



# Rethinking political representation: A new measurement of gender equality in political representation in the European Union

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## **ABSTRACT**

Feminist scholars are moving away from unidimensional indicators of gender equality in political representation, such as the number of elected female officials. This paper aims to make an important methodological contribution to the field of minority representation by introducing the Gender Political Representation Index (GPRI). The GPRI complements traditional measures of gender equality in political empowerment with gender mainstreaming practices observed in the European Union. This new index goes beyond confined gender related interests, such as childcare and family policies, and encourages a comprehensive understanding of gender as multi-layered system, with important consequences at the micro, meso (interpersonal, household, community...), and macro level. This paper uses the GPRI to investigate whether more proportional institutional systems tend to be associated with more gender-equal political representation. Using quantitative analysis, I argue in favour of this hypothesis. Moreover, I tentatively identify average district magnitude as a potential channel through which more proportional systems score better in the GPRI. Overall, the GPRI re-focuses the attention on substantive representation. It also contributes to the literature on correlations between proportionality and gender equality in political representation, finding a positive association between the two. As a consequence, this paper points out the interesting question of how average district magnitude affects substantive representation that future research shall answer.

## INTRODUCTION

The issue of political representation is becoming increasingly important, especially for marginalised and traditionally oppressed communities, as academic literature and data availability on social and economic inequalities are growing. This debate is particularly important given the current political movements challenging the solidity of Western democracies often attributed to a lack of political representation and individual freedom. Therefore, this paper aims to contribute to the methodology in the field of political representation by constructing a composite index called the “Gender Political Representation Index (GPRI)”. In particular, this paper builds on the criticism by feminist scholars of common practice by traditional academia, media and policymakers to equate the number of women in elected political bodies to the wider concept of gender equality in political representation (Waylen et al., 2013). Indeed, I theoretically and empirically argue against the validity of using number of women in political institutions as a measure for gender equality in political representation. After outlining a broad theoretical framework of political representation, I will concentrate on the specific topic of women’s political empowerment due to the wide availability of data and literature on the topic.

My first hypothesis is that whilst countries with higher shares of female elected officials tend to have, on average, more substantive policies promoting gender equality - a causal relationship between the two cannot be inferred. According to the results of the empirical analysis conducted, I argue that this hypothesis is upheld. As such, the number of females elected officials is not a good proxy for policies promoting interests shared by gender-based communities. In this paper I will focus on women’s political empowerment by constructing the GPRI for all the countries in the European Union (EU). This index comprises indicators measuring both statistical parities between

men and women in political bodies and substantive advancement of interests shared by gender-based communities. I measure the latter through gender mainstreaming practices to avoid being bound by the traditional definition of women's interests such as childcare, family, and women's health policies.

Using this newly developed indicator, I evaluate my second hypothesis - that more proportional systems are associated with more gender-equal political representation. Similarly, the empirical analysis upholds my hypothesis. I then assess whether the channel of this relationship is average district magnitude, as the literature suggests. In this last case, my empirical analysis tentatively supports this third hypothesis as the results are only significant at the 90% confidence level.

Finally, I will discuss the limitations of this paper, possible future research to further this analysis and policy implications for the EU. Specifically, I point out how the use of the number of women representatives as the only instrument to measure gender empowerment in politics (Gender-Equality Index, EIGE) shaped how the EU framed and responded to gender inequality in political representation. This paper contributes with a new methodology to the field of minority political representation re-focusing the attention on substantive representation, and to the literature on correlations between proportionality and gender equality in political representation.

## **THEORETICAL FRAMEWORK**

In this section, I will define the concept of political representation and operationalize it to derive measurable indicators. As a theoretical concept is constructed by putting together its characteristics, it is necessary to outline an operational definition to translate political representation in a way that allows it to be measured (Lundberg, 1942; Blumer, 1931; Hammersley, 1989). As the aim of the theoretical framework constructed by

this investigation is broad and applicable to other minorities, I will focus on the case of gender in political representation - due to the availability of both literature and empirical data on the issue (see for example EIGE database; Dion and Mitchell, 2020; Galligan, 2007).

