A Generational Approach to the Crisis Parties:
Common Origins and Common Features

Jorge Bronet, Rosa Borge[1]

Abstract:

Over the past two decades, Western Europe has witnessed a boom in new political parties that have obtained significant electoral results, naturally embracing digital technologies and seeking to challenge their traditional counterparts by reconnecting with the citizenry. With a critical review of the main attributes and concepts used so far by the most relevant literature, we propose a new perspective to delimit this phenomenon that allows us to observe it as a whole and not as a particular case. By focusing on scholars who underscore the importance of the historic origin to understand parties, we formulate a generational approach for setting a cohort and analyzing whether the fact that parties share contextual conditions when they emerge also means they have some common features, in contrast to the older political parties. We focus on three dimensions usually highlighted by case studies: strong digitalization (Gerbaudo 2018, 2019), thin structure (Biancalana 2016; Raniolo, Tarditi 2020; Tormey 2015) and more members (van Haute, Ribeiro 2022). In order to do so, we verify it empirically by operationalizing the Political Party Database PPDB round 2 with a sample of 98 parties from 13 Western European countries, comprising 29 new parties (that we generationally call crisis parties) and 69 older parties. This paper aims to better determine whether these new parties, which emerge in a particular political scenario, are (or were) different. The results show that the crisis parties are more digitalized, have less structure and have more members than the previous cohorts parties. In this sense, these crisis parties have brought about some relevant changes in Western European party systems.

Key words: *New political parties; crisis, digital; structure; membership; Western Europe*

1. Introduction

At the beginning of the 21st century, especially after the 2008 financial crisis, new parties with significant electoral results emerged in Europe (Bolleyer, Byztek 2013; Chiaramonte, Emanuele 2022) as a result of the loss of legitimacy of the mainstream established parties, challenging them (Casal Bértoa, Rama 2020). These new parties tried to connect with society through the intensive use of digital tools (websites, social media, applications, and discussion and decision-making platforms).

[1] Jorge Bronet, Communication Networks & Social Change research group (CNSC), Open University of Catalonia, Barcelona, Spain. Contact: jbronet@uoc.edu. ORCID: https://orcid.org/0000-0002-5355-7422.
Rosa Borge, Communication Networks & Social Change research group (CNSC), Open University of Catalonia, Barcelona, Spain. Contact: rborge@uoc.edu. ORCID: https://orcid.org/0000-0001-8984-1479.

Literature has tried to study this phenomenon by coining different concepts that attempt to name, define and group them (Bennett, Segerberg, Knüpfer 2018; Gerbaudo 2018; Haber-er, Peña-Lopez 2016; Kitschelt 2006; Klimowicz 2018; Lioy, Del Valle, Gottlieb 2019; Margetts 2001; Tormey 2015; Vaccari 2013). However, it is challenging to determine whether a given party is part of this phenomenon or not since there are no common scientific criteria and each concept has its own nuances. Therefore, it is necessary to clearly identify these parties and figure out what really differentiates them from others. Some scholars have highlighted the importance of the contextual origin (De Vries, Hobolt 2020; Katz, Mair 2018; Mair, Mudde 1998; Panebianco 1988). The historical conditions under which these new political parties have emerged in Western Europe might be key to clustering them, not only by establishing a temporal cohort but also by identifying common features. Hence, does sharing a similar contextual origin (alike factors in the same period and region) trigger common party traits? We propose applying a generational approach in order to answer this question. Of course, we do not forget that political parties evolve and institutionalize (both traditional and new); thus, the common features of these new parties may be significant only at a particular moment, in its first stage of life. This work also aims to contribute to the academic debate on the digital transformation of political parties in Western Europe because we clarify how digitalization is related to relevant party dimensions such as the party's structure, the membership level or participatory channels.

This article is organized as follows: in the next section, we critically analyze the terms "new" and "digital" that scholars usually resort to when referring to political parties that have emerged in Western Europe in recent years. In section three, we propose focusing beyond these two attributes and, building upon previous literature, provide a generational approach to the phenomenon. We develop a perspective based on the conditions in which these young political parties have emerged in Western Europe that will allow us to group them and make cross-national comparisons. Also, we set our hypotheses building on the attributes considered by the literature as possible common characteristics of these parties such as strong digitalization (Gerbaudo 2018, 2019), a thin and more horizontal structure (Biancalana 2016; Raniolo, Tarditi 2020; Tormey 2015) and higher membership (van Haute, Ribeiro 2022). In section four, we present the dataset we operationalize and describe the methodology we use in order to verify our hypotheses. After that, we test empirically our hypotheses in section five. Finally, in the last section, we summarize our results and present a new research agenda that we believe should be conducted to try to better understand these young parties, find new similar features and guess whether they represent an important change in Western Europe political systems.

2. New digital parties, what are they?

Two main common traits generally define the parties that have recently emerged in Western Europe: new and digital. Both concepts have some shortcomings that should be problematized.

Regarding the attribute "new", we firstly need to determine what "new" actually means. Here we identify two principal dimensions, the temporal one and the composition one. The first refers to when a party is considered new, i.e., about how long a party can maintain this status. What is new today will be old someday. Chiaramonte and Emanuele (2022), described "new" parties, in electoral terms, as those that win some share of the vote and at least one seat for the first time. After that (i.e., in subsequent elections), they

should be considered old. Following this criterion, young parties that have already entered the system could no longer be called new parties. However, it is common to use the adjective "new" to refer to parties that have won seats in two or more national elections and have even entered governments during the past decade (e.g., Podemos or Movimento 5 Stelle).

The second dimension refers to what conditions or requirements a party must meet for being new. In this sense, Chiaramonte and Emanuele (2022) noted that there is no common definition of the term "new party". They review the literature from the least restrictive definition (all parties that have been added to a country's original party system, that simply did not exist before) to the most restrictive one (not being the successor of previous parliamentary parties, having a novel structure, and not having important figures from past democratic politics among its main members). Raniolo, Tarditi, and Vittori (2021), dealing with a similar problem, establish a distinction between "genuinely new" parties and just "new" parties. In the first case, they refer to those parties that are not heirs of previous organizations and have a new political class. In the second case, they refer to those parties that emerge after a process of reorganization of old formations, with new names, new organizational characters and dominant coalitions (i.e., renewed parties). Nevertheless, these terms are not accurate enough and do not allow us to clearly determine whether a party is "genuinely new" or just "new". What does "heirs of previous organizations" mean, exactly? We can find cases that would be really difficult to classify as one or another, such as La République en Marche, that these authors categorized as "genuinely new". If we adopt a strict interpretation of "genuinely new", it would surely be very difficult for us to even find any "genuinely new" party.

We can find some features that are linked to the condition "new" such as "challengers" (De Vries, Hobolt 2020), "anti-party-system" (Katz, Mair 2009) or "niche" (Meguid 2005) that might help us to delimit the phenomenon of Western European new parties with significant electoral results in recent years, but they depict some problems as well, both for finding a clear common definition that allow us to identify these parties with no doubt and track them over time, and for comprising the entire phenomenon. The distinction between dominant and challenger parties is useful to understand the competition logic but does not offer a temporal continuity. Challengers become dominant when they gain government experience, so they stop being challengers (in the same way as, in electoral terms, new parties become "old" when they enter parliaments). Regarding the anti-party-system parties, not only do some contradictorily enter and become part of the system (even governments) but also some traditional parties are adopting anti-party-system behavior as a political competition strategy. Besides, not all new parties are anti-party-system. Finally, "nicheness" (Meguid 2005) does not include what Sikk (2012) underscores about new parties that do not necessarily have to provide a new, purified or forgotten ideology (they can occupy traditional parties' ideological territories) or do not have to be seen as a response to non-faced new social issues. Cleavages are not necessarily the most significant reason for a party's appearance or electoral claim. In an increasingly de-ideologized political environment, the simple act of presenting themselves as new, in contrast to established parties, can be a successful formula. A new way of doing politics (against lies, corruption and inefficiency), the style of politics, can be enough. For that reason, Bolleyer and Byztek (2013) formulated the concept of "organizationally new" that rather than on parties' programmatic profiles focuses on the "newness" of parties' organizational development and not the newness of the issues that they represent. These authors classify parties as new if they are

built from scratch ("newly born"), if they originate from minor splits of established parties, or as a result of mergers in which organizationally new parties have actively participated. Nevertheless, the criterion to practically apply this interpretation of "newness" also brings some problems when trying to classify them. For instance, what is a "minor split" exactly or how can we accurately discern when a new party "actively participates" in the organization of a merger. Moreover, "organizationally new" parties would not encompass the entire phenomenon of the boom of new parties. Taking only into account these parties would imply that some salient parties could be left out of this phenomenon, such as Syriza in Greece. All in all, new (and some concepts linked to this condition) is an attribute with many facets.

