust in the Spanish parliament; and (B) in political parties. The reliability is high with a Cronbach's alpha of 0.76. Our expectation is that political trust should have a positive relationship to SWD (Ariely 2013; Bratton and Mattes 2001; Mattes and Bratton 2007; Zmerli and Newton 2008). Finally, evaluation of the government performance is measured with the following question: 'Overall, how do you evaluate the working of the PP government?' The existence of a positive linkage between government performance and SWD is already well documented (Bratton and Mattes 2001; Curini et al. 2011;

Huang et. al. 2008; Sanders et al. 2014; Stockemer and Sundström 2013) but existing research has not tested the linkage longitudinally.

#### Individual-Level Controls

At the individual level, we control for socio-demographic variables such as *age*, *gender* (reference category=female) and *education level*. Age is measured in years, while education contains six education categories. These are variables which change little (almost time-invariant), so we have only included the group mean component  $\bar{x}_i$  in the model.

We have also added a set of important individual attitudinal variables. The first of these is the respondent's *left-right self-placement* since there is documented evidence of a relationship of this with SWD (Anderson and Just 2013; Anderson and Singer 2008; Lühiste 2014). On the basis of previous findings, we expect that respondents who place themselves on the right are more satisfied. We also control for respondents' *political interest*. Citizens who understand politics and think that their participation has an impact on policy-making should have a more optimistic view of the working of democracy and therefore be more satisfied (Anderson and Guillory 1997; Anderson and Singer 2008; Anderson and Tverdova 2003). Moreover, we expect *party identification* (feel close to a political party=1, or not=0) as an indicator of satisfaction with the party-system supply to have a positive impact on SWD too (Huang et. al. 2008; Peffley and Rohrschneider 2014; Sanders et al. 2014). Finally, we include a variable that captures the extent of respondent's *identification with the Spanish nation state*. Although identification with the political community is high in Spain (Norris 2011), citizens in some regions of Spain also exhibit strong regional identities, which might affect their evaluation of Spanish democracy.

#### Method and Model

Again, we estimate an ordered multi-level probit regression model to study the effects of political and economic perceptions on SWD. However, this time we treat respondent measurement occasions (i) as nested within respondents (j). Building on the work of Mundlak (1978), Bell and Jones (2015) and Schmidt-Catran and Fairbrother (2015), we simultaneously model the cross-sectional and longitudinal relationships by adding a group

mean and a de-meaned term together in the model, leading to the following within-between ordered multi-level probit regression:

$$probit\{Pr(y_{ij} > s \mid x_{ij}, \zeta_i)\} = \beta_1 x_{ijM} + \beta_2 \bar{x}_i + \beta_3 x_i + \zeta_i + \varepsilon_{ij} - k_s$$

where  $Pr(y_{ij} > s \mid x_{ij}, \zeta_j)$  is the probability that respondent measurement occasions i nested within respondents j express a level of SWD higher than the threshold s.  $x_j$  refers to time-invariant covariates at the respondent level such as gender. The original time-varying variable  $x_{ij}$  is included twice in the model, decomposed into  $\bar{x}_i$  and  $x_{ijM}$ , enabling us to distinguish separate longitudinal and cross-sectional associations between  $x_{ij}$  and SWD. The coefficient on the respondent mean  $\bar{x}_j$  captures the effect on satisfaction of enduring cross-sectional differences in  $x_{ij}$ , allowing us to analyse differences between respondents. To capture the effects of change over time within each respondent, we subtract  $\bar{x}_j$  from  $x_{ij}$ .

A benefit of this approach is that the *within* coefficients will return the same results as a fixed effects (FE) model, which has traditionally been recommended for the analysis of this type of panel dataset. We can therefore exclude the possibility that some time-invariant unobserved variable at a higher level is biasing the *within* coefficients. Of equal importance, this approach allows estimation of the cross-sectional association between a time-varying variable x and y and enables us to include time-invariant variables simultaneously in one model.<sup>11</sup>

#### Specification

We first decompose the cross-sectional and longitudinal variations in SWD at the individual level (null model). Then, we estimate a model that only includes the *within* variables used for the analysis (Model 3). As pointed out in the previous section, this model is equivalent to a FE model. Finally, Model 4 adds the *between* predictors to the model,

<sup>&</sup>lt;sup>11</sup> As a robustness test we also estimated a RE model with lagged predictors and found the results for all variables of interest to be very similar (compare Table F in the Appendix). Following the recommendation of Vaisey and Miles (2014) we did not estimate a lagged first-difference model (LFD) as we expect the spacing between the waves of the CIUPANEL ('data lag') to be much longer than the real process ('process lag'). For this case, Vaisey and Miles (2014) showed by simulation and formal proof that the inclusion of lagged predictors leads to a bias towards the opposite sign of the true effect.

which enables us to make cross-sectional comparisons between respondents. It should be noted that our main interest lies in the longitudinal predictors of the model. However, finding similar cross-sectional *and* longitudinal relationships should increase confidence in the robustness of our results.

#### Results

Table 3 shows the results of the estimation of the models. The table can be divided into three sections: The *within* (longitudinal) coefficients are presented at the top, followed by a section with all the *between* (cross-sectional) predictors. At the bottom we report the variance components alongside some measures of the goodness of fit. Again, to facilitate interpretation all the continuous variables are standardized before the estimation. In addition, we report the changes in the predicted probabilities for the main variables of interest in Figure 4. As can be seen from the null model, about 73 per cent of the variance can be attributed to the respondent level, while 27 per cent belongs to changes in SWD within respondents over time.