## The concept of representation

Democratic representation is founded on the principles of delegation and responsiveness. Voters delegate decision-making power to representatives, expecting them to be responsive to their interests. In one of the most prominent works on democratic representation, Pitkin describes four types of representation: formalistic, symbolic, descriptive, and substantive (Pitkin, 1967). Formalistic and symbolic representation respectively assess the legitimacy of elected officials and whether they are well accepted by their constituents. Descriptive representation is defined as the compositional similarity between elected politicians and their voters as well as the degree to which representative political institutions reflect their populations' demographic diversity. Finally, substantive representation is measured by taking into account policy-makers actions toward defending the interests of their constituents. For this essay, I will focus on the last two as they are the most relevant when talking about minorities' political empowerment (Wängnerud, 2009; Mansbridge, 1999; Phillips, 1995, 1998; Minta, 2012).

The concept of representation has been modelled through the principal-agent theory to explain how both voters and representatives act (Bertelli, 2016; Higgs, 2018; Gailmard, 2012; Mansbridge, 2009; Miller, 2005). In this setting, voters are the principals delegating power through elections to the agents – elected officials. The election of representatives is rationally motivated by social efficiency based on the division of labour

and specialisation. In all principal-agent settings, the main problem that principals want to overcome - using the tools of monitoring and punishment - is agent free-riding which stems from information asymmetry (Spence and Zeckhauser, 1971). In the context of democratic representation, this entails voters being motivated to select the candidate that best represents them. This in turn will save on monitoring and sanctioning efforts that would have existed due to the high degree of information asymmetry and coordination problems specific to this setting (Mansbridge, 2009; Miller, 2005).

## **The interrelation between identity and representation**

In light of the above considerations, the alignment of interests between representatives and voters is fundamental to building trust between the parties and for cutting monitoring costs for principals (Mansbridge, 2009; Miller, 2005). Identities in this context are a fundamental lens of analysis as; people are assumed to share interests across identities that need to be represented; and common identities are a way for representatives to signal their commitment to voters' preferences and for voters to decide whom to elect (Akerlof and Kranton, 2005; Braendle and Stutzer, 2016; Mansbridge, 2009). These assumptions are the rationale behind the common choice of privileging the number of elected officials sharing an identity with their voters as a measure for political representation (see, for example, Bratton, 2005; Canon, 1999; Gamble, 2007; Gay, 2001; Grose, 2011; Lublin, 1997; Mansbridge, 1999). Hence, mainstream literature on women's empowerment supports the use of the number of women elected officials as a proxy for women's political representation, based on the argument of a link between descriptive and substantive representation (Bratton and Haynie, 1999; Phillips, 1995; Swers, 2002). To assess if the number of elected officials identifying

as women is a good measure for gender equality in political representation, it is critical to discuss the relationship between gender and political interests.

## **Do common identities, in particular gender, imply shared interests?**

The literature on the interrelation between identities - gender in particular - and political representation tends to agree on the existence of common interests across identity-based groups. Identity politics is the mobilisation of people based on common experiences, political interests and oppression originating from a shared identity. This has been historically applied to identity-based oppression: systematic redistributive inequalities of resources and opportunities for a group sharing an identity - typically gender, race, class, religion or ability (Bernstein, 2005; Hayward and Watson, 2010). These common identities lead to shared interests that tend to be underrepresented in the current environment of many countries around the world. In particular, gender norms and their labour, social and economic repercussions create shared needs and interests that somewhat associate people identifying with the same gender (Phillips, 1998; Sapiro, 1981; Young, 1994, 2002).

## **What are the shared interests of communities with shared gender identities and how can these be measured?**

As gender is a multi-layered system, it produces interests at the individual, meso, and macro levels (Sullivan, 2018; Walby, 2004). Hence, considering only the most politicised gender interests such as childbearing, family, and labour policies, sexual and gender-based violence would be very limiting. A multi-dimensional approach is essential when addressing gender inequalities,

in order to factor in the various sources of gender oppression that operate at the individual, social, and institutional levels (Walby, 2004). Thus, measuring substantive representation with the degree of progressiveness of childcare, education, women's health or parental leave policies would be inadequate (Sapiro, 1981). Hence, I will use gender mainstreaming as a measure of substantial representation. Gender mainstreaming is a practice derived from the assumption that every policy area has gendered implications as it impacts asymmetrically people identifying with different genders. As such, the practice of gender mainstreaming aims at assessing this impact, carefully considering gender when developing policies regarding every area, not only the ones that are traditionally considered of women's interest (European Commission, 1996). Thus, to achieve gender equality in all domains, the EU included gender mainstreaming practices to monitor the policy process.

