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**Ethnic Minority Representation & Electoral Systems:
Evidence from Mixed Member Elections in the United Kingdom**

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Abstract

Demand for descriptive representation for ethnic minority groups has grown as European societies become more diverse. In this paper, I study the role of electoral systems in the election of ethnic minority representatives. Specifically, I estimate the effect of closed-list proportional systems vis-à-vis single-member plurality using an original dataset of 1,445 unique candidates in 9 elections to the Scottish Parliament, Welsh Senedd, and London Assembly (2007-2016). I show ethnic minority candidates are less likely to be elected vis-à-vis non-ethnic minority candidates under proportional representation, but not under plurality. Additionally, I show evidence to suggest that parties select more ethnic minority candidates under proportional representation but afford them less ‘electable’ list positions. Meanwhile, parties are no less likely to place ethnic minority candidates in ‘stronghold districts’ under plurality. These findings suggest i) ethnic minority candidates are most disadvantaged by proportional representation, and ii) parties may gatekeep against ethnic minority representation.

Key Words: descriptive representation, voting systems, political parties

As European populations become increasingly diverse, the provision of adequate descriptive representation for ethnic minority groups has become an issue of increasing pertinence. Indeed, descriptive representation is often seen as a necessary condition of substantive representation (Pitkin, 1967). Furthermore, providing such representation for minority groups is critical to attaining regime support among these groups which in turn, is necessary for long-term democratic legitimacy and stability (Dalton, 2004; Bird, Saalfeld and Wüst, 2011). In this respect, the election of ethnic minority representatives to political office may enhance the quality of political representation for these groups (Mansbridge, 1999). Nevertheless, ethnic minorities are significantly underrepresented in parliaments and political life in general across a variety of European contexts (Bloemraad, 2013; Dancygier et al., 2015; Thrasher, 2015).

With this in mind, the question of which political institutions and, in particular, which electoral systems maximize the probability of achieving the descriptive representation of ethnic minorities in parliament is key. Nevertheless, the extant literature on the domain is thin and provide mixed results. I am only aware of three studies that directly study the effect of the electoral system on the election of ethnic minority candidates when those ethnic minority candidates are of recent immigrant origin.¹ Ruedin (2009) who uses a cross-country design finds no effect of proportional voting systems vis-à-vis majoritarian ones in the election of ethnic minority groups. However, the many ways in which ethnic relations may vary across contexts and countries plus the ways in which these differences may confound the relationship between voting systems and minority representation acts as a considerable limitation. For example, we can think that voters are more

¹ Given that it is the focus of this paper, I do not count studies that investigate the descriptive representation of historical minorities (e.g., Ruiz-Rufino, 2013; Alionescu, 2004; Robinson and Dye, 1978; Lublin, 2014). In many instances, historical minorities predate the existence of the state and as such representation of these groups is constitutionally ensured.

favourable to ethnic minority candidates in countries that use proportional systems because these countries might also be those that have been the most ethnically divided historically. Other studies circumvent this limitation by relying on within-country variation of electoral rules. Barker and Coffé (2018) find ethnic minority MPs in New Zealand (including those of Asian and Pacific backgrounds) are more likely to be elected from the proportional rather than plurality tier of that country's mixed member proportional system, while, in English local elections, Dancygier (2014) finds no significant difference between single- and multimember wards in terms of the number of Muslim candidates elected.

In the face of such mixed evidence, we need more systematic analysis of additional elections and candidates. For this paper, I construct an original dataset of 1,445 unique candidates competing in 9 elections to the Scottish Parliament, London Assembly, and Welsh Senedd in the years 2007-2016. In order to classify the minority status of candidates, I use a facial recognition software, which I validate using verified data of candidates available for a subset of my sample.² Importantly, although these elections are all in the United Kingdom, they represent diverse electoral and societal contexts. Indeed, there are contexts such as London whose large ethnic minority population represents the epitome of increased ethnic diversity in Western Europe, and others like Scotland and Wales that are more representative of European continental societies with pockets of diverse populations in urban areas such as Cardiff, Edinburgh, and Glasgow as well as rural areas with very small ethnic minority populations.

² While other studies have used inferences derived from candidate names to attribute ethnic minority status (e.g. Portmann and Stojanović, 2018; Street, 2014), I argue this approach is not suitable for studying the British case due (in part) to the legacy the country's colonial history which i) spurred non-white migration to Britain in the 20th and 21st centuries and ii) means some ethnic minority groups are less likely to possess names which may be indicative of their ethnic background.