### --- Table 3 and Figure 5 ---

Model 3 shows the results of the longitudinal analysis. As hypothesized, we find that individuals' SWD responds to changing perceptions regarding the inputs and outputs of the Spanish political system. In fact, these are the only significant predictors that can explain changes in SWD over time at the individual level. Regarding perceptions of the economic output, we find that more positive evaluations of the economic situation increase individuals' SWD (confirming hypothesis 2a). On the other hand, we find little evidence for a longitudinal effect of the personal economic situation of respondents. Although the coefficient points in the expected direction, its substantial effect is weak and only significant at the p<.10 level (not confirming hypothesis 2b). Thus, while sociotropic evaluations matter strongly for individuals' SWD, people do not appear to blame democracy *per se* for their personal situations. Thus, Anderson and Guillory (1997, 73ff.) have probably been right

when observing that sociotropic assessments of the national economic situation are more powerful explanations for SWD than those of personal economic conditions.

Regarding the political outputs of Spanish democracy, we observe that more favourable evaluations of policy performance are positively related to SWD (confirming hypothesis 2c). Probably more interesting in the light of the previous discussion on the temporal evolution of SWD in Spain is the finding that worsening perceptions of corruption also lead to an erosion of SWD within respondents (confirming hypothesis 3b). Finally, changes in attitudes related to the inputs of the political system (trust in representative institutions, evaluation of the government) have a strong effect on changes in SWD too (confirming hypotheses 4a and 4b). There are, however, important differences in the magnitudes of the effects. <sup>12</sup>

When we look at the predicted probabilities for the *within* coefficients in Figure 5, we see that the size of the effect is about the same for government performance evaluations, policy performance evaluations, perceptions of the national economy and the corruption perception index, making it about 10 per cent more likely that respondents change from not satisfied to satisfied. Confidence in the representative institutions stands out as a very strong predictor. Citizens who lose trust in their representative institutions are about 30% more likely to become dissatisfied.

Model 4 adds the cross-sectional predictors. As should be the case, the longitudinal coefficients remain basically unchanged, but what about the persistent differences in SWD between respondents? Again, we find most of our expectations confirmed: respondents who have more favourable evaluations of the Spanish economy also tend to have higher levels of SWD, while we find no substantive relationship between the egotropic economic situation of respondents and SWD. Favourable perceptions of policy performance and government performance, on the other hand, are associated with higher SWD. Finally, a high

<sup>&</sup>lt;sup>12</sup> We also tested whether government and policy performance evaluations, perceptions of the national economy, political trust and perceptions of corruption might reflect affective support for the incumbent government party, the PP. Indeed we found incumbent support to be strongly correlated with government performance evaluations and moderately correlated with trust in representative institutions, policy performance and perceptions of the economy. Therefore, we have included support for the incumbent party as another control variable in Table G in the Appendix. Since we find the results of our models to be stable, it supports the interpretation that SWD is not only affected by the evaluations of the incumbent party but also reflects more deep rooted perceptions of the political process.

salience of corruption and a high degree of distrust in the representative institutions are associated with low levels of SWD.

Finally, let us briefly turn to the control variables included in our model. Although we find no longitudinal effects for ideology, diffuse attachment to the regime or partisanship, we observe substantial cross-sectional relationships. More in detail, we find that respondents placing themselves on the right of the ideological spectrum tend to be more satisfied (Anderson and Just 2013; Anderson and Singer 2008; Lühiste 2014), partisanship is associated with higher levels of SWD (Huang et. al. 2008; Peffley and Rohrschneider 2014; Sanders et al. 2014) and diffuse attachment to the Spanish nation state is also positively related to SWD.

#### **Discussion**

The aim of this article has been to contribute to the debate on the attitudinal consequences of political and economic performance with respect to its potential to influence citizens' satisfaction with the working of their democratic system. In recent years, the literature on SWD has exploded and there has been an increasing interest in the effects of the economy, especially after the onset of the Great Recession in 2008 in Europe. For countries such as Portugal, Ireland, Italy, Spain, and Greece, the literature mainly attributes the declining levels of SWD to economic factors (Armingeon and Guthmann 2014; Cordero and Simón 2016; Quaranta and Martini 2016a; Morlino and Piana 2014; Sousa et. al 2014).

By drawing on an extensive aggregate-level panel dataset based on Spanish surveys part of the Eurobarometer and the Latinobarómetro between 1986 and 2014, we can reconfirm this economic argument for this country, especially when it comes to the relationship with unemployment, although the relationships with economic growth is also strong. However, we have also shown that economic performance is not the sole explanation for the trends observed in SWD. Political performance, in particular a series of major political corruption scandals in the 1990s and at the beginning of the 2010s, have largely contributed to worsening evaluations of Spanish democracy. In 2015, only one in five citizens voiced favourable views about the working of democracy – an all-time low, despite a modest economic recovery since 2013.

Unlike most public opinion research, we have combined this macro-level panel analysis with a follow-up individual-level panel analysis, based on data from the recently released CIUPANEL study. This has provided us with a unique opportunity to study how the recent economic and political crisis played out at the individual level and how it changed individual respondent attitudes. While our focus at the national level was a test of objective exogenous measures of political and economic performance, this shift in perspective to the individual level allowed us to unpack the perceptional consequences of the crisis for SWD in Spain.

When analysing the individual-level panel data, we found that the dynamics at the micro level are consistent with the dynamics at the context level to a high degree: changes in individuals' perceptions of political and economic outputs (economic evaluations, policy performance, perceptions of corruption) are able to explain a sizeable share of the variation in SWD. We also found that attitudes related to the inputs of the political system matter greatly. When people lose their trust in the institutions and actors of political representation, they display lower levels of SWD. Closely related to this, we find worsening perceptions of political corruption also decrease SWD.

Therefore, contrary to the dominant economic-instrumental explanations of the increasing dissatisfaction with democracy in Spain, we argue here that there are important political factors behind this negative trend as well. Although economic performance is a major exogenous factor in the evolution of SWD in Spain, when we move our focus to the individual level worsening perceptions of the political performance appear to be a more powerful explanation of why people change their opinion about the working of democracy. These results clearly show the importance of the political process in influencing citizens' attitudes toward the democratic regime (Norris 2011). Thus, while the economic recession might have initiated the decline in SWD, increasing distrust and poor political performance (together with the corruption scandals) contributed significantly to the deterioration and its resilience. The economic crisis has opened a period of 'stress testing' for Spanish democracy, and, as the evolution of SWD has shown, this test has been a failure in the eyes of most Spanish citizens.