On the other hand, several authors have described and conceptualized digital parties by using different names: cyber-party (Margetts 2001), movement parties (Kitschelt 2006), e-parties (Vaccari 2013), net-parties (Haberer, Peña-Lopez 2016), pop-up parties (Tormey 2015), connective parties (Bennett, Segerberg, Knüpfer 2018), network parties (Klimowicz 2018), digital parties (Gerbaudo 2018), platform politics (Lioy, Del Valle, Gottlieb 2019) or digital native (Guglielmo 2021). Barberà et al. (2021) provided an in-depth review of the most relevant literature on the topic.

This research strand emphasizes that most of these parties can be seen as a response to a general crisis of representation. These parties would seek to reconnect with society by promoting participation usually through platform and digital politics (Lioy, Del Valle, Gottlieb 2019; Raniolo, Tarditi, Vittori 2021). This literature also needs to be problematized by examining the two aspects we consider key to these concepts: digitalization level and purpose (increasing intra-party democracy – IPD).

First, all parties (both new and established) have digitalized to some extent (Correa et al. 2021). As Gerbaudo (2018) noted, political parties' organizational structures have evolved based on the main means of production of the time. There is no "pure" analog party today, nor is there a "pure" digital party (even Podemos has some territorial branches). Meloni and Lupato (2023) describe how "digital parties" are de-digitalizing some procedures, while traditional parties are digitalizing others. Some literature also highlights that new and established parties are closer in the use of digital tools (even for boosting IPD) than expected (Garcia Lupato, Meloni 2021) or that some traditional parties can be more digitalized than some of their newer counterparts. A recent empirical study conducted by Sandri et al. (2024) gathering 62 parties from five Western Europe countries finds a significant and negative association between the year of creation of the party and the degree of digitalization, with younger parties appearing less digitalized. Therefore, the defining concepts related to the digital condition do not allow us to properly identify what makes them different.

Second, many of these Internet-related concepts are linked to the idea of promoting participation, in the sense of sharing decision-making power. However, we can easily find young parties, such as Vox (Spain), that use social media intensively to connect with (or rather to mobilize) voters, members, and sympathizers, but share no power. There are new parties with hierarchical and authoritarian ways of organizing that also use digital tools a lot. Therefore, being digital and increasing participation do not necessarily go hand in hand (neither necessarily do being new and open to citizen participation). Digitalization can lead to more participation, but this is a result of the political will of the party's elites and well-embedded processes and tools, not of the availability of the tools per se (Thuermer 2021). As Peña and Gold (2023) underscore, restricting the digital party type to parties that advocate for digital democracy practices is reductive. They note that the association of digital

parties with enhanced internal democracy and a small sample of European cases carries limitations:

> *"This case selection bias curtails the fact that hybridization is a pervasive phenomenon cutting across most, if not all, party types and forms"* (Peña, Gold 2023: 3258).

This is something that Correa et al. (2021) bear in mind when identifying two broad sub-types of (new) digital parties: personalistic-authoritarian and connective. The former use technology intensively to organize and mobilize party members and followers (in a top-down plebiscitarian digital decision-making system), while the latter focus on using digital tools to enhance participatory and bottom-up decision-making. However, we want to insist at this point that not all younger parties are more digital than the traditional ones. So, what would be the difference between the (new) digital parties (personalistic-authoritarian and connective) and the others? The concept "digital" is not determinant enough if we seek to group these parties and compare them to others. Neither is it clear that the younger parties use digital tools for boosting IPD more than the established ones. Not to mention that it is also unclear today whether these new digital parties are really increasing their IPD. In fact, there is much debate about how boosting plebiscitarian and aggregative modes of IPD can generate dynamics that finally empower leaders. Hence, if these parties were not really promoting their internal democracy, they would not fit into some authors' concept of a digital party, e.g., Gerbaudo (2018):

> *"What defines the digital party as a new party type is not simply the embracing of digital technology but the purpose of democratisation which digital technology is called to fulfil"* (Gerbaudo 2018: 14).

Therefore, what is the difference between the parties that emerged in Western Europe in recent decades and the older ones? It seems that the matter is more about different levels and dimensions of digitalization, and which are the purposes of digitalization (Fitzpatrick 2021) that can be also linked to other variables (such as ideology or the country) in addition to the party age. Therefore, the defining concepts related to the digital condition used so far do not allow us to properly identify what could make these parties different, if they are so.

3. A generational approach: the crisis parties

"New" and "digital" could be defining features of young parties as a consequence of a shared historic origin; a context marked by institutional, sociological, economic and technological factors. Casal Bértoa and Rama (2020) noted that the Great Recession of 2008 amplified pre-existing crisis trends. The crisis of parties (institutional factor) is the consequence of the cartelization process that makes parties basically dependent on state funding and detaches them from the citizenry. The crisis of voters (i.e., the sociological factor) that refers to a decline in party identification and voting volatility is the effect of globalization and Europeanization with the emergence of new social issues (e.g., immigration) and the individualization process (Invernizzi-Accetti, Wolkenstein 2017). The legitimacy crisis of established political parties during the economic recession and the implementation of

austerity measures exacerbated dissatisfaction with parties and the political system[2]. It also led to the rising of new parties and the party system fragmentation.

As a result of the combination of these three elements – the crisis of traditional parties (institutional factor), the change of voters' preferences and identification (sociological factor), and a major economic shock – new parties began to rise in Western Europe. Apart from these contextual factors we have mentioned (institutional, sociological, and economic), we can add the technological factor. The spread of digital tools in recent years amplifies significantly the opportunities and advantages for creating and sustaining a political party, in terms of cost savings (Scarrow 2015). As Blasco (2021) emphasizes, ICTs provide flexible communication and cheaper campaigning or organizing. Digital tools are the natural environment for young parties, in the sense of what Thuermer (2021) refers to with the term "web-native" (parties in which everything happens online by default).

Several scholars have pointed out the importance of the contextual origin in the configuration of a party type (De Vries, Hobolt 2020; Katz, Mair 2018; Mair, Mudde 1998; Panebianco 1988). It is not our goal to provide and define a new type of political party, but we believe that a generational approach based on the context (the period, the point in history when these Western Europe parties emerged) and the specific and particular conditions and factors that existed at that time may allow us to encompass this phenomenon of the boom of new parties with significant electoral results in Western Europe. This approach might help us to group these parties and establish a cohort that makes possible cross-national comparisons. This criterion aims to group together parties that mobilized in similar historical circumstances. Our generational approach takes the 2008 economic crisis (beginning) and the 2020 pandemic (end) as temporal milestones of the new parties, because the boom in Western Europe seems to have slowed down since 2020. There have been national parliamentary elections in many Western European countries in recent years, and very few new parties have made their breakthrough with significant electoral results[3]. The pandemic may have slowed down the creation of new parties. However, three or four years is not enough time to draw conclusions. We are aware that we cannot compare more than a decade to a few years.

Hence, we can group as *crisis parties* the political parties formed in Western Europe in the 21st century, mainly from 2008 (economic crisis) to 2020 (pandemic), that have won at least one seat in the national or state parliament in at least one election, regardless of their ideology (from the extreme right to the radical left), the political issues they underscore or their provenance (i.e., whether they are genuinely/organizationally new or renewed). To fight against traditional parties that have lost legitimacy and to reconnect with citizens,

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[2] Javier Polavieja's (2013) study on the effect of economic conditions on public support for the political system, using data from the European Social Survey, showed that trust and satisfaction with democracy declined in several European countries after the crisis, especially in those most affected by the economic downturn.

[3] Only in Denmark and Italy have new parties emerged and gained electoral representation. In Denmark, two new parties (Moderaterne and Danmarksdemokraterne, with 16 and 14 seats, respectively) have emerged with relevant electoral impact. In Italy we also find some young parties, albeit with poorer electoral results (Italia al Centro and Coraggio Italia from the Noi moderati coalition, Impegno Civico and Sud chiama Nord, the last two with only one seat each). What we do appreciate are some electoral alliances and platforms (but not new parties) made up of young parties with the aim of concentrating citizens' votes and better competing in elections while trying to cope with a fragmented political scenario. These include Ensemble and NUPES in France; Sumar in Spain; Noi moderati, Partito Democratico-Italia Democratica e Progressista, Alleanza Verdi e Sinistra, and Azione-Italia Viva in Italy.

most such parties use digital tools. We rely on the least restrictive literature on what a new party is, and we include all parties that have been added to a country's original party system, that simply did not exist before. We consider crisis parties not only the "genuinely" or "organizationally" new but also the renewed, for two reasons: first, as noted, sometimes the border is blurred, and it is really tricky to determine if a particular party is one or another category; second, because the explanation for a party renewal can be found, precisely, in the historical context, as a response to a changing environment, i.e., as an attempt to adapt to a new political scenario. Renewed parties – result of mergers, splits, coalitions or even refoundations – can be mostly explained by the need to offer society a fresh airing to deal with the discredited established parties' image, as Sikk (2012) suggests as a possible successful formula. And that can entail more changes than a mere rebranding. As we have stated before, if we only take into account "genuinely" or "organizationally" new parties, we would be setting aside salient new parties such as Syriza that are an important part of the crisis parties phenomenon.