### **Do officials who share an identity with their constituents represent them better? The role of descriptive representation and the relationship with substantive one.**

Some scholars have claimed that descriptive and substantive representation is correlated, as legislators who share an identity with their voters may be more inclined or capable to represent interests deriving from common experiences (Mansbridge 1999; Reingold, 1992). Descriptive representation is fundamental for establishing the widespread idea that members of historically marginalized groups with low participation in politics can rule (Mansbridge, 1999). However, the argument that women representatives better represent women's interests is theoretically and empirically controversial.

On the one hand, normative theorists argue against descriptive representation suggesting that identity sharing does not imply



the capacity to rule, nor better knowledge or ability to defend a community's interests (Estlund et al., 1982; Pitkin, 1967). On the same note, some empirical political scientists found no evidence of the correlation between descriptive and substantive representation. (Crowley, 2004). For example, Diamond (1977) found that in New Hampshire - the state with the highest number of women representatives proportionate to the female population - there was no particular attention to women's interests. On the other hand, from the principal-agent theory, one can derive the hypothesis that representatives that share an identity with their constituents have more aligned interests thus increasing substantive representation. Both in situations with low trust and creative thinking and in conditions of uncrystallized -not fully articulated- interests foster the connection between descriptive and substantive representation (Mansbridge, 1999). Moreover, some scholars found that female politicians prioritise issues that are in women's interests, specifically families and healthcare, particularly for women and children (Childs and Krook, 2006, 2008, 2009; Jones, 1997; Kittilson 2008; Schwindt-Bayer, 2006; Macmillan et al., 2018). However, these empirical studies share a traditional understanding of gender interests that does not effectively tackle the multi-level sources of gender inequality.

Overall, there is significant evidence of the shared interests among identity-based groups and on the positive effect of descriptive representation on both the external perception of the community and on substantive representation. However, as the concept of representation is defined as the delegation of power to someone that will be responsive to voters' interest, it cannot be claimed that identity sharing between constituents and elected officials is enough for complying with full representation. For example, assuming that women will represent women leaves out all the cases of women not working towards women's interest because they do not feel their gender identity is a priority in their political career and the cases of representatives that do not

identify as women but still work toward more gender equality. Moreover, assuming that sharing experiences that come from a common identity is fundamental for representatives is not sufficient to translate descriptive representation into substantive one. The downfall of identity politics is the misunderstanding of identities as the cause of redistributive implications. Descriptive and substantive representation are interconnected but privileging the former means overestimating recognition of identity-based interests and assuming that this will automatically lead to more equal distribution of resources (Fraser, 2000). Representatives need to be aware of the implications coming from identity to achieve substantive representation. This is not often the case as identity and shared experiences are not the only elements necessary to form a community - organization and coordination are pivotal (Battaglini and Benabou, 2003). Furthermore, the institutional rules and power bargain must allow representatives to push for the interests of their communities (Reingold, 2008). It is not enough to have people that look like their voters involved in high politics, they need to be responsive to voters' interests and influence agenda setting in such a way that reflects constituents' preferences.

## **METHODOLOGY**

The sample taken into consideration for my analysis is composed of EU member states. As such, I have collected panel data at the national level for the 28 member countries between 2003 and 2020. The choice of this sample is supported by three main factors: data availability, the introduction of gender mainstreaming in European guidelines to achieve gender equality (European Commission, 1996), and the diversity between member states that allows for the comparison of different systems. This dissertation relies on a collection of data

from secondary sources, mainly from institutional databases. The EU, and in particular the European Institute for Gender Equality (EIGE), provides a vast variety of data on gender-related topics collected to monitor member states on their progress to achieve gender equality (Gender Statistics database, EIGE). Moreover, the practice of gender mainstreaming is becoming increasingly institutionalized in the EU (European Commission, 1996). Finally, whilst sharing similar values and objectives, the countries constituting the European Union are culturally, historically, and institutionally different. This variance between EU member states allows comparing different systems to understand which elements contribute to different levels of gender political representation.

My first hypothesis is that whilst countries with higher shares of female elected officials tend to have, on average, more substantive policies promoting gender equality, a causal relationship between the two cannot be inferred. Overall, literature provides significant evidence of the shared interests among identity-based groups, evidence on the positive effect of descriptive representation on the external perception of the community and provides positive examples for future generations. However, the literature on the relationship between descriptive and substantive representation provides mixed results. I conducted a cross-country regression analysis based on data from EU countries (EIGE) to assess this relationship. According to my findings, I argue that this hypothesis is upheld. As such, the number of females elected officials is not a good proxy for policies promoting interests shared by gender-based communities. Therefore, I contribute to the methodology of the field by constructing a composite index - the GPRI.