The mixed-member systems used in these elections that combine a plurality and proportional tier provide a quasi-experimental setting (e.g., Stoffel and Sieberer, 2018) to assess the extent to which different electoral systems affect the election of ethnic minority candidates while holding potential confounds constant. On the one hand, voters and their prejudice against minority candidates are also held constant as citizens cast a vote on both tiers. On the other hand, the supply of candidates and their quality is held constant with many candidates appearing on both tiers.³

In the analysis, I first examine the differences in the electoral dynamics associated with ethnic minority status across the plurality and proportional tiers of these elections. The results of this analysis demonstrate that although ethnic minority candidates are as likely to be elected in the plurality tier than their non-ethnic minority counterparts (some evidence even suggest that they might even be *more* likely to be elected in this system), they are less likely to be elected in the proportional tier. This suggests that candidates are relatively speaking better off under plurality than proportional representation.

Second, I explore the mechanism behind the electoral system's effect and find that it is at least partly driven by the nomination strategies of parties. Although parties tend to select a greater number of ethnic minority candidates on the proportional tier, I find some mild evidence that these candidates are rarely elected because they are placed in list positions nearer to the bottom of the party list, where the probability of being elected is low. Conversely, I find a striking null effect in

³ In the main analysis, I analyse all the candidates of my dataset to maximize the number of observations. However, in a robustness test, I reduce the sample to candidates who compete in both tiers to shut down the possibility that the effects are driven by personal attributes of the candidates, e.g., their quality as politicians.

the plurality tier: ethnic minority candidates are no less likely to be placed in a district considered by their party to be a 'stronghold' compared to non-minority candidates on the plurality tier. These results suggest that parties can act as gatekeepers for the election of ethnic minority candidates, but that they exert this power differently depending on the electoral system.

Electoral systems and barriers to ethnic minority representation

The literature considers that there are three relevant agents which inhibit ethnic minority representation in legislative politics. First, ethnic minority individuals may be less likely to present themselves for election, whereas those who do, may possess personal attributes systematically different from those of non-ethnic minority candidates (Juenke and Shah, 2016; Shah, 2014; Fraga, 2014). Second, parties may act as gatekeepers in i) being reluctant to nominate candidates of an ethnic minority background and ii) placing those candidates in positions less likely to result in their election (English, 2020; Kulich et al., 2014). Third, voters can block the election of ethnic minority candidates by refusing to vote for them (Portmann and Stojanović, 2018; Fisher et al., 2015). In this section I consider how the behaviour of each of these agents may contribute to worse electoral outcomes for ethnic minority candidates and how these behaviours may vary by electoral system.

Starting with the candidates themselves, a potential lack of ethnic minority individuals willing to stand for election may explain lower levels of ethnic minority representation. The self-selection of individuals willing to become a candidate might indeed be different in these two groups. It is then possible that candidate-level differences between ethnic minority and non-ethnic minority

candidates account for different electoral outcomes between these two groups. However, the extent to which these attributes may undermine the election of ethnic minority candidates is likely limited by selection processes which seek to ‘mitigate’ a perceived disadvantage associated with ethnic minority status (Durose et al., 2013). This evidence is supported by Thrasher et al. (2013) who find that among British local election candidates, ethnic minority candidates are more likely to be young, well-educated, experienced in organisational responsibilities, and self-motivated to work in politics. Therefore, with the possible exception of age, it is unlikely that candidate-level attributes have a negative impact on the election of ethnic minority candidates. Indeed, if anything, they may have the reverse effect.

Turning attention to the behaviour of parties, party elites face various incentives and disincentives when it comes to the facilitation of ethnic minority representation. On the incentives side, they may be encouraged to facilitate ethnic minority representation as a means of mobilising the support of ethnic minority voters (Geese, 2018). Indeed, evidence suggests that ethnic minority voters tend to vote for ethnic minority candidates for reasons of identity or instrumentality to defend their group interests (Barreto, 2007).

Moreover, parties may nominate ethnic minority candidates as a means to signal their preferred image to the electorate as a whole. For example, Sobolewska (2013) notes that, the nomination of a greater number of ethnic minority candidates by the Conservative Party in the 2010 UK General Election was motivated in some part by the party’s desire to downplay their image as particularly ‘old-fashioned’ or ‘elitist’. Indeed, the party’s decision to run a greater number of ethnic minority

candidates even in constituencies without a large ethnic minority population, shows the motivation to nominate ethnic minority candidates extends beyond the desire to attract ethnic minority voters.