Having set our cohort based on the historic moment when they emerge, an examination of the comparative literature leads us to consider that at least some crisis parties might have these common and transversal traits: higher digitalization, thinner structure and more members. These characteristics are closely linked to the historical context of the time in which such parties were born. Thus, we aim to test several hypotheses on these common attributes of the crisis parties compared to the older cohorts parties.

Regarding digitalization, by relying on the technological factor we described above (boom of digital tools) and on what some scholars point out (Gerbaudo 2018, 2019; Guglielmo 2021; Lioy, Del Valle, Gottlieb 2019; Raniolo, Tarditi, Vittori 2021), we might expect that the crisis parties would be generally more digitalized than the previous cohorts parties. At least, these parties would be more likely to take advantage of digital tools, as other authors note (for instance, Sandri et al. 2024).

H1. The crisis parties are more digitalized than the older cohorts parties.

Several authors (Biancalana 2016; Raniolo, Tarditi 2020; Tormey 2015) note that their structure is generally lighter (and more horizontal as well) than previous cohorts. Digital tools have something to do with it since ICTs can help parties save on labor and rent, as they can scale up communications, hold virtual referenda and utilize fewer working spaces (Blasco 2021).

H2. The crisis parties have thinner structures than the older cohorts parties.

Lastly, with respect to parties' membership, van Haute and Ribeiro (2022) underscore that the formative environment (party origins) in which parties emerged matters. They note that:

> *"... older parties place higher costs and barriers for the entry of new members and offer fewer benefits to their members..."* (van Haute, Ribeiro 2022: 290).

And:

> *"… newer parties can compensate for this disadvantage by adopting more aggressive recruitment strategies, such as lowering membership costs and offering more innovative mechanisms for internal participation"* (van Haute, Ribeiro 2022: 290).

Hence, we could expect more citizens joining or supporting these parties that might reverse the downward trend in Western parties' membership underscored by many authors (Katz et al. 1992; Scarrow, Gezgor 2010; van Biezen, Mair, Poguntke 2012). Katz (2022) has already emphasized recently how some of the trends of the Western liberal party democracy crisis (such as low voter turnout or party membership) have been partially ameliorated in recent years owing to the growing support for the rising anti-party-system parties.

> *H3. The crisis parties have more members than the older cohorts parties.*

4. Data and methods

We analyze the Western European parties included in the Political Parties Database Project (PPDB - Poguntke et al. 2016) Round 2 (released in March 2022, covers 288 parties in 51 countries for 2016-19, with 427 variables). Most extra-parliamentary political parties are not included in the PPDB, but our units of analysis must be or have been parliamentary parties. Winning at least one seat in the national or state parliament in at least one election is one condition of our cohort of crisis parties. It is also true that some parties making their breakthrough at national parliaments at coding time are not included in the second round. For example, the crisis party La France Insoumise is not included although it was founded in 2016 and entered the National Assembly in 2017. Other parties such as Vox (Spain) are not included because, although it was founded in 2013 it did not enter national parliament until 2019, and the Spanish parties included in the PPDB round 2 were coded in 2017. Nevertheless, most parties represented at national parliaments at coding time are included in PPDB Round 2. We are also aware that, for some variables, considerable data are missing, and we must carefully deal with them. Notwithstanding, we believe that the PPDB, an expert-based database, is a relevant source of lots of very valuable information that can be exploited in order to compare political parties and thus try to find trends (Poguntke et al. 2016).

In order to conduct our analysis, we first added two new variables to the PPDB dataset: one to report the foundation year of each political party and another one to categorize the Western European parties[4]. Then, based on our generational approach, we selected as crisis parties the ones that have been founded in Western Europe since 2006[5] given that the PPDB does not include data after 2019 (our final time reference is the year 2020, when the pandemic began). This means that our base sample is initially made up of 29 crisis parties

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[4] Following the Brause and Poguntke classification (2021) Western Europe countries would be: Austria, Belgium, Ireland, Spain, Portugal, the United Kingdom, Switzerland, France, Denmark, Finland, Germany, Italy, Netherlands, Norway, Greece and Sweden.

[5] The phenomenon of the crisis parties neither emerges from nothing nor ends abruptly. We include Western European parties founded up to two years before the 2008 economic recession in order to take into account in our analysis some parties that, in an advanced manner, would fit into what we have defined as crisis ones, such as Liberal Alliance (Denmark), Partij voor de Vrijheid (Netherlands) or Ciudadanos (Spain).

and 69 older cohorts parties[6] from 13 countries (98 Western European parties in total). In a second step, we also created two more variables: provenance and left-right ideology. Provenance serves for distinguishing between the organizationally new crisis parties from the renewed ones, i.e., splitter, merger and refounded parties. We opt for "organization-ally" instead of "genuinely" since it seems a more precise concept when operationalizing data, i.e., when classifying parties. In addition, it transcends the need to introduce a new ideology or solutions to emerging social issues in order to qualify as a new party. For the second variable, we have placed the political families indicated in PPDB Round 2 into three left-right categories (left, center and right) in a similar way as do Sandri et al. (2024), see Appendix 3. Both these new variables (provenance and left-right ideology) help us to better examine our samples of crisis parties and older parties.

In order to be able to check our three hypotheses, we created another new variable and selected two variables from the PPDB. Concerning digitalization, we built a new index (from 0 to 1), taking into account 8 PPDB variables related to the parties' websites' affordances (see Appendix 1). González-Cacheda and Cancela (2024) have recently built their general digitalization dimension in a very similar way (using almost the same variables as we do from the same PPDB version). Although digitalization goes beyond websites affordances, we believe that they can provide us with some hints or an overview of the level of use of technology by parties. The framework and "DIGIPART" dataset of Sandri et al.'s digitalization study (2024) are more developed and complete, but the PPDB includes more countries (in our case, 13 countries, versus 5) and the coding date is different. As we mentioned before, their work concludes that the younger parties are less digitalized, but the year-gap (2-5 years) can be determinant in terms of party digitalization. It is possible that crisis parties were more digitalized at the beginning (when they emerged) than the previous cohorts but not anymore because of the normalization hypothesis. From our initial sample of 29 crisis parties, only 3 parties do not have PPDB data to calculate their digitalization score[7]. All 69 older parties have data to do it properly. So, we consider there would not exist any significant bias in this sense.

For analyzing the size of the parties' structure, we selected as a proxy a PPDB variable that indicates the number of paid full-time employees in national party headquarters. In this variable, there are many missing values[8]. Therefore, the results of the analysis of this variable should be interpreted with caution. And, for membership, we chose a PPDB variable that informs the parties' number of individual members with full rights as a formal category, distinct from unaffiliated supporters. Again only 3 crisis parties have no data, but there are more older parties that have no values[9]. Since only some parties in the PPDB have sympathizers (non-members) data, we could not consider this variable. Finally, we operate two more PPDB variables related to the seats that parties held at coding time (number and percentage). See Appendix 2 for consulting the PPDB crisis parties list we have taken into

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[6] We do not consider the 23 traditional parties from Finland, Sweden and the United Kingdom because PPDB Round 2 does not include any crisis parties from these countries. Hence, we do not take them into account, in order to avoid biases.

[7] They are the Parti Populaire, the Liberal Alliance and Independents4Change. From 3 different countries (Belgium, Denmark and Ireland respectively) and ideologies (right, center and left respectively).

[8] 15 out of 29 crisis parties and 23 out of 69 older parties have no staff data.

[9] 15 out of 69 older parties have no membership data.

account in our study and the variables' data that we analyze. Coding years of parties' data can be found there as well.

Finally, we analyzed the differences in each of the three variables under examination (digitalization, structure and membership) for two groups of parties (crisis parties and all the others) and calculated T-tests to provide statistical validity to the differences in means. In addition, R Pearson correlations have been conducted for some of the numerical variables.

5. Empirical analysis

In this section we check empirically whether the crisis parties shared some common features linked to their historic origin, namely: if they are more digitalized, have less structure and more members than the older parties. These are the three hypotheses we have formulated.

We start by providing some information about our sample of Western European crisis parties. The timeline (Figure 1) shows that most crisis parties were founded in 2009, just after the 2008 recession. We also can postulate the beginning of the downward tendency of new parties in recent years that we noted before.