Finally, the question that remains to be answered is how far the results of the present case study can be generalized to other countries. We believe the story we have told here

about a combination of political and economic factors shaping the evolution of evaluations of a democratic regime can also be applied to countries with a similar history of economic crisis and persistent political corruption, such as Italy or Greece. Furthermore, this comprehensive study on SDW in Spain might contribute to the general debate by providing longitudinal evidence.

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# **Tables and Figures**

Table 1. Research Design.

# Time

		Cross-Sectional	Longitudinal
Level of Analysis	Individual Level	(A) CIUPANEL, (B) Eurobarometer/ Latinobarómetro*	(A) CIUPANEL  Type 3
revel 0	Country Level	Not applicable in a single country case study  Type 2	(B) Eurobarometer/ Lati- nobarómetro  Type 4

*Notes*: \* Only includes control variables at the individual level.

Table 2. Ordered Probit Multilevel Model of SWD in Spain over Time.

	Nu	ıll	Mod	el 1	Nu	ıll	Mod	el 2
	β	(se)	β	(se)	β	(se)	β	(se)
Respondent-Level Coefficients								
Age			0.04***	(0.01)			0.04***	(0.01)
Male (ref.: female)			-0.01	(0.01)			-0.01	(0.01)
Education (ref.: more than 19)								
up to 15			-0.02*	(0.01)			-0.07***	(0.01)
16-19			-0.03**	(0.01)			-0.04**	(0.01)
Still studying			0.06***	(0.02)			0.05*	(0.02)
Married/ cohabitating			0.04***	(0.01)			0.05***	(0.01)
Unemployed			-0.15***	(0.01)			-0.15***	(0.02)
Longitudional Coefficients								
Proximity to election			0.15*	(0.07)			0.09	(0.09)
ENEP			-0.04	(0.04)			-0.04	(0.04)
Budget deficit			-0.28***	(0.07)			-0.13+	(0.08)
Inflation rate			0.04	(0.04)			-0.00	(0.04)
GDP growth			0.16***	(0.04)			0.14***	(0.04)
Unemployment rate			-0.41***	(0.06)			-0.21*	(0.09)
Perception of corruption							-0.16***	(0.04)
Thresholds								1/3
Cut-off point 1	-1.24***	(0.06)	-1.25***	(0.03)	-1.23***	(0.08)	-1.28***	(0.03)
Cut-off point 2	-0.13*	(0.06)	-0.13***	(0.03)	-0.10	(0.08)	-0.15***	(0.03)
Cut-off point 3	1.38***	(0.06)	1.38***	(0.03)	1.46***	(0.08)	1.42***	(0.03)
Variance components								
Month-level residual variance	0.03***	(0.01)	0.02***	(0.01)	0.03**	(0.01)	0.02***	(0.00)
Year-level residual variance	0.10***	(0.03)	0.00	(0.00)	0.12**	(0.04)	0.00	(0.00)
Log Likelihood	-81,769.43		-81,575.53		-59,913.02		-59,764.05	
AIC	163,548.9		163,187.1		119,836		119,564.1	
ICC month-level	0.03		0.00		0.03		0.00	
ICC year-level	0.09		0.02		0.11		0.02	
Number of respondents	70,741		70,741		52,684		52,684	
Number of months	58		58		41		41	
Number of years	29		29		22		22	

Notes: Ordered probit multilevel regression; standardized  $\beta$  (except gender, education, employment status, civil status, proximity to election); standard errors in parentheses; significance (two-tailed) \*\*\* p<0.001, \*\* p<0.01, \* p<0.05, + p<0.1. AIC: Akaike's Information Criterion, ICC: Intraclass Correlation Coefficient.

Table 3. Within-Between Ordered Probit Multilevel Model of SWD (CIUPANEL).

	Nu	11	Mod	el 3	Mod	el 4
	β	(se)	β	(se)	β	(se)
Longitudinal Coefficients						
Personal economic situation index			-0.04+	(0.02)	-0.04+	(0.02)
Political interest			0.02	(0.02)	0.02	(0.02)
Identification with Spain			0.02	(0.02)	0.02	(0.02)
Left-right ideology			-0.03	(0.02)	-0.03	(0.02)
Partisanship			0.04+	(0.02)	0.03	(0.02)
Government performance evaluation			0.08***	(0.02)	0.08***	(0.02)
Policy performance index			0.05*	(0.02)	0.05*	(0.02)
Economic situation in Spain			0.06**	(0.02)	0.06**	(0.02)
Trust in representative institutions index			0.18***	(0.02)	0.19***	(0.02)
Perception of corruption index			-0.07**	(0.02)	-0.06**	(0.02)
Respondent-Level Coefficients						
Age					-0.10**	(0.03)
Male (ref.: female)					-0.24***	(0.06)
Education level					-0.07*	(0.03)
Personal economic situation index					-0.06+	(0.03)
Political interest					0.02	(0.03)
Identification with Spain					0.28***	(0.04)
Left-right ideology					-0.11**	(0.04)
Partisanship					0.09**	(0.03)
Government performance evaluation					0.20***	(0.05)
Policy performance index					0.10*	(0.04)
Economic situation in Spain					0.31***	(0.04)
Trust in representative institutions index					0.85***	(0.06)
Perception of corruption index					-0.18***	(0.04)
Thresholds						
Cut point 1	-1.22***	(0.05)	-1.36***	(0.06)	-1.52***	(0.06)
Cut point 2	1.39***	(0.06)	1.55***	(0.06)	1.40***	(0.06)
Cut point 3	4.14***	(0.13)	4.59***	(0.15)	4.44***	(0.15)
Variance Components						
Respondent-level residual variance	2.71***	(0.21)	3.48***	(0.27)	1.15***	(0.12)
Log Likelihood	-4,417.17		-4,310.88		-3,418.81	
AIC	8,842.35		8,649.77		6,891.62	
ICC respondent-level	0.73		0.78		0.53	
Number of observations	4,417		4,417		4,417	
Number of respondents	2,702		2,702		2,702	

Notes: Ordered probit multilevel regression; standardized  $\beta$  (except gender); standard errors in parentheses; significance (two-tailed) \*\*\* p<0.001, \*\* p<0.01, \* p<0.05, + p<0.1. AIC: Akaike's Information Criterion, ICC: Intraclass Correlation Coefficient.