The GPRI comprises indicators measuring both statistical parities between men and women in political bodies and substantive advancement of interests shared by gender-based communities. I measure the latter through gender mainstreaming practices to avoid being bound by the traditional

definition of women's interests. In particular, I use the indicators on gender mainstreaming included in the monitoring of the Beijing Platform for Action by the European Institute of Gender Equality. I construct two sub-indexes taking the weighted average of the indicators for statistical parity between men and women in political bodies and the gender mainstreaming indicators. I combine these two sub-indexes using the Adjusted Mazziotta-Pareto method. The main reason supporting the choice of the Adjusted Mazziotta-Pareto method is that this methodology allows for the aggregation of non-substitutable factors (Mazziotta and Pareto, 2013, 2018). In other words, the Adjusted Mazziotta-Pareto aggregation method does not assume that the two sub-indexes are compensatory and that a higher score in one of the two can substitute for a low score in the other. In particular, the Adjusted Mazziotta-Pareto Index assigns a penalty to those countries for which the two sub-indexes are very heterogeneous. This is to avoid countries scoring very high in one of the sub-indexes but very low in the other - such as Cyprus in 2004 - being ranked by the GPRI similarly to countries with more balanced levels of substantive and descriptive representation - such as Romania in the same year. Moreover, the Adjusted Mazziotta-Pareto Index allows for overtime comparison of the scores, contrary to the previously developed Mazziotta-Pareto Index (Mazziotta and Pareto, 2013). Hence, to achieve a high score of the GPRI, countries need to have high levels of both sub-indexes. Thus, the GPRI not only places equal importance on descriptive and substantive representation but privileges those countries in which both aspects are incentivised.

After having constructed a measure of gender political representation that better operationalises this theoretical concept, this paper investigates the following research question: do more proportional systems produce higher scores of the GPRI? To answer this question, it is necessary to define different types of electoral systems. For the sample considered, it would not be

useful to simply classify countries according to electoral rules (as majoritarian, proportional representation and mixed). In fact, in the EU, the only countries that could fall in a fully majoritarian electoral rule at the time of analysis would be the United Kingdom and France for the election of the National Assembly (IDEA, 2021; Nils-Christian and Golder, 2013). Thus, the sample would not have enough variance to draw significant results, particularly using regression analysis. Hence, I use Lijphart's *Patterns of Democracy* definition, one of the most influential and comprehensive studies in the comparative analysis of democratic systems. The author identifies five factors that differentiate among consensus and majoritarian systems, along the "executives-parties dimension" (Lijphart, 2012). On the bases of these, the author constructs the Executive-Parties Index putting together five elements pertaining to the organization of executive power, the party and electoral systems and interest groups. In particular, majoritarian concentration of executive power in single-party majority cabinets versus executive power-sharing in broad coalitions for proportional systems; executive being dominant over the legislative versus the executive-legislative balance of power; two-party versus multiparty systems; disproportional versus proportional representation; and interest group systems in which there is free competition versus coordinated and "corporatist" interest group systems aimed at compromise and concertation. The Executive-Parties Index derived ranges from -1.5 to 1.5, assigning higher scores to the countries that have characteristics related to the proportional system. The author also separates the consensus and majoritarian models along the federal-unitary dimension, but neither Lijphart's nor my empirical analysis use this as a main independent variable.

The validity of the Executive-Parties Index is supported by its extensive use in subsequent literature on comparative analysis of democracies (see for example Ganhof, 2010; Taagepera, 2003; Vatter, 2009). The main limitation of using Lijphart indicators is

the lack of availability for all EU countries. To overcome this issue, I conduct a robustness check of the results obtained through the use of the Executive-Parties Index. In particular, I use the number of effective parties (Laakso and Taagepera, 1979) as a measure of the type of electoral system. As the literature demonstrates both empirically and theoretically, proportional systems tend to have a higher number of effective parties (Laakso and Taagepera, 1981, Taagepera and Grofman, 1985; Lijphart, 2012). I use the “number of effective parties’ index” contained in the dataset “Democratic Electoral Systems Around the World, 1946-2016” by Nils-Christian and Golder (used by Lago and Coma, 2021; Saxton, 2021; Górecki and Pierzgalski, 2021). Beside its vast use in the literature, the index developed by Nils-Christian and Golder is positively correlated with Lijphart’s executives-parties dimension index (this result is statistically significant as its p-value is smaller than 0.05).