Figure 1: Crisis parties' foundation years[10]
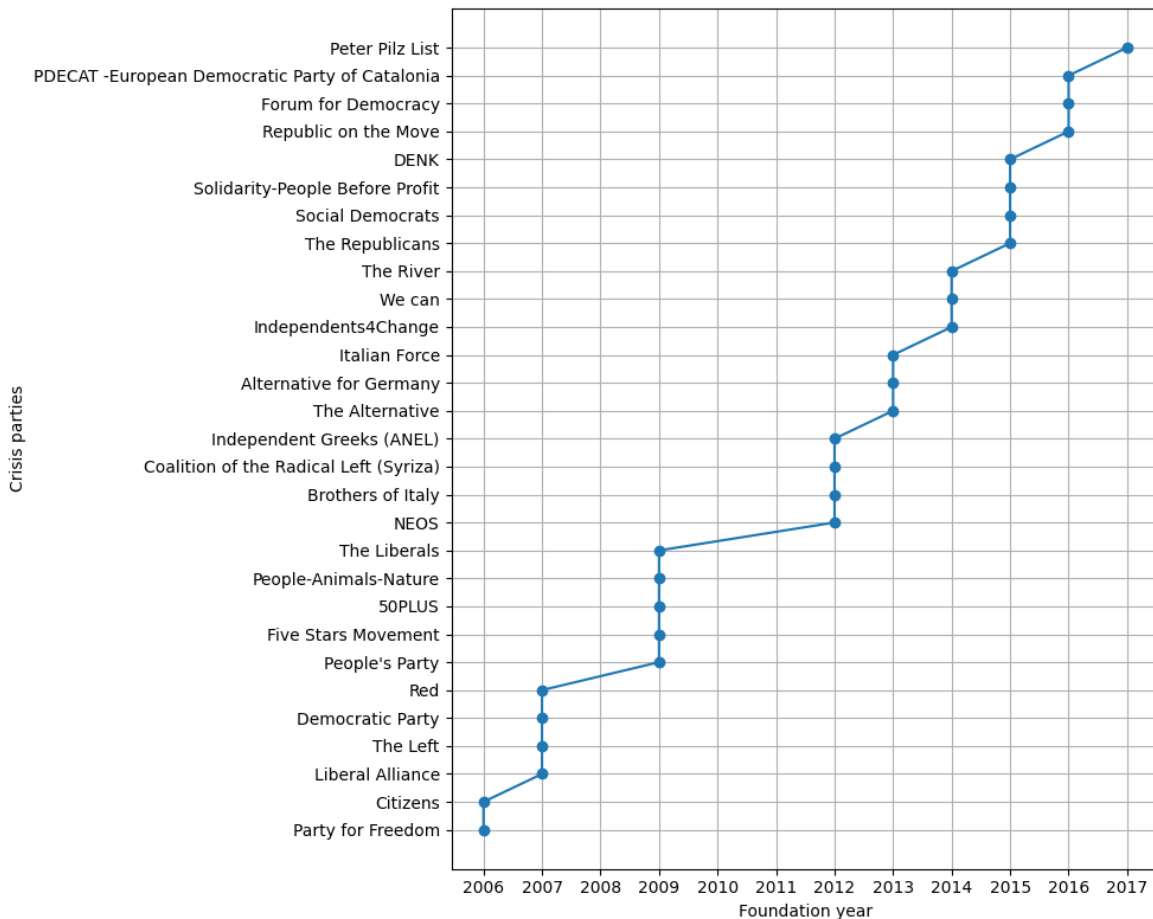
Source: *Authors.*

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[10] Party names are shown in English because they are coded in this language in the PPDB.

All crisis parties included in our sample have MPs, i.e., held seats in the lower house of the national legislature at the end of the coding year. La République en Marche (France), Syriza (Greece) and Movimento 5 Estelle (Italy) stand out for the very high share of seats they obtain. Regarding their roots, 15 out of 29 crisis parties are organizationally new, 6 resulted from splits, 5 from mergers and 3 from refoundations. More than a half of the crisis parties are organizationally new.

We find 12 left-wing parties, 10 center parties and 7 right parties. Regarding the older cohorts parties, there are 33 left-wing parties, 25 right-wing parties and 11 center parties. If we compare the crisis parties to the older ones, we rapidly note that the proportion of left-wing parties is similar while we can see a change in center and right parties. The weight (35%) that center parties have in our sample of crisis parties is noteworthy.

Having described some of the characteristics of our sample, it is time to check our hypotheses. Regarding digitalization (H1), we can see how the digitalization mean of the crisis parties is just a little bit higher than that of the older ones (Figure 2). In fact, the T-test (see Appendix 4) shows that, although older cohorts parties have a slightly lower mean than the crisis parties, the difference is not statistically significant at the 95% confidence level.

When we only take into account the "organizationally" crisis parties, their mean increases (0.58). Instead, we note that González-Cacheda and Cancela (2024) have not found differences among political parties in terms of digitalization levels related to their age. They cannot state that younger political parties take more advantage of digital tools than the traditional ones. For them, similar digitization among political parties would be the result of a process of imitation and contagion. Nevertheless, our samples are slightly different. They include all the European parties from the PPDB Round 2, and we only consider the Western European ones. Moreover, our statistical analysis is different because we specifically examine the differences between two cohorts (crisis versus older cohorts parties). Thus, it is possible that in Western Europe the youngest parties were a bit more digitally advanced than the previous ones at coding time.

Figure 2: Digital index of the crisis parties and the older parties
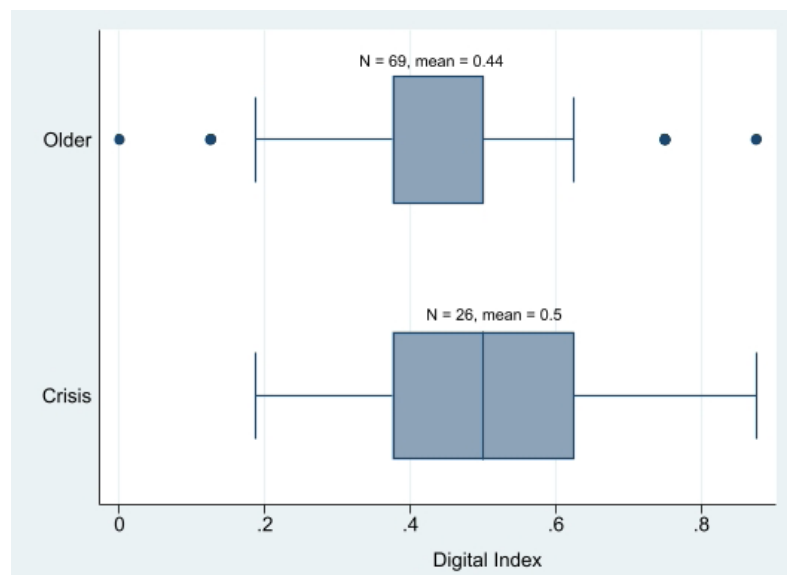
Source: *Authors.*

What we also can note is that no crisis party scores 0 (because all have links to social media accounts on their websites), and their distribution is more skewed towards the highest scores. In the case of the older cohorts parties, we found one party that scored 0 (the KKE), and the highest quartile finished in value 0.625.

Ciudadanos (Spain) is the crisis party that obtains the highest value (0.875), with 7 out of 8 web affordances, followed by La République en Marche (France). At the bottom of the list, we find Syriza (Greece). The three Greece crisis parties are at the tail end of the digitalization index while the three Spanish ones are in the first positions. It is also remarkable that out of the 10 crisis parties that have the highest digitalization scores, 8 are organizationally new and none is from the right-wing (5 are center parties and 5 from the left-wing). The weight that center parties have amongst the most digitalized crisis parties is something salient. In fact, the two crisis parties with the highest digitalization values are center ones (Ciudadanos and La République en Marche).

By following the distinction by González-Cacheda and Cancela (2024), we observe how the different level of digitalization between the crisis parties and the older cohorts parties is explained by the resource mobilization dimension and not by the participation one. While the mean of the latter is almost equal (0.11 for the crisis parties and 0.10 for the older ones) the mean of the former is significantly higher for the crisis parties (0.72) than for the older parties (0.59). Therefore, it seems that the crisis parties are more digitalized by mobilizing resources (members, donations and help with specific tasks) and not for increasing the participation mechanisms, at least at the website layer. Just as González-Cacheda and Cancela (2024) suggest:

> *"We cannot predict a higher level of digitization of participation and deliberation among younger political parties"* (González-Cacheda, Cancela 2024: 8).

Secondly, with regard to the party structure (H2), we found that the crisis parties have fewer paid full-time employees in national party headquarters than the older cohorts parties (Figure 3). The staff mean of the older parties is higher than the crisis parties' mean, and their distribution is more skewed towards the highest scores.