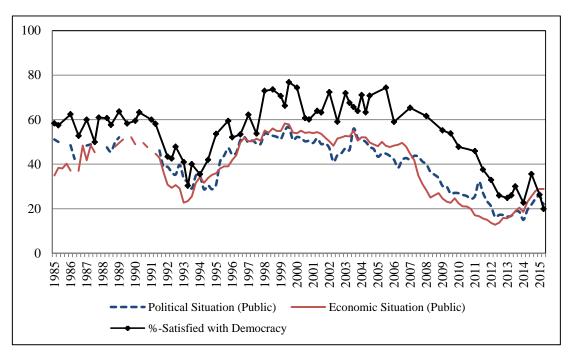


Figure 1. Public Evaluations and SWD in Spain.

*Notes*: Measured on a quarterly basis. The values for SWD are interpolated (line); dots show the observed values. *Sources*: Eurobarometer, Latinobarómetro, Centro de Investigaciones Sociológicas (CIS), CIUPANEL.

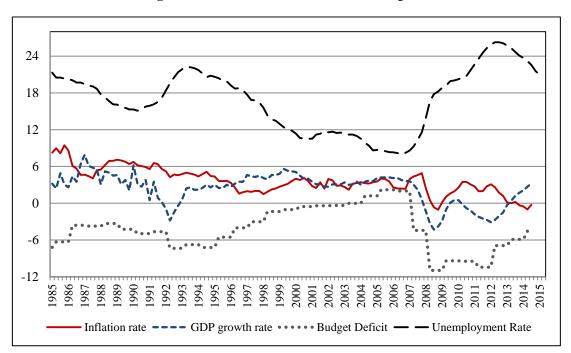


Figure 2. Economic Performance in Spain.

Notes: Measured on a quarterly or yearly basis. Sources: OECD Stat (2016), IMF WEO Database (2016).

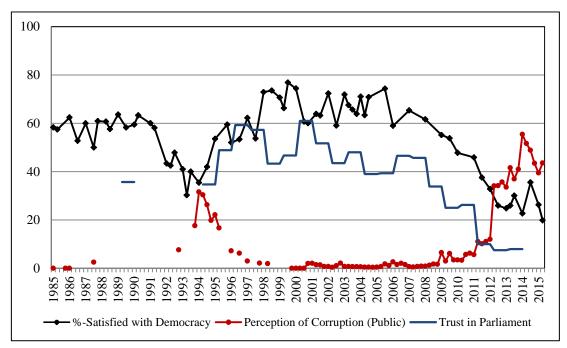


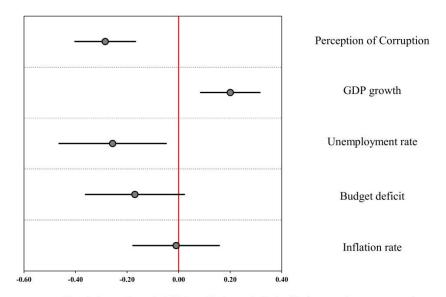
Figure 3. Political Trust and Perceptions of Corruption in Spain.

*Notes*: Measured on a quarterly or yearly basis. Values for SWD are interpolated (line); dots show the observed values.

Sources: Eurobarometer, Latinobarómetro, European Social Survey, Centro de Investigaciones Sociológicas (CIS), CIUPANEL.

Figure 4. Predicted Change in Probabilities (Model 2).

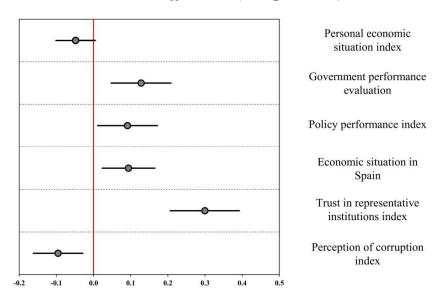
# Longitudinal Coefficients (Aggregate Level)



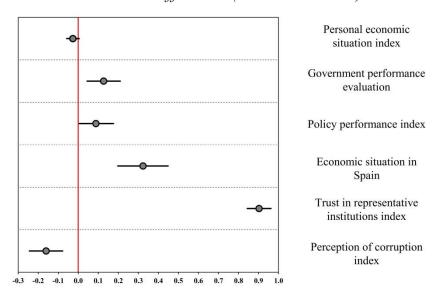
Notes: Predicted change in probabilities of being satisfied with the way democracy works (very satisfied, fairly satisfied) over not being satisfied with the way democracy works (not very satisfied, not at all satisfied) over the range of explanatory variables. Predictions are based on Model 2. For the predictions all other variables are held at their means. Lines represent 95%-CI.

Figure 5. Predicted Change in Probabilities (Model 4).

# Within-Coefficients (Longitudinal)



# Between-Coefficients (Cross-Sectional)



Notes: Predicted change in probabilities of being satisfied with the way democracy works (very satisfied, fairly satisfied) over not being satisfied with the way democracy works (not very satisfied, not at all satisfied) over the range of explanatory variables. Predictions are based on Model 4. For the predictions all other variables are held at their means. Lines represent 95%-CI.