## RESULTS

### **Descriptive representation does not necessarily lead to substantial representation**

The first analysis that I will present provides evidence for the need for a composite index of gender political representation. As discussed above, the traditional use of the number of women in political bodies as a measurement of women empowerment in politics relies on the assumption that descriptive and substantive representation are interrelated and on the even stronger claim that the former causes the latter. My first hypothesis is the following - despite a positive correlation between descriptive and substantive representation, a causal relationship between the two cannot be inferred.

To test this hypothesis, I carry out a regression analysis to empirically study the relation between descriptive and substantive representation. I use the two sub-indexes composing the GPRI to measure these two sides of political empowerment: I will adopt the descriptive sub-index as the independent variable and the substantive sub-index as the dependent variable. First, I use a simple OLS regression to test the relationship between the sub-indexes of descriptive and substantive representation that can be observed in column 1 of Table 1. Column 2 shows the same regression controlling for GDP per capita and the area to which countries belong, differentiating between Western, Northern, Southern, Central-Eastern Europe (EuroVoc, 2020). Finally, column 3 displays the results of the multivariate model with country and year fixed effects. In particular, I chose a fixed effect model after having tested it against a random effect model with the Hausman test.

**TABLE 1: OLS REGRESSIONS BETWEEN DESCRIPTIVE AND SUBSTANTIVE REPRESENTATION SUB-INDEXES**

	(1) Sub-index substantive	(2) Sub-index substantive	(3) Sub-index substantive
Sub-index descriptive	0.4174*** (0)	0.2728*** (0)	-0.1016 (.175)
GDP		0.0001*** (0)	0.0003*** (.001)
Population		0.0068 (.751)	1.2443*** (0)
Northern EU		5.402*** (0)	
Southern EU		5.749*** (0)	
Western EU		1.473 (.319)	
Constant	35.0718*** (0)	33.8793*** (0)	40.3738*** (0)
Observations	499	499	499
R-squared	.196	.293	.677
Country FE	No	No	Yes
Year FE	No	No	Yes

p-values are in parentheses, robust standard errors

\*\*\* p<.01, \*\* p<.05, \* p<.1

Source: Author. Data on descriptive representation and gender mainstreaming practices EIGE (European Institute for Gender Equality); Data for GDP pro capita has been retrieved from the OECD database and for population from the Eurostat database. In addition, I have constructed a variable dividing countries into four regions: Central-Eastern, Northern, Southern, and Western Europe (EuroVoc, 2020).

As it can be observed from column 1 of Table 1, there is a positive correlation between descriptive and substantive representation. This correlation is statistically significant as the p-value of the regression is smaller than 0.05. In other words, those countries with higher levels of the number of women in politics are also more likely to have more practices to ensure gender mainstreaming in the policy-making process. This positive



and significant correlation holds also when accounting for GDP, population, and area fixed effects as it can be examined in column 2. Therefore, the hypothesis that descriptive and substantive representation is positively correlated is upheld by my results. However, this result cannot be interpreted as a causal relationship between the two indexes. When introducing year and country fixed effects, no correlation between descriptive and substantive representation is found. Year fixed effects allow excluding the omitted variable bias caused by unobserved variables that evolve over time but remain constant across entities. These are particularly useful to account for macroeconomic shocks as the financial crisis that affected Europe in 2009. Similarly, country fixed effect to control for time-invariant factors that are specific to each country. Hence, thanks to the inclusion of country fixed effects, omitted variable bias coming from characteristics of countries (such as culture or institutions) can be excluded. As it can be observed from column 3 of Table 1, the null hypothesis that there is no relationship between the number of women elected in political institutions and gender mainstreaming practices cannot be rejected as the p-value is greater than 0.05.

Overall, my first hypothesis is upheld. These results suggest that even if EU countries with a higher number of women in elected political bodies have more gender mainstreaming practices, this relationship is most likely driven by omitted variable bias – largely controlled by country and year fixed effects. Therefore, these results challenge the assumption of causality that supports the choice of using the number of women in parliament as the main instrument to measure gender equality in political representation. Hence, it is necessary to combine both descriptive and substantive representation to measure political empowerment as the former does not necessarily lead to the latter.