Figure 3: Staff size of the crisis parties and the older parties
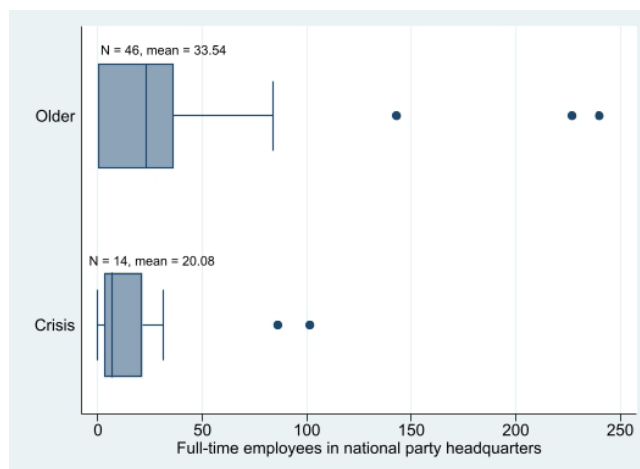
Source: *Authors.*

We could argue that the crisis parties have less structure because they are not so institutionalized and have a lower percentage of seats in national parliaments. Still, the percentages of seats' means of the crisis parties and the older ones are not far apart, and we find no statistically significant differences between them with a T-test (see Appendix 4). Furthermore, we found a significant relationship between staff size and percentage of seats for the older parties ($r = 0.5068$, $p = 0.0003$) that does not exist for the crisis parties. This means that for the crisis parties, having more seats would not necessarily go hand in hand with having more structure.

The two crisis parties with more paid full-time employees in their national party headquarters, with far more than the others, are Podemos and Ciudadanos, both from Spain. At the other end of the spectrum, is Movimento 5 Estelle, with no staff. We found it interesting to evaluate whether there exists a relationship between structure and digitalization. There is a positive significant relationship between structure and digitalization for the crisis parties ($r = 0.6266$, $p = 0.0293$) but not for the older ones. Thus, the larger the staff of the crisis parties, the more digitalized they are. Hence, the larger crisis parties would be more prone to utilize digital tools. Nevertheless, we must note that the expectation that more digitalization would result in less staff because digital tools could substitute staff's functions and save costs would not correspond with our results, in line with findings of González-Cacheda and Cancela (2024). Contrary to their expectations, these authors find a significant relationship between the level of available resources (financial and staff) and the propensity to use digital tools. Nevertheless, in our study it would apply only for the crisis parties and not for the older cohorts.

However, as previously noted, this PPDB variable has many missing values, so we should take the previous conclusion that the crisis parties have fewer paid full-time employees than the older cohorts with caution[11]. In fact, the T-test (see Appendix 4) indicates that the difference between the staff's means of the crisis and the older parties is not statistically significant.

On the question of the parties' number of individual members (H3), we note that the members' mean of the crisis parties is higher than that of the older ones (Figure 4). Although the T-test (see Appendix 4) cannot confirm that this difference is statistically significant, it is still striking.

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[11] There are 15 crisis parties (out of 29) that have no data. They are from 9 different countries and all ideologies represented (5 left, 5 center and 4 right). Leaving 14 crisis parties with staff data from 8 different countries and with all ideologies represented (7 left, 5 center and 2 right). And regarding the older parties, 23 (out of 69) have no staff data. They are from 8 countries and with all ideologies represented as well (14 left, 7 right and 2 center). Leaving 43 older parties (out of 69) with staff data from 9 countries and with all ideologies represented (19 left,18 right and 9 center). However, the possible bias because of a reduced sample maybe is not very problematic since the sample includes parties from most countries and all ideologies of both crisis and older parties.

Figure 4: Members of the crisis parties and the older parties
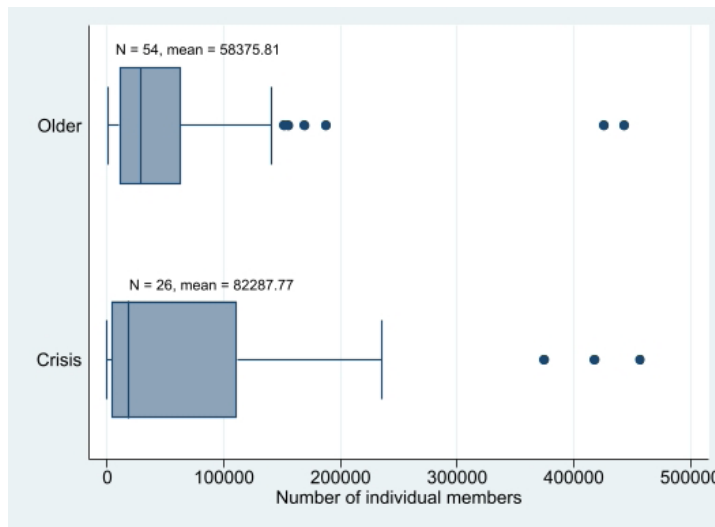
Source: *Authors.*

Could it mean that the crisis parties might be reversing the downward trend in Western parties' membership? Are the crisis parties capable of engaging new and more citizens with their proposal of new politics, lower membership costs and offering more internal participation?

Podemos (Spain) and La République en Marche (France) stand out again (both organizationally new). They are the two crisis parties with the largest number of members. We must take into account that Podemos until 2018 and La République en Marche till now (in their successive refoundations) allow party registration without any fees or ID card, as do many other crisis parties that aim to open participation to sympathizers and the citizenry in general. In country terms, crisis parties from France and Italy occupy prominent positions while in ideology terms, center parties have an important weight amongst the crisis parties with the largest number of members (4 out of the first 10).

In the case of this variable, only 3 crisis parties[12] have no data, and 15 older parties have no values[13]. Since the amount of missing data is not so high, we may discard serious bias.

6. Discussion and conclusion

This article aims to better understand the phenomenon of the rise of new parties in Western Europe over the past two decades. The first thing we had to address was how to best delimit this phenomenon. We have critically reviewed some attributes ("new" and "digital") and concepts that scholars usually use to refer to these parties. We note that they are not precise enough and cannot encompass the phenomenon as a whole. That is why we propose adopting a different perspective and providing a generational approach that allows us to group together parties that mobilized in similar historical circumstances. The contextual

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[12] They are: Parti Populaire, Independents4Change and ANEL (the first two are two of the three that do not have digitalization data). From 3 different countries (Belgium, Ireland and Greece respectively) and not from the left-wing ideology (2 from right and 1 from the center respectively).

[13] 15 out of 69 older parties have no membership data. They are only from 3 countries and from all ideologies (7 left, 5 right and 3 center). Leaving a sample of 54 older parties from 12 countries with all ideologies represented (26 left, 20 right and 8 center).

conditions (institutional, sociological, economic and technological factors) in which these new political parties have emerged in Western Europe give us the opportunity to set a cohort. In this sense, we group as crisis parties the political parties formed in Western Europe in the 21st century, mainly from 2008 (economic crisis) to 2020 (pandemic), that have won at least one seat in the national or state parliament in at least one election, regardless of their ideology, the political issues they underscore or their provenance.

This generational approach also gives us the opportunity, by going further from a simple temporal criterion, to observe whether all these parties have some common traits as a consequence of sharing similar contextual origins (comparable factors in the same period and region). Our perspective opens the door to determine whether similar historical circumstances make the crisis parties different from the previous ones, i.e., whether these parties have some common characteristics and if it implies some changes or innovations in the Western European party systems. Three common features that scholars usually stress for the new digital parties in contrast to the older ones lead our hypotheses: the crisis parties are more digitalized (H1), have less structure (H2) and more members (H3) than the older cohorts parties.

We empirically checked these three hypotheses by operationalizing the Political Party Database PPDB Round 2 with a sample of 98 parties from 13 Western European countries (29 crisis and 69 older). Although we did not find a statistically significant difference between belonging to the crisis parties group and being part of the older parties with relation to digitalization, structure and members, the difference in means between groups is relevant, and our descriptive analysis reveals some inclinations. We observe that the crisis parties have means inclined to our hypotheses for the three variables.

Regarding digitalization, the crisis parties would be a little bit more digitalized, especially, when they are "organizationally new". Moreover, no crisis party scores 0 in the digitalization index that we built. Thus, we could confirm H1. This result goes against some recent empirical studies (for instance, Sandri et al. 2024) that show a relation between digitalization and the age of parties, with older parties appearing more digitalized. We have suggested that it is possible that the crisis parties were more digitalized than the older ones at the beginning (in their first years of life) but not anymore because of the normalization process. Something remarkable in this line is that the different level of digitalization between the crisis parties and the older cohorts parties is explained because they use the digital tools more to mobilize resources (members, donations and help with specific tasks) than for increasing the participation mechanisms.