## **Supplementary Online Appendix**

Aggregate-Level Panel Analysis

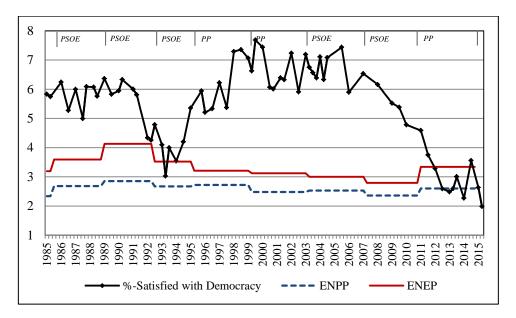


Figure A. Electoral Outcomes and SWD in Spain.

Notes: Measured on a quarterly basis. Values for SWD are interpolated (line); dots show the observed values. Sources: Own elaboration, Eurobarometer, Latinobarómetro, CIS, CIUPANEL, Gallagher (2015).

#### Context-Level Variables

**Budget Deficit**: General government net lending/ borrowing, calculated as revenue minus total expenditure and expressed as percentage of GDP. This indicator is used to approximate the government budget deficit and its consequences for the economy's fiscal stance. Measured on a yearly basis. Source: IMF WEO Database (2016).

**Economic Situation (Public):** Weighted average values of the responses to the following question: 'Referring now to the general economic situation in Spain, would you rate it as (100) very good, (75) good, (50) fair, (25) bad or (0) very bad?' Data come from the monthly opinion barometer of the CIS (2016).

**Economic Performance Index (EPI):** Own estimation. Measured on a monthly basis. The EPI combines information on unemployment, government deficit, inflation and GDP growth into a single composite index. Thereby, it attempts to capture the economy's monetary status, its production stance, the fiscal stance and the aggregate performance of the economy respectively. The index is constructed as follows:

Weighted 
$$EPI = 100\% - W_{Inf} * /Inf(\%) - I*/- W_{Unem} * (Unem(\%) - U*) - W_{Def} * (Def/GDP(\%) - Def/GDP*) + W_{GDP} * (\Delta GDP(\%) - \Delta GDP*),$$

where I\* is the desired inflation rate (0%), U\* is the desired unemployment rate (4.75%), (Def/GDP\*) is the desired government deficit as a share of GDP (0%) and  $\Delta$ GDP\* is the desired change in GDP (4.75%). The weights (W) are generated by estimating the inverse standard deviation for each economic variable multiplied by the average standard deviation of all variables. For a detailed description of the construction of the index compare Khramov and Lee (2013: 6f.).

**Effective Number of Electoral Parties:** Party supply is measured using the effective number of electoral parties (ENEP). According to Laakso and Taagepera (1979: 4) it is calculated as  $1/\sum x_i^2$ , where  $x_i$  is the percentage of votes won by the i-th party. Measured on a monthly basis. Own elaboration, based on data from Gallagher (2015).

**Effective Number of Parliamentary Parties:** Party system fractionalization is measured using the effective number of parliamentary parties (ENPP). According to Laakso and Taagepera (1979: 4) it is calculated as  $1/\sum x_i^2$ , where  $x_i$  is the percentage of seats won by the i-th party. Measured on a monthly basis. Own elaboration, based on data from Gallagher (2015).

**GDP growth rate:** Gross domestic product, total, percentage change. GDP measures the value of goods and services produced by a state minus its imports. Measured on a yearly basis. Annual change rate. Source: OECD Stat (2016).

**Inflation Rate:** Total, growth rate compared to the same period of the previous year. The inflation rate is measured using the consumer price index and reflects the annual percentage change in the costs of an average consumer basket. Measured on a monthly basis. Source: OECD Stat (2016).

Perception of Corruption (Public): Percentage of respondents who have answered that 'corruption and fraud' are among the 'three principal problems that currently exist in Spain.' Data comes from the monthly opinion barometer of the CIS (2016). Although data coverage is very good since the beginning of the 2000s (i.e. 11 out of 12 months are usually covered), this is not true for the 1980s and 1990s. Although there might still be 5 or 6 six surveys in a given year, they might not necessarily coincide with the surveys of the Eurobarometer/Latinobarómetro. For this reason, we have chosen to partially impute missing data (9 out of 41 months). We either replace missing values with observed values from another survey if it has been conducted within three months before or after the missing value or if a missing month falls between two surveys within a three-month period we interpolate the value. Following this procedure, we replace missing values for the following time points: October 1986, April 1988, October 1993, June 1994, December 1997, April 1998, December 1998, October 2001 and August 2003. Including the imputed values does not substantially affect the results of our models.

**Political Situation (Public):** Weighted average values of the responses to the following question: 'Referring now to the political situation in Spain, would you rate it as (100) very good, (75) good, (50) fair, (25) bad or (0) very bad?' The data come from the monthly opinion barometer of the CIS (2016).

**Proximity to national legislative election:** Measures whether a survey has been conducted during or shortly after a national legislative election. Takes on the value 1 for within six months after an election has taken place (including the month in which the election falls). Measured on a monthly basis. Own estimation.

**Unemployment rate:** Total, percentage of the labour force. Unemployment refers to people aged 15 and over who were without work during the reference week but available for work and actively seeking work during the previous four weeks including the reference week. Measured on a monthly basis. Source: OECD Stat (2016).

#### Additional References

Gallagher, Michael (2015). 'Election Indices Dataset', available at http://www.tcd.ie/Political\_Science/staff/michael\_gallagher/ElSystems/index.php (accessed on 11 August 2016).

Khramov, Vadim, and John Lee R. (2013). 'The Economic Performance Index (EPI): An Intuitive Indicator for Assessing a Country's Economic Performance Dynamics in an Historical Perspective.' *IMF Working Paper*, no. WP/ 13/214.

Laakso, Markku, and Rein Taagepera (1979). 'The "Effective" Number of Parties: A Measure with Application to West Europe', *Comparative Political Studies*, 12:1, 3–27.

Eurobarometer/Latinobarómetro: Question Wording and Variable Coding

**Age**: in years.

**Education level**: (1) finished at age 15 or below, (2) finished at age 16–19, (3) finished at age 20 or older, and (4) still studying. Reference category = (3) finished at age 20 or older.