## Analysis of the GPRI and comparison to previous measurements of gender political empowerment

**FIGURE 1: MAP OF THE INTENSITY OF THE GENDER POLITICAL REPRESENTATION INDEX (GPRI) IN 2020**



Source: Author, Gender Political Representation Index

It is interesting to understand how EU countries perform in terms of the GPRI. As it can be observed from Figure 1, Scandinavian countries along with Austria seem to be leading in gender-equal representation in politics. Concerning the Scandinavian peninsula, this result seems to be in line with previous considerations that regarded this area as the most gender-equal among European member states (EIGE Gender-Equality Index, 2020). One important consideration is that Denmark does not follow the example of the neighbouring and more gender-equal Sweden and Finland for what concerns the newly developed GPRI. In fact, in 2020 Denmark scored 56.9 points in the GPRI – 14.5 points less than Sweden – thus ranking as 23rd out of the 28 countries considered. Another important consideration is that Austria becomes one of the most gender-equal countries in the European Union once substantive

representation is considered for measuring the concept. In addition, Portugal ranks 4th according to the GPRI, while it was the 9th country in the EU for the number of women in elected political institutions. It is particularly important to highlight those countries for which traditional measures of gender political representation describe an upward trend in the last decades, but we observe a decline in the GPRI for the same period. These countries are the Czech Republic, Denmark, Estonia, Finland, France, Greece, Italy, Poland, and Spain. This is explained by the fact that many countries in 2018 had fewer institutions and resources dedicated to the implementation of gender mainstreaming practices compared to 2012 (EIGE, 2018). On the other hand, a slightly more upward trend can be observed for Latvia and Slovakia when using the GPRI index instead of the share of women in political institutions. In addition, the GPRI tends to be on average 9.7 points higher than the weighted average of indicators of descriptive representation.

## The impact of electoral systems on the Gender Political Representation Index

**TABLE 2: OLS REGRESSIONS BETWEEN EXECUTIVE-PARTIES DIMENSION AND THE GPRI**

	(1) GPRI	(2) GPRI	(3) GPRI	(4) GPRI
Executives-parties dimension	3.377*** (0)	3.152*** (0)	3.099*** (0)	
Federal-unitary dimension	0.356	-0.102	-0.07	
GDP	(.507)	(.903) 0.0001*** (0)	(.935) 0.0001*** (0)	0.0002*** (0)
Population		0.077*** (.004)	0.077*** (.004)	0.042** (.017)
Av. district magnitude				-0.366* (.05)
Executives-parties binary				1.329 0(.324)
Interaction term				0.332* (.074)
Constant	56.509** *	48.812*** (0)	49.433*** (0)	46.598*** (0)
Observations	284	284	284	474
R-squared	.086	.166	.177	.209
Year FE	No	No	Yes	Yes

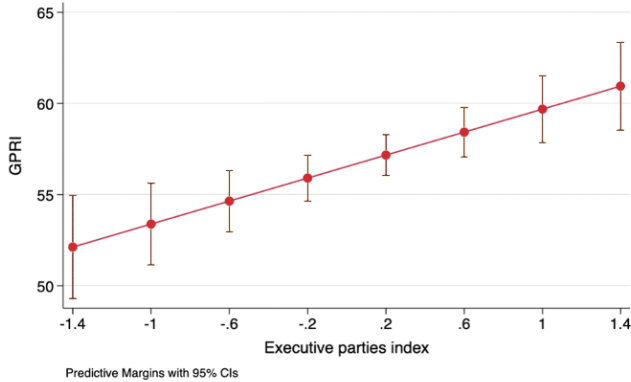
1. Results are robust for different mixes of clustered standard errors both at the country and at the area level

p-values are in parentheses, robust standard errors<sup>1</sup>  
 \*\*\* p<.01, \*\* p<.05, \* p<.1

Source: Author

Using the GPRI, I test my second hypothesis that more proportional systems, according to the executives-parties dimension, are associated with more gender-equal political representation. As it can be observed from Table 2, in columns 2 and 3 the executives-parties dimension is positively correlated with the GPRI, and these results are statistically significant as the p-values are smaller than 0.05. Therefore, EU countries with characteristics of the “consensus system” including proportional representation, higher GDP per capita and population are more likely to have gender-balanced representation in politics. The magnitude of these results can be assessed in more detail from Figure 4. A fully majoritarian system scores on average 9 points less than a country with the maximum value of the executive-parties dimension index. Moreover, the explanatory power of the model is 17%. Introducing time fixed effects (in column 3) allows excluding the risk of omitted variable bias coming from unobserved variables that vary over time. Indeed, the explanatory power of the model with year fixed effects pointed out by the R-squared increases to 18%. Thus, my second hypothesis is also upheld.