With respect to the structure, the crisis parties have fewer paid full-time employees in national party headquarters than the older ones. Although the crisis parties have more seats in national parliaments this does not equate to them having more staff. Again, we could confirm H2 but with great caution owing to our small sample of crisis parties reduced by missing values. We also found a positive significant relationship between structure and digitalization for the crisis parties that does not exist for the older ones. This means that the larger the staff of the crisis parties (i.e., when they have more resources, at least human ones), the more digitalized they are. Thus, probably the level of available human resources helps much more with digitalization of the crisis parties because they are further inclined to utilize digital tools than the older parties. Finally, we observe that the crisis parties have more members than the older Western European parties (H3). That fact would contribute to a change to the downward trend in Western parties' memberships or, at least, a change

in the way parties understand membership as a more flexible and undemanding adherence or registration (Scarrow 2015).

In our research, we identify two limitations. First, the problem that a generational approach can entail. Boundaries between generations are not precise, definitive, or universally agreed upon (Dimock 2023). Choosing a cutoff year to delineate a generation is extremely difficult because groups change over time. However, generations can help researchers to study how members of a group have been shaped by similar experiences and give us the chance to better understand social change. As Dimock (2023) writes, eras can leave a signature of common experiences and perspectives, and it is wise to think of generational terms as general reference points. For this reason, we want to emphasize our temporal milestones (2008 recession and 2020 pandemic) as historical and somewhat flexible references of foundation for grouping these Western European parties (the phenomenon of the crisis parties does not suddenly appear and suddenly disappears). We also know that differences within a generation can be as great as differences between generations. Some of the divides among the crisis parties might be the provenance (genuinely or organizationally new versus renewed), ideology (left-right axis) and digitalization main purposes (participation versus communication). However, we are aiming to determine whether a whole generation of parties, owing to them sharing a historical context when they emerged, may have some common and singular features compared to the older cohorts parties. The historical context that is linked to certain years offers us a framework that can help us find the differential shared features that this generation of parties might have.

And the second limitation is related to the PPDB's dataset. It contains gaps, including missing political parties and incomplete variable data. However, we consider that it does not cause important bias in our research, and we believe that the only thing that may call into question some of the results is the missing values of the staff variable. Also, our digitalization index only takes into account web affordances (the data available in this database) and we know digitalization is more than this although it can give us some clues.

To sum up, our contribution with the generational approach to the scientific community would be double. One, it serves to determine better and encompass the phenomenon of the boom of new parties in Western Europe. Two, it allows us to observe empirically whether emerging in a similar historical context entails that parties can share common characteristics, and we found that this is the case for the crisis parties. However, political parties do evolve, hence the common features of these parties that we noted could be present only in their respective first stages of life (related to the coding data moment, years 2017-2019). It would be interesting to trace and compare these characteristics of the crisis parties over time to know how they evolve.

To conclude, another possible common feature of the crisis parties that we believe should be empirically studied is internal democracy. As we posed before, it is not clear whether these crisis parties are really increasing their intra-party democracy (IPD), and our results show that crisis parties are not using digital tools for boosting IPD more than the older ones. There is much debate about their IPD model. More quantitative research, considering a significant number of units of analysis, would be needed to better know whether the crisis parties are more internally democratic than the older parties or not. In this sense, a promising future research would be to use the PPDB again by following our generational approach and applying Von Dem Berge and Poguntke's (2017) model for measuring IPD. The PPDB has raised great expectations as a relevant source of information that can be used

by the scientific community, and we want to emphasize that it is crucial to keep feeding, updating, and improving it, as well as building new ones (e.g. DIGIPART by Sandri et al. 2024) that allows us to empirically compare political parties.

REFERENCES:

BARBERÀ, Oscar et al. (2021). Political parties transition into the digital era. In BARBERÀ, Oscar et al. (eds.). *Digital parties: The challenges of online organisation and participation*. Springer, Cham, pp. 1–22. https://doi.org/10.1007/978-3-030-78668-7_1.

BENNETT, W. Lance; SEGERBERG, Alexandra; KNÜPFER, Curd B. (2018). The democratic interface: Technology, political organization, and diverging patterns of electoral representation. *Information Communication and Society*. Vol. 21, no. 11, pp. 1655-1680. https://doi.org/10.1080/1369118X.2017.1348533.

BIANCALANA, Cecilia (2016). *Internet as a tool of disintermediation. The case of the Five Star Movement (Italy).* Paper presentation. ECPR Graduate Student Conference, University of Tartu, Tartu, Estonia.

BLASCO, Eduardo (2021). The secret digital garden of politics: Spanish parties and their intranets. In BARBERÀ, Oscar et al. (eds.). *Digital parties: The challenges of online organisation and participation*. Cham: Springer, pp. 163–179. https://doi.org/10.1007/978-3-030-78668-7_9.

BOLLEYER, Nicole; BYTZEK, Evelyn (2013). Origins of party formation and new party success in advanced democracies. *European Journal of Political Research.* Vol. 52, no. 6, pp. 773-796. https://doi.org/10.1111/1475-6765.12013.

BRAUSE, Simon; POGUNTKE, Thomas (2021). *Consistency Checks IPD Index Round 2 (V2)*, Düsseldorf. [accessed 2024-12-01]. Available from WWW: <https://www.pruf.de/fileadmin/redaktion/Oeffentliche_Medien/PRuF/Daten_zum_Download/Brause_Poguntke_2021_Consitency_Checks_IPD_Index_Round_2.pdf>.

CASAL BÉRTOA, Fernando; RAMA, José (2020). Party decline or social transformation? Economic, institutional and sociological change and the rise of anti-political-establishment parties in Western Europe. *European Political Science Review*. Vol. 12, no. 4, pp. 503-523. https://doi.org/10.1017/S1755773920000260.

CHIARAMONTE, Alessandro; EMANUELE, Vincenzo (2022). The rise of new parties and the reshaping of party systems. In CHIARAMONTE, Alessandro; EMANUELE, Vincenzo (eds.). *The deinstitutionalization of Western European party systems*. Palgrave Macmillan, pp. 67-102. https://doi.org/10.1007/978-3-030-97978-2_4.

CORREA, Patricia et al. (2021). The digitalisation of political parties in comparative perspective. In BARBERÀ, Oscar et al. (eds.). *Digital parties: The challenges of online organisation and participation*. Cham: Springer, pp. 287-304. https://doi.org/10.1007/978-3-030-78668-7_15.

DE VRIES, Catherine E.; HOBOLT, Sara B. (2020). *Political Entrepreneurs: The Rise of Challenger Parties in Europe.* Princeton University Press. https://doi.org/10.23943/princeton/9780691194752.001.0001.

DIMOCK, Michael (2023). *5 things to keep in mind when you hear about Gen Z, Millennials,*

Boomers and other generations [online; accessed 2023-06]. Available from WWW: https://www.pewresearch.org/short-reads/2023/05/22/5-things-to-keep-in-mind-when-you-hear-about-gen-z-millennials-boomers-and-other-generations/.

FITZPATRICK, Jasmin (2021). The five-pillar model of parties' migration into the digital. In BARBERÀ, Oscar et al. (eds.). *Digital parties: The challenges of online organisation and participation*. Cham: Springer, pp. 23-42. https://doi.org/10.1007/978-3-030-78668-7_2.

GARCIA LUPATO, Fabio; MELONI, Marco (2021). Digital intra-party democracy: An exploratory analysis of Podemos and the Labour Party. *Parliamentary Affairs*. Vol. 76, no. 1, pp. 22-42. https://doi.org/10.1093/pa/gsab015.

GERBAUDO, Paolo (2018). *The digital party: Political organisation and online democracy*. Pluto Press.

GERBAUDO, Paolo (2019). Are digital parties more democratic than traditional parties? Evaluating Podemos and Movimento 5 Stelle's online decision-making platforms. *Party Politics*. Vol. 27, no. 4, pp. 730-742. https://doi.org/10.1177/1354068819884878.

GONZÁLEZ-CACHEDA, Bruno; CANCELA, Celso (2024). Digitalisation and political parties in Europe. *Party Politics*. Vol. 0, no. 0. https://doi.org/10.1177/13540688231225639.

GUGLIELMO, Marco (2021). Anti-party digital parties between direct and reactive democracy. The case of La France Insoumise. IN BARBERÀ, Oscar et al. (eds.). *Digital parties: The challenges of online organisation and participation*. Cham: Springer, pp. 127-148. https://doi.org/10.1007/978-3-030-78668-7_7.

HABERER, Maria; PEÑA-LÓPEZ, Ismael (2016). *Structural conditions for citizen deliberation: A conceptual scheme for the assessment of "new" parties.* Conference for E-Democracy and Open Government (CeDEM), Krems, Austria, pp. 115-124. https://doi.org/10.1109/CeDEM.2016.28.

INVERNIZZI-ACCETTI, Carlo; WOLKENSTEIN, Fabio (2017). The crisis of party democracy, cognitive mobilization, and the case for making parties more deliberative. *American Political Science Review*. Vol. 111, no. 1, pp. 97-109. https://doi.org/10.1017/S0003055416000526.