**Male**: gender of respondent, reference category = female.

**Marital status:** (1) married, re-married or cohabitating, reference category = (0) single, separated, widowed or divorced.

**Satisfaction with democracy in Spain:** 'On the whole, are you (3) very satisfied, (2) fairly satisfied, (1) not very satisfied, or (0) not at all satisfied with the way democracy works in your country?'.

**Unemployed**: (1) Unemployed, reference category = (0) employed, student, retired or other.

Table A. Eurobarometer Surveys (Spain only).

Eurobarometer Number	Year	Quarter
EB 250	1986	4
EB 270	1987	2
EB 280	1987	4
EB 290	1988	2
EB 300	1988	4
EB 310	1989	1
EB 311	1989	2
EB 320	1989	4
EB 321	1989	4
EB 330	1990	2
EB 340	1990	4
EB 341	1990	4
EB 350	1991	1
EB 351	1991	2
EB 360	1991	4
EB 370	1992	1
EB 371	1992	2
EB 380	1992	4
EB 381	1992	4
EB 390	1993	1
EB 391	1993	2
EB 400	1993	4
EB 410	1994	1
EB 411	1994	2
EB 420	1994	4
EB 430	1995	2
EB 432	1995	2
EB 440	1995	4
EB 441	1995	4
EB 451	1996	2
EB 460	1996	4
EB 461	1996	4
EB 470	1997	1
EB 471	1997	2
EB 472	1997	2
EB 480	1997	4
EB 490	1998	2
EB 500	1998	4
EB 501	1998	4
EB 510	1999	2
EB 510	1999	2
EB 520	1999	4
EB 520	1999	4
EB 530	2000	2
EB 530 EB 540	2000	4
EB 540	2000	4
EB 542	2000	1
LD J+4	2001	1

EB 550	2001	1
EB 551	2001	2
EB 552	2001	2
EB 560	2001	3
EB 561	2001	3
EB 562	2001	3
EB 563	2002	1
EB 570	2002	1
EB 571	2002	2
EB 572	2002	2
EB 581	2002	4
EB 591	2003	2
EB 601	2003	4
EB 610	2004	1
EB 620	2004	4
EB 622	2004	4
EB 634	2005	2
EB 652	2006	2
EB 681	2007	4
EB 724	2009	4
EB 734	2010	2
EB 763	2011	4
EB 773	2012	2
EB 781	2012	4
EB 793	2013	2
EB 795	2013	2
EB 801	2013	4
EB 812	2014	1
EB 814	2014	2
EB 823	2014	4
EB 833	2015	2

Table B. Latinobarómetro Surveys (Spain only).

Latinobarómetro Number	Year	Quarter
Latinobarómetro 1996	1996	3
Latinobarómetro 1997	1997	4
Latinobarómetro 1998	1998	4
Latinobarómetro 2001	2001	2
Latinobarómetro 2002	2002	2
Latinobarómetro 2003	2003	2
Latinobarómetro 2004	2004	3
Latinobarómetro 2006	2006	4
Latinobarómetro 2007	2007	4
Latinobarómetro 2008	2008	4
Latinobarómetro 2009	2009	4
Latinobarómetro 2010	2010	4

# Eurobarometer/Latinobarómetro: Descriptive Statistics

**Table C. Descriptive Statistics.** 

	Mean	SD	Min	Max	N
Age	43.95	18.12	15	99	70741
Education: up to 15	0.43	0.49	0	1	70741
Education: 16-19	0.26	0.44	0	1	70741
Education: more than 19	0.21	0.41	0	1	70741
Still studying	0.10	0.30	0	1	70741
Male	0.49	0.50	0	1	70741
Married/ cohabitating	0.60	0.49	0	1	70741
Satisfaction with democracy	1.54	0.83	0	3	70741
Unemployed	0.11	0.31	0	1	70741
Budget deficit	-4.06	3.59	-10.96	2.20	29 years
Economic Performance Index (EPI)	79.91	8.71	62.03	94.68	58 months
ENEP	3.33	0.38	2.79	4.13	58 months
GDP growth	2.41	2.49	-3.58	5.71	29 years
Unemployment rate	16.93	5.34	8.3	26.3	58 months
Perception of corruption	10.49	15.95	0	63.8	41 months
Proximity to general election	0.12	0.33	0	1	58 months
Inflation rate	3.44	2.09	-0.37	9.32	58 months

Table D. Ordered Probit Multilevel Model of SWD in Spain over Time.