**FIGURE 2: RELATIONSHIP BETWEEN EXECUTIVES-PARTIES DIMENSION AND THE GPRI**



Source: Author. Number of effective parties index contained in the dataset "Democratic Electoral Systems Around the World, 1946-2016" by Nils-Christian and Golder and author's own index

Predictive Margins with 95% CIs

I checked the robustness of these results using the number of effective parties as an independent variable. In fact, according to existing literature, proportional representation is associated with a higher number of parties. Overall, the robustness checks support my previous results. In line with existing literature on the topic, I indicate average district magnitude as a potential channel through which electoral systems could affect the GPRI. I support this argument with tentative evidence of positive interaction between values of the executive-parties dimension pertaining to proportional representation and average district magnitude; the results are only significant at the 90% confidence level, not more. Further research involving a larger sample and more data on gender mainstreaming practices should analyse the relationship between district magnitude and substantive representation.

## DISCUSSION

### Limitations

Throughout this paper, I acknowledged the methodological limitations identified. The first limitation encountered is in the availability of data. Even if the literature on gender inequalities and subsequent data collection is growing, this field of study is relatively new. In addition, the constraints of the data used have been discussed in the methodology and findings sections. Moreover, the quantitative analysis presented only estimates correlations between the factors. It is not possible to infer causality as omitted variable bias cannot be completely excluded in this context. Finally, the GPRI does not aim at being a final and perfectly comprehensive measure of gender representation. It is intrinsically bound to the EU understanding of gender – at the moment still predominantly binary - gender inequality and gender mainstreaming practices. In fact, as the European Union defines and measures gender equality in political representation as predominantly related to women, we do not have data on gender mainstreaming practices concerning other identity-based minorities. Thus, the GPRI has limited use to measure equal representation for other gender minorities apart from women. However, this index contributes to the assessment of gender equality in political representation and it carries fundamental policy implications.

### Policy implications of the results

This paper engages with quantitative analysis from a feminist perspective (Cook and Fonow, 2005; Letherby, 2003) and its scope extends to understanding its possible interpretations and implications. As such, I will discuss how the comparison of countries on the basis of unidimensional indicators shaped

to the understanding of and the response to gender inequality in EU countries. Then I will situate the GPRI within these considerations.

Since the 1980s the EU has adopted a New Public Management approach which has favoured rationalist and evidence-based policymaking (Minto et al., 2020) that consequently lead to the increasing use of indicator-based comparative methods. The main benefit of indicator-based comparative methods is the simplification of complex concepts and the contribution in monitoring EU member states. However, indicator-based comparative methods have important methodological implications that need to be carefully assessed. The first downside of these methods is the risk of excessive reliance on indicators that oversimplify reality and build categories (Verloo, 2007; der Vleuten and Verloo, 2012). Secondly, as opposed to the common narrative that indicators are unbiased technical tools, they carry important political implications. The choice of indicators contributing to the monitoring of the performance of member states in terms of gender equality is a negotiation, thus a deeply political process influenced by the availability of data (Lombardo et al., 2009), the actors involved, and their power relationships (der Vleuten and Verloo, 2012). Finally, rankings of EU member states derived from quantitative indicators also entail important implications. States tend to strategically play into indicators - thus aiming at scoring higher in the rankings instead of effectively tackling gender inequality (Espeland and Sauder, 2007). Moreover, rankings trigger the pioneer-laggard narrative disincentivizing countries always scoring among the lowest by setting unachievable standards while simultaneously justifying the inaction of top achievers (Mósesdóttir, 2006).