KATZ, Richard S. (2022). If the Cure for the Ills of Democracy Is More Democracy, Might the Cure Be Worse than the Disease? *Scandinavian Political Studies*. Vol. 45, no. 1, pp. 68-85. https://doi.org/10.1111/1467-9477.12218

KATZ, Richard S.; MAIR, Peter (2009). The Cartel Party Thesis: A Restatement. *Perspectives on Politics*. Vol. 7, no. 4, pp. 753-766. https://doi.org/10.1017/S1537592709991782.

KATZ, Richard S.; MAIR, Peter (2018). The Cartel Party and Populist Opposition. In KATZ, Richard S.; MAIR, Peter (2018). *Democracy and the Cartelization of Political Parties*. Oxford University Press, pp. 151-188. https://doi.org/10.1093/oso/9780199586011.003.0007.

KATZ, Richard S. et al. (1992). Membership of political parties in European Democracies, 1960-1990. *European Journal of Political Research.* Vol. 22, no. 3, pp. 329-345. https://doi.org/10.1111/j.1475-6765.1992.tb00316.x.

KITSCHELT, Herbert (2006). Movement parties. In KATZ, Richard S.; CROTTY, William. *Handbook of Party Politics*. SAGE Publications Ltd, pp. 278-290. https://doi.org/10.4135/9781848608047.n24.

KLIMOWICZ, Katarzyna Anna (2018). *Network parties. A new model to democratise and digitise party politics?* Discussion paper. Das Progressive Zentrum. Democracy Lab.

LIOY, Alberto; DEL VALLE, Marc E.; GOTTLIEB, Julian (2019). Platform politics: Party

organisation in the digital age. *Information Polity*. Vol. 24, no. 1, pp. 41-58. https://doi.org/10.3233/IP-180093.

MAIR, Peter; MUDDE, Cas (1998). The party family and its study. *Annual Review of Political Science*. Vol. 1, pp. 211-229. https://doi.org/10.1146/annurev.polisci.1.1.211.

MARGETTS, Helen (2001). *The cyber party*. Paper presentation. ECPR Joint Sessions, Institute of Political Studies, Grenoble, France.

MEGUID, Bonnie M. (2005). Competition Between Unequals: The Role of Mainstream Party Strategy in Niche Party Success. *American Political Science Review*. Vol. 99, no. 3, pp. 347-359. https://doi.org/10.1017/S0003055405051701.

MELONI, Marco; LUPATO, Fabio G. (2023). Two steps forward, one step back: The evolution of democratic digital innovations in Podemos. *South European Society and Politics*. Vol. 27, no. 2, pp. 253-278. https://doi.org/10.1080/13608746.2022.2161973.

PANEBIANCO, Angelo (1988). *Political Parties: Organization and Power*. Cambridge University Press.

PEÑA, Alejandro M.; GOLD, Tomás (2023). The party-on-the-Net: the digital face of partisan organization and activism. *Information, Communication & Society.* Vol. 26, no. 16, pp. 3257-3274. https://doi.org/10.1080/1369118X.2022.2147399.

POGUNTKE, Thomas et al. (2016). Party rules, party resources and the politics of parliamentary democracies: How parties organize in the 21st century. *Party Politics*. Vol. 22, no. 6, pp. 661-678. https://doi.org/10.1177/1354068816662493.

POLAVIEJA, Javier (2013). Economic crisis, political legitimacy and social cohesion. In GALLIE, Duncan (ed.). *Economic crisis, quality of work and social integration: The European experience*. Oxford University Press, pp. 256-278. https://doi.org/10.1093/acprof:oso/9780199664719.003.0010.

RANIOLO, Francesco; TARDITI, Valeria (2020). Digital revolution and party innovations: An analysis of the Spanish case. *Rivista Italiana Di Scienza Politica*. Vol. 50, no. 2, pp. 235-253. https://doi.org/10.1017/ipo.2019.27.

RANIOLO, Francesco; TARDITI, Valeria; VITTORI, Davide (2021). Political parties and new ICTs: Between tradition and innovation. . In BARBERÀ, Oscar et al. (eds.). *Digital parties: The challenges of online organisation and participation*. Cham: Springer, pp. 181-204. https://doi.org/10.1007/978-3-030-78668-7_10.

SANDRI, Giulia et al. (2024): Mapping the digitalisation of European political parties. *Information, Communication & Society*. Pp. 1-22. https://doi.org/10.1080/1369118X.2024.2343369.

SCARROW, Susan E. (2015). *Beyond party members. Changing approaches to partisan mobilization*. Oxford University Press.

SCARROW, Susan; GEZGOR, Burcu (2010). Declining memberships, changing members? European political party members in a new era. *Party Politics*. Vol. 16, no. 6, pp. 823-843. https://doi.org/10.1177/1354068809346078.

SIKK, Allan (2012). Newness as a winning formula for new political parties. *Party Politics*. Vol. 18, no. 4, pp. 465-486. https://doi.org/10.1177/1354068810389631.

TORMEY, Simon (2015). *The end of representative politics*. Cambridge: Polity Press.

THUERMER, Gefion (2021). Is there such a thing as web-native party? Use and role of online participation tools in the green and pirate parties in Germany. In BARBERÀ, Oscar et al. (eds.). *Digital parties: The challenges of online organisation and participation*. Springer, Cham, pp. 227-244. https://doi.org/10.1007/978-3-030-78668-7_12.

VACCARI, Cristian (2013). A tale of two e-parties. *Party Politics*. Vol. 19, no. 1, pp. 19-40. https://doi.org/10.1177/1354068810391287.

VAN HAUTE, Emilie; RIBEIRO, Pedro F. (2022). Country or party? Variations in party membership around the globe. *European Political Science Review*. Vol. 14, no. 3, pp. 281-295. doi:10.1017/S1755773922000212.

VAN BIEZEN, Ingrid; MAIR, Peter; POGUNTKE, Thomas (2012). Going, going, gone? The decline of party membership in contemporary Europe. *European Journal of Political Research.* Vol. 51, no. 1, pp. 24-56. https://doi.org/10.1111/j.1475-6765.2011.01995.x.

VON DEM BERGE, Benjamin; POGUNTKE, Thomas (2017). Varieties of intra-party democracy. In SCARROW, Susan E.; WEBB, Paul D.; POGUNTKE, Thomas (Eds.). *Organizing political parties: Representation, participation, and power*. Oxford University Press, pp. 136–157. https://doi.org/10.1093/oso/9780198758631.003.0006.

Appendix 1: Digitalization Index construction

PPDB variable	Quantification
A98WEBMBR1: Can a supporter join the party through the national party's web page? 1. No. Webpage may refer interested supporters to other party levels or may give a phone number or a PDF or an application form, but gives no way for a supporter to immediately initiate application process. 2. Yes, partial. Webpage gathers some or all application information about interested supporter (on-line form, etc.), and promises "someone will get back to you". 3. Yes, complete. Interested supporters are able to provide all necessary registration information online, and can also pay dues immediately via some electronic payment process. 4. Yes, other. -888. Not Provided -999. Not Applicable (no national party website OR not formal party membership)	Yes, complete = 1 Yes, other = 1 Yes, partial = 0.5 No = 0
A99WEBMBR2: National party web page has links to a special "members only" section. 1. Yes 2. No -888. Not Provided -999. Not Applicable (no national party website)	Yes = 1 No = 0
A101WEBGIVE2: National party website accepts on-line donations (credit card, PayPal, etc.). 1. Yes 2. No -888. Not Provided -999. Not Applicable (no national party website)	Yes = 1 No = 0

PPDB variable	Quantification
A103WEBHELP: Web page lets supporters sign up to help with specific tasks. 1. Yes 2. No -888. Not Provided -999. Not Applicable (no national party website)	Yes = 1 No = 0
The homepage of the national party website solicits comments on topical issues with the following devices:	
A104WEBTLK1: Web survey. 1. Yes 2. No -888. Not Provided -999. Not Applicable (no national party website)	Yes = 1 No = 0
A105WEBTLK2: Moderated discussion (blog, forum, etc.). 1. Yes 2. No -888. Not Provided -999. Not Applicable (no national party website)	Yes = 1 No = 0
A106WEBTLK3: Link for readers to leave comments, to "tell us what you think". 1. Yes 2. No -888. Not Provided -999. Not Applicable (no national party website)	Yes = 1 No = 0
A107WEBTLK4: Does the home page of the national party webpage contain links that connect readers to social media accounts run by the party (for example, Facebook, Twitter, Instagram, etc.)? 1. Yes 2. No -888. Not Provided -999. Not Applicable (no national party website)	Yes = 1 No = 0
Digitalization index = Σ (A98WEBMBR1 A99WEBMBR2 A101WEBGIVE2 A103WEBHELP A104WEBTLK1 A105WEBTLK2 A106WEBTLK3 A107WEBTLK4) N variables	