	Null	Ш	Model 5	el 5	Model 6	el 6	Null		Model 7	17	Model 8	8
	β	(se)										
Respondent-Level Coefficients					,						,	
Age			0.04***	(0.01)	0.04***	(0.01)			0.04***	(0.01)	0.04***	(0.01)
Male (ref.: female)			-0.01	(0.01)	-0.01	(0.01)			-0.01	(0.01)	-0.01	(0.01)
Education (ref.: more than 19)												
up to 15			-0.02*	(0.01)	-0.02*	(0.01)			-0.07***	(0.01)	-0.07***	(0.01)
16-19			-0.03**	(0.01)	-0.03**	(0.01)			-0.04**	(0.01)	-0.04**	(0.01)
Still studying			0.06***	(0.02)	0.06***	(0.02)			0.05*	(0.02)	0.05*	(0.02)
Married/ cohabitating			0.04***	(0.01)	0.04***	(0.01)			0.05***	(0.01)	0.05***	(0.01)
Unemployed			-0.15***	(0.01)	-0.15***	(0.01)			-0.15***	(0.02)	-0.15***	(0.02)
Longitudional Coefficients												
Proximity to election			0.16*	(0.07)	0.33**	(0.11)			0.09	(0.09)	0.13	(0.09)
ENEP			-0.04	(0.03)	0.05	(0.04)			-0.04	(0.04)	-0.02	(0.03)
Budget deficit			-0.28***	(0.06)					-0.13+	(0.08)		
Inflation rate			0.03	(0.04)					-0.00	(0.04)		
GDP growth			0.16***	(0.04)					0.14***	(0.04)		
Unemployment rate			-0.41***	(0.05)					-0.21*	(0.09)		
Economic Performance Index (EPI)					0.27***	(0.04)					0.15***	(0.03)
Perception of corruption									-0.16***	(0.04)	-0.25***	(0.03)
Thresholds												
Cut-off point 1	-1.22***	(0.05)	-1.24***	(0.03)	-1.20***	(0.04)	-1.21***	(0.06)	-1.28***	(0.03)	-1.27***	(0.03)
Cut-off point 2	-0.11*	(0.05)	-0.12***	(0.03)	-0.08*	(0.04)	-0.08	(0.06)	-0.15***	(0.03)	-0.14***	(0.03)
Cut-off point 3	1.40***	(0.05)	1.39***	(0.03)	1.43***	(0.04)	1.48***	(0.06)	1.42***	(0.03)	1.43***	(0.03)
Variance components												
Month-level residual variance	0.14***	(0.03)	0.02***	(0.00)	0.07***	(0.01)	0.17***	(0.04)	0.02***	(0.00)	0.02***	(0.01)
Log Likelihood	.81,787.47		-81,576.16		-81,605.16		-59,924.93		-59,764.05		-59,769.57	
AIC	163,582.9		163,186.3		163,238.3		119,857.9		119,564.1		119,569.1	
ICC month-level	0.12		0.02		0.06		0.14		0.02		0.02	
Number of respondents	70,741		70,741		70,741		52,684		52,684		52,684	
Number of months	58		58		58		41		41		41	

CIUPANEL: Question Wording and Variable Coding

**Age:** in years.

**Economic situation in Spain:** 'What do you think about the state of the economy in Spain? Would you say it is (5) very good, (4) good, (3) neither good nor bad, (2) bad, or (1) very bad?'.

**Education level**: (1) Lower than primary; (2) Primary education (until 12 years of age); (3) First Lower secondary (until 12 years of age); (4) Second Lower secondary; (5) Upper secondary; (6) Tertiary education.

**Government performance evaluation:** 'Overall, how do you evaluate the working of the PP government?' (5) Very good; (4) good; (3) fair; (2) bad; (1) very bad.

**Identification with Spain**: 'To what extent do you identify with Spain? To answer this question please use the following scale from 0 to 10, where 0 means "no identification" and 10 means "strong identification".'

**Left-right ideology**: 'In politics people sometimes talk of left and right. Where would you place yourself on a scale from 0 to 10 where 0 means the left and 10 means the right?'

**Male**: gender of respondent, reference category = female.

**Party ID**: 'Is there any particular political party you might feel closer to than all the other parties?' Yes (1); no (0).

**Perception of corruption index:** The index created is based on the factor scores of the following questions: (A) 'In your opinion, how many officials of the state administration in our country have been involved or related corruption?' (1) Almost nobody; (2) a few of them; (3) many of them; (4) almost all of them. (B) 'To what extent do you believe corruption is widespread in the parliament in Spain?' (C) 'To what extent do you believe corruption is widespread in the political parties in Spain?' (D) 'To what extent do you believe corruption is widespread in the judicial system in Spain?' (E) 'To what extent do you believe corruption is widespread in the police in Spain?' (O) Not widespread; (10) very widespread.

**Personal economic situation index:** The index created is based on factor scores of the following questions: (A) 'Today, to what extent are you worried about paying the bills for your home?' (B) 'Today, to what extent are you worried about needing to reduce your standard of living?' (C) 'Today, to what extent are you worried about having a job?' (D) 'Today, to what extent are you worried about paying back bank loans or mortgages?' (4) Very worried; (3) somewhat worried; (2) not very worried; (1) not at all worried.

**Policy performance index:** The index created is based on the factor scores of the following questions: (A) 'In your opinion, how do you evaluate the situation in Spain with respect to unemployment?' (B) 'In your opinion, how do you evaluate the situation in Spain with respect to education?' (C) 'In your opinion, how do you evaluate the situation in Spain with respect to the healthcare system?' (D) 'In your opinion, how do you evaluate the situation in Spain with respect to immigration?' (0) Very bad; (10) Very good.

**Political interest**: 'How much are you interested in politics?' (4) Very much; (3) much; (2) a little bit; or (1) not at all.

**Probability to vote for PP**: 'There are many political parties in Spain that would like to have your vote. What is the probability that you will ever vote for the PP (Partido Popular)?' (0) Not likely; (10) very likely.

**Satisfaction with democracy in Spain:** 'On the whole, are you (4) very satisfied, (3) fairly satisfied, (2) not very satisfied, or (1) not at all satisfied with the way democracy works in your country?'

**Trust in representative institutions index:** The index created is based on the factor scores of the following questions: (A) 'On a scale from 0 to 10 how much do you trust the Spanish parliament?' (B) 'On a scale from 0 to 10 how much do you trust the government in Spain?' (0) Absolutely do not trust; (10) Fully trust.