These considerations further outline the limitations of measuring gender equality in political representation through the number of females elected officials. The difference in the scores of traditional measures versus the GPRI for Denmark perfectly



exemplifies how the number of females elected officials not only oversimplifies the concept of political representation, but it is a biased measure that privileges countries promoting descriptive representation even if they have low levels of substantive representation. Moreover, this unidimensional indicator leads to limited policy response in the EU context. The oversimplification of this unidimensional measure led to the adoption of gender quotas as the central - and almost unique - policy response to gender inequality in political representation. However, the imposition of a fixed share of women in political bodies has several downsides. The common line associating these limitations is the assumption that substantive representation and redistribution changes will naturally derive from descriptive ones. As argued in the theoretical framework, this assumption is the main limitation of identity politics (Fraser, 2000). Thus, the unidimensional and oversimplistic indicators adopted for measuring gender equal political representation resulted in inadequate policy response aimed at achieving a statistical parity between genders more than real gender equality in political representation (Meier et al., 2005). The newly developed GPRI allows for a more comprehensive understanding of gender considering the micro, meso, and macro levels of gender oppression. As such, it points out the lack of policies effectively tackling the achievement of gender equality in substantive representation in the EU context. However, as previously argued, since rankings are derived from this index, these should be interpreted with caution not to fall into the pioneer-laggard narrative.

## CONCLUSION

In conclusion, this paper has shown both theoretically and empirically that the traditional measure of gender equality in political representation – namely the number of female elected officials – is not a valid instrument for this complex concept. I argue that this measure only accounts for substantive representation. The use of the number of female elected officials to measure the level of gender equality in politics is traditionally supported by the argument that descriptive representation causes substantive representation. However, first I argue against this causal relationship and then I empirically support this argument. My theoretical considerations on the overestimation of descriptive representation are based on community coordination problems, institutional barriers and lack of prioritisation of identity for many representatives. Empirically, I find that the correlation between descriptive and substantive representation becomes statistically not significant once country and year fixed effects are taken into consideration.

In addition, I provide a methodological contribution to the field of minority political representation by proposing the GPRI as a new and more accurate measurement of gender equality in political representation. In particular, the GPRI combines descriptive representation with substantive representation. I complement the traditional measures of descriptive representation with the assessment of gender mainstreaming practices in EU member states. Specifically, I use the indicators included in the reports on the implementation of the Beijing Platform for Action to measure gender mainstreaming practices in the EU. Remarkably, measuring substantive representation through gender mainstreaming practices is a step further in the achievement of a comprehensive understanding of gender as a

multi-layered system with important consequences at the micro, meso, and macro levels.

Furthermore, I empirically show that proportional representation systems tend to have higher levels of gender equality in political representation. First, I use Lijphart's executive-parties dimension grouping characteristics of proportional systems as an independent variable. I point out a positive and statistically significant correlation between the level of proportionality of an electoral system and the GPRI. Then, I check the robustness of these results using the number of effective parties as an independent variable. In fact, according to existing literature, proportional representation is associated with a higher number of parties. Overall, the robustness checks support my previous results. In line with existing literature on the topic, I indicate average district magnitude as a potential channel through which electoral systems could affect the GPRI. I support this argument with tentative evidence of positive interaction between values of the executive-parties dimension pertaining to proportional representation and average district magnitude. Further research involving a larger sample and more data on gender mainstreaming practices should analyse the relationship between district magnitude and substantive representation.

Finally, I discussed the limitations of my paper including the small availability of data on gender mainstreaming and the impossibility to infer causality for the relationships studied. Moreover, the GPRI is intrinsically bound to the definition of gender and gender mainstreaming given by the EU. Consequently, even if the methodology of the GPRI has a potentially wider scope and more comprehensive applicability, gender is framed as binary. Thus, the GPRI has limited use to measure equal representation for other gender minorities apart from women. Then, I outline the implications of my methodological contribution to the question of political representation on the policy response of the EU. In particular, I argue that the excessive

reliance on unidimensional indicators to measure complex concepts as gender inequality runs the risk of oversimplification. This consequently led to limited EU policy response aimed at achieving statistical parity more than real gender equality in political representation. Specifically, gender quotas while necessary for the achievement of descriptive representation are not sufficient for fostering substantive representation. Moreover, political bias and negative ranking practices should also be carefully considered in the policy-making process.

Overall, this paper aims to make an important methodological contribution to the field of gender political representation, re-focusing the attention on substantive representation. It also contributes to the literature on correlations between proportionality and gender equality in political representation finding a positive association between the two. Finally, it points out the interesting question of how average district magnitude affects substantive representation that future research shall answer.

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