Source: *Authors.*

Appendix 2: PPDB crisis parties list and variables data

Country (CTRYID)	PPDB Coding Year (YEAR)	Party Name (PTYID)	Foundation Year (new variable)	Provenance (new variable)	Party Family (PARTYFAMNEW)	Classic Ideology (new variable)	Number of Seats (CR-4SEATS1)	Percentage of Seats (CR-5SEATS2)	Members (CR12M-BRNUM)	Staff (A26S-TAFHQ.)	Digital Index (new variable)
Austria	2018	Peter Pilz List	2017	Splinter	Other	Left	9	5	25	No data	.25
Austria	2018	NEOS	2012	Organizationally new	Liberals	Center	10	5	2863	No data	.625
Belgium	2017	People's Party	2009	Organizationally new	Right-wing (populists)	Right	1	.66	No data	0	No data
Denmark	2017	Liberal Alliance	2007	Organizationally new	Liberals	Center	13	8	4500	No data	No data
Denmark	2017	The Alternative	2013	Organizationally new	Greens	Left	9	5	10159	9	.625
France	2017	The Republicans	2015	Refoundation	Conservatives	Right	112	19	235000	No data	.375
France	2019	Republic on the Move	2016	Organizationally new	Liberals	Center	304	52.7	418000	No data	.75
Germany	2017	The Left	2007	Merger	Communists or Left Socialists	Left	69	9.73	62300	No data	.5
Germany	2017	Alternative for Germany	2013	Splinter	Right-wing (populists)	Right	92	12.98	27621	No data	.5
Greece	2017	Coalition of the Radical Left (Syriza)	2012	Merger	Communists or Left Socialists	Left	145	48	29000	No data	.1875
Greece	2018	The River	2014	Organizationally new	Liberals	Center	6	2	6000	No data	.375
Greece	2017	Independent Greeks (ANEL)	2012	Splinter	Right-wing (populists)	Right	9	3	No data	No data	.375
Ireland	2017	Social Democrats	2015	Organizationally new	Social Democrats	Left	2	1.27	1000	7	.5
Ireland	2017	Independents4Change	2014	Organizationally new	Communists or Left Socialists	Left	3	1.9	No data	7	No data
Ireland	2017	Solidarity-People Before Profit	2015	Organizationally new	Communists or Left Socialists	Left	6	3.8	1000	21.25	.625
Italy	2018	Democratic Party	2007	Merger	Social Democrats	Left	112	17.8	374786	No data	.5
Italy	2018	Italian Force	2013	Splinter	Liberals	Center	105	16.7	111000	3	.5
Italy	2018	Five Stars Movement	2009	Organizationally new	Other (populist)	Center	220	34.7	150000	0	.625
Italy	2018	Brothers of Italy	2012	Splinter	Far right (extreme right)	Right	32	5	55000	6	.375
Netherlands	2018	Party for Freedom	2006	Organizationally new	Right-wing (populists)	Right	20	13.33	1	No data	.375
Netherlands	2018	50PLUS	2009	Refoundation	Other (single-issue for seniors)	Center	4	2.67	6081	1.8	.375

Country (CTRYID)	PPDB Coding Year (YEAR)	Party Name (PTYID)	Foundation Year (new variable)	Provenance (new variable)	Party Family (PARTYFAMNEW)	Classic Ideology (new variable)	Number of Seats (CR-4SEATS1)	Percent-age of Seats (CR-5SEATS2)	Mem-bers (CR12M-BRNUM)	Staff (A26S-TAFHQ.)	Digital Index (new variable)
Netherlands	2018	Forum for Democracy	2016	Organizationally new	Right-wing (populists)	Right	2	1.33	22884	No data	.5
Netherlands	2018	DENK	2015	Splinter	Ethnic	Left	3	2	3658	4	.5
Norway	2017	Red	2007	Merger	Communists or Left Socialists	Left	1	1	4540	3.6	.5
Portugal	2018	People-Animals-Nature	2009	Organizationally new	Greens	Left	1	0.4	1200	No data	.5
Spain	2017	PDECAT -European Democratic Party of Catalonia	2016	Refoundation	Regionalist	Center	8	2.3	13034	No data	.625
Spain	2017	We can	2014	Organizationally new	Communists or Left Socialists	Left	46	13.14	456725	101.5	.625
Spain	2017	Citizens	2006	Organizationally new	Liberals	Center	32	13	23105	86	.875
Switzerland	2017	The Liberals	2009	Merger	Liberals	Center	33	16.4	120000	31	.4375

Source: *Authors.*

Appendix 3: Party families into classical ideologies

Family	Ideology
Communists/Left Socialists	Left
Social Democrats	
Greens	
Christian Democrats	Right
Conservatives	
Right-wing (populists)	
Far right (extreme right)	
Liberals	Most center (some right)
Agrarian/Farmer's Party	Left, center or right (depends on each case)
Regionalist	
Ethnic	
Other	

Source: *Authors.*

Appendix 4: Variables T-tests

Digitalization index T-test:

```
--------------------------------------------------------------------------
  Group |   Obs      Mean   Std. err.  Std. dev.  [95% conf. interval]
---------+----------------------------------------------------------------
  Older |    69  .4456522  .0203991  .1694474  .4049465   .4863579
  Crisis |    26        .5  .0292124  .1489547  .4398359   .5601641
---------+----------------------------------------------------------------
Combined |    95  .4605263  .0169411  .1651212  .4268894   .4941632
---------+----------------------------------------------------------------
   diff |        -.0543478  .0377831            -.1293776    .020682
--------------------------------------------------------------------------
   diff = mean(No) - mean(Yes)                        t =  -1.4384
H0: diff = 0                          Degrees of freedom =      93

   Ha: diff < 0            Ha: diff != 0            Ha: diff > 0
 Pr(T < t) = 0.0768     Pr(|T| > |t|) = 0.1537     Pr(T > t) = 0.9232
```

Seats percentage T-test:

```
--------------------------------------------------------------------------
  Group |   Obs      Mean   Std. err.  Std. dev.  [95% conf. interval]
---------+----------------------------------------------------------------
  Older |    69  13.05348  1.301486  10.81096   10.4564   15.65055
  Crisis |    29  10.95897  2.488186  13.39929  5.862147   16.05578
---------+----------------------------------------------------------------
Combined |    98  12.43367  1.172317  11.60534  10.10695    14.7604
---------+----------------------------------------------------------------
   diff |         2.094513  2.572786            -3.012428   7.201453
--------------------------------------------------------------------------
   diff = mean(No) - mean(Yes)                        t =   0.8141
H0: diff = 0                          Degrees of freedom =      96

   Ha: diff < 0            Ha: diff != 0            Ha: diff > 0
 Pr(T < t) = 0.7912     Pr(|T| > |t|) = 0.4176     Pr(T > t) = 0.2088
```

Structure T-test:

```
--------------------------------------------------------------------------
  Group |   Obs      Mean    Std. err.  Std. dev.  [95% conf. interval]
---------+----------------------------------------------------------------
  Older |   46    33.5487   7.574434   51.37231     18.293    48.80439
  Crisis |  14    20.08214  8.682722   32.48777    1.324263   38.84002
---------+----------------------------------------------------------------
Combined |   60    30.4065   6.162295   47.73293   18.07578    42.73722
---------+----------------------------------------------------------------
   diff |         13.46655   14.58799              -15.73449    42.6676
--------------------------------------------------------------------------
   diff = mean(No) - mean(Yes)                         t =   0.9231
H0: diff = 0                          Degrees of freedom =     58

   Ha: diff < 0              Ha: diff != 0             Ha: diff > 0
 Pr(T < t) = 0.8201      Pr(|T| > |t|) = 0.3598      Pr(T > t) = 0.1799
```

Members T-test:

```
--------------------------------------------------------------------------
  Group |   Obs      Mean    Std. err.  Std. dev.  [95% conf. interval]
---------+----------------------------------------------------------------
  Older |   54    58375.81  11902.68   87466.46   34502.06    82249.56
  Crisis |  26    82287.77  26664.84   135964.5   27370.51     137205
---------+----------------------------------------------------------------
Combined |   80    66147.2   11784.35   105402.4   42691.04    89603.35
---------+----------------------------------------------------------------
   diff |        -23911.96   25175.68             -74032.88    26208.96
--------------------------------------------------------------------------
   diff = mean(No) - mean(Yes)                         t =  -0.9498
H0: diff = 0                          Degrees of freedom =     78

   Ha: diff < 0              Ha: diff != 0             Ha: diff > 0
 Pr(T < t) = 0.1726      Pr(|T| > |t|) = 0.3451      Pr(T > t) = 0.8274
```