# CIUPANEL: Descriptive Statistics

**Table E. Descriptive Statistics.** 

	Mean	SD	Min	Max	N
Age (wave 4)	46.34	15.67	18	90	2313
Age (wave 5)	47.43	15.35	18	90	2104
Economic situation in Spain (wave 4)	2.14	0.84	1	5	2313
Economic situation in Spain (wave 5)	2.25	0.83	1	5	2104
Education level (wave 4)	4.81	1.11	1	6	2313
Education level (wave 5)	4.59	1.13	1	6	2104
Government performance evaluation (wave 4)	1.92	1.08	1	5	2313
Government performance evaluation (wave 5)	2.11	1.14	1	5	2104
Identification with Spain (wave 4)	6.57	3.09	0	10	2313
Identification with Spain (wave 5)	7.11	2.98	0	10	2104
Left-right ideology (wave 4)	3.88	2.42	0	10	2313
Left-right ideology (wave 5)	4.07	2.49	0	10	2104
Male (wave 4)	0.50	0.50	0	1	2313
Male (wave 5)	0.53	0.50	0	1	2104
Partisanship (wave 4)	0.66	0.47	0	1	2313
Partisanship (wave 5)	0.67	0.47	0	1	2104
Perception of corruption index (wave 4)	0.00	0.93	-3.10	1.59	2313
Perception of corruption index (wave 5)	-0.17	0.89	-3.10	1.59	2104
Personal economic situation index (wave 4)	0.04	0.92	-1.76	1.50	2313
Personal economic situation index (wave 5)	-0.11	0.95	-1.76	1.50	2104
Policy performance index (wave 4)	-0.07	0.91	-1.41	3.60	2313
Policy performance index (wave 5)	0.13	0.94	-1.41	3.60	2104
Political interest (wave 4)	2.72	0.79	1	4	2313
Political interest (wave 5)	2.79	0.78	1	4	2104
Political trust index (wave 4)	-0.16	0.90	-0.95	4.16	2313
Political trust index (wave 5)	0.22	0.97	-0.95	4.16	2104
Satisfaction with democracy (wave 4)	1.92	0.74	1	4	2313
Satisfaction with democracy (wave 5)	2.06	0.73	1	4	2104

Table F. Ordered Probit Multilevel Model of SWD with Lagged Predictors (CIUPANEL).

	Nu	11	Mod	el 9
	β	(se)	β	(se)
Age			0.01	(0.03)
Male (ref.: female)			-0.11*	(0.05)
Education level			0.02	(0.03)
Personal economic situation index (lagged)			-0.02	(0.03)
Political interest (lagged)			0.00	(0.03)
Identification with Spain (lagged)			0.23***	(0.03)
Left-right ideology (lagged)			0.04	(0.03)
Partisanship (lagged)			0.03	(0.03)
Government performance evaluation			0.27***	(0.04)
Policy performance index (lagged)			0.10**	(0.03)
Economic situation in Spain (lagged)			0.20***	(0.03)
Trust in representative institutions index			0.30***	(0.04)
Perception of corruption index (lagged)			-0.09**	(0.03)
Thresholds				
Cut point 1	-1.08***	(0.05)	-0.98***	(0.05)
Cut point 2	1.42***	(0.06)	1.11***	(0.05)
Cut point 3	4.32***	(0.15)	3.48***	(0.12)
Variance Components				
Respondent-level residual variance	2.81***	(0.22)	0.55***	(0.08)
Log Likelihood	-3,758.38		-3,328.72	
AIC	7,524.77		6,691.44	
ICC respondent-level	0.74		0.35	
Number of observations	3,777		3,777	
Number of respondents	2,141		2,141	

Notes: Ordered probit multilevel regression with lagged predictors; based on CIUPANEL wave 4, 5 and 6; standardized  $\beta$  (except gender); standard errors in parentheses; significance (two-tailed) \*\*\* p<0.001, \*\* p<0.01, \* p<0.05, + p<0.1. AIC: Akaike's Information Criterion, ICC: Intraclass Correlation Coefficient.

Table G. Within-Between Ordered Probit Multilevel Model of SWD with Incumbent Support (CIUPANEL).

	Nu	11	Mode	el 10	Mode	el 11
	β	(se)	β	(se)	β	(se)
Longitudinal Coefficients						
Personal economic situation index			-0.04+	(0.02)	-0.04+	(0.02)
Political interest			0.02	(0.02)	0.02	(0.02)
Identification with Spain			0.02	(0.02)	0.02	(0.02)
Left-right ideology			-0.03	(0.02)	-0.03	(0.02)
Partisanship			0.03	(0.02)	0.03	(0.02)
Government performance evaluation			0.08***	(0.02)	0.07**	(0.02)
Policy performance index			0.05*	(0.02)	0.05*	(0.02)
Economic situation in Spain			0.06**	(0.02)	0.06**	(0.02)
Trust in representative institutions index			0.19***	(0.02)	0.19***	(0.02)
Perception of corruption index			-0.08***	(0.02)	-0.07**	(0.02)
Probability to vote for PP			0.02	(0.03)	0.02	(0.03)
Respondent-Level Coefficients				3 /2		
Age					-0.09**	(0.03)
Male (ref.: female)					-0.23***	(0.06)
Education level					-0.08*	(0.03)
Personal economic situation index					-0.04	(0.03)
Political interest					0.00	(0.03)
Identification with Spain					0.27***	(0.04)
Left-right ideology					-0.06	(0.04)
Partisanship					0.09**	(0.03)
Government performance evaluation					0.27***	(0.06)
Policy performance index					0.11*	(0.04)
Economic situation in Spain					0.30***	(0.05)
Trust in representative institutions index					0.90***	(0.06)
Perception of corruption index					-0.17***	(0.04)
Probability to vote for PP					-0.05**	(0.02)
Thresholds						
Cut point 1	-1.22***	(0.05)	-1.36***	(0.06)	-1.60***	(0.07)
Cut point 2	1.40***	(0.06)	1.56***	(0.07)	1.32***	(0.07)
Cut point 3	4.13***	(0.13)	4.57***	(0.16)	4.33***	(0.15)
Variance Components						
Respondent-level residual variance	2.72***	(0.21)	3.48***	(0.28)	1.14***	(0.12)
Log Likelihood	-4,251.45		-4,147.47		-3,280.43	
AIC	8,510.90		8,324.94		6,618.87	
ICC respondent-level	0.73		0.78		0.53	
Number of observations	4,246		4,246		4,246	
Number of respondents	2,613		2,613		2,613	

Notes: Ordered probit multilevel regression; standardized  $\beta$  (except gender); standard errors in parentheses; significance (two-tailed) \*\*\* p<0.001, \*\* p<0.01, \* p<0.05, + p<0.1. AIC: Akaike's Information Criterion, ICC: Intraclass Correlation Coefficient.