Finally, if parties are committed to democratic ideals, they may also be motivated by altruistic concerns for the quality and representativeness of the political system. Indeed, Pruyers and Cross (2016) describe how parties balance competing democratic ideals including those of responsiveness, participation, inclusion, and representativeness in their candidate selection procedures. In this regard, the nomination and election of ethnic minority candidates may be beneficial to perceptions of democratic governance in general. This may be as ethnic minority candidates and representatives contribute to the empowerment of ethnic minority constituents, highlight different issues and promote different perspectives than that of their non-ethnic minority counterparts, and enhance the sociological legitimacy of the polity (Mansbridge, 1999).

On the disincentives side, party elites may perceive the chances of an ethnic minority candidate achieving elected office to be less than that of a non-ethnic minority candidate (Doherty et al., 2019). This perception may in turn, be the result of anticipated differences in voter behaviour when responding to ethnic minority vis-à-vis non-ethnic minority candidates. Whether these anticipated behaviours come to fruition need not necessarily have an influence on the selection of ethnic minority candidates as it is the mere anticipation of prejudice in voter behaviour which guides the decision-making of party elites (Kulich et al., 2014).

Another set of disincentives may come from the attitudes of party elites, absent any considerations of how voters may behave. Party elites themselves may hold conscious or unconscious biases

against individuals of an ethnic minority background and this could deter them from selecting an ethnic minority candidate to run and/or placing that candidate in an electoral position associated with a reasonable chance of gaining office. Furthermore, assuming party elites are predominately of a non-ethnic minority background, they may also be motivated by homophily or a positive bias towards candidates of a similar non-ethnic minority background. Finally, once again assuming party elites are predominately of a non-ethnic minority background, these elites may seek to maintain their status of power within the party by limiting the opportunities of newcomers, including but not limited to those of an ethnic minority background. This in turn, may result in fewer individuals of an ethnic minority background being nominated as electoral candidates (Dancygier et al., 2021).

Turning attention to the role of voters, some of the potential for a negative voter response to ethnic minority candidates may have been dampened by the selection process described above (Street, 2014). Furthermore, negative voter responses, particularly those of non-ethnic minority voters may be mitigated by positive voter responses on the part of ethnic minority voters (Barreto, 2007; Geese, 2018). Nevertheless, there are several mechanisms which an ethnic minority candidate might precipitate different voting behaviours. For instance, an ethnic minority candidate may trigger ethnocentrism or generalised animosity from non-ethnic minority voters, which in turn, reduces the likelihood of those voters expressing a preference in favour of that candidate (Kam & Kinder, 2012; English, 2020). Alternatively, non-ethnic minority voters may believe ethnic minority candidates are less equipped to represent their interests and may subject these candidates to ideological stereotypes which reduce the probability of voting for them (McDermot, 1998; Fischer et al., 2015).

Taking the behaviour of all three relevant actors into account, one can see positive and negative factors contributing to the election of ethnic minority candidates. However, on balance it appears that negative factors outweigh positive ones. Indeed, differences in candidate-level attributes are noteworthy but relatively small. While any positive voter effect derived from ethnic minority voters is likely outweighed by negative effects derived from the larger group of non-ethnic minority voters. This leads to the first hypothesis to be tested in this paper:

H1: Ethnic minority candidates are less likely to be elected compared to non-ethnic minority candidates, across electoral systems.

Now that the basic principles underlying the relationship between the election of a candidate and their ethnic minority status have been laid out, we can begin to discuss how electoral systems may moderate this relationship. In particular, we may pay attention to the difference between systems of single-member plurality and closed-list proportional representation and how these differences alter the balance of the positive and negative factors contributing to the election of ethnic minority candidates.

One such difference is that between single- and multimember districts. Indeed, multimember districts are said to encourage the nomination of ethnic minority candidates by offering party elites the opportunity to ‘balance’ the electorally salient characteristics of their slate (Norris, 1997). Putting it simply, whereas parties might nominate candidates from various social groups in a multi-member district, they can only pick a candidate for one of these groups in a single-member district.

Importantly, this does not necessarily mean that ethnic minority candidates are more likely to be elected in multi-member districts. These districts may facilitate party elites to act on the incentives to nominate ethnic minority candidates without trade-offs necessarily as stark as those implied by single-member districts. Indeed, by placing ethnic minority candidates in positions lower on the party list, to the point where there may be virtually no chance of actually winning, party elites can signal the positive aspects of ethnic minority representation without necessarily compromising their positions of power within the party.

We may also consider the size of the geographic units associated with electoral districts in each system. Typically, systems of single-member plurality are associated with smaller geographic units of electoral district with smaller populations than that of proportional representation. This in turn, can result in a handful of districts with large minority (or even in some cases, small majority) of ethnic minority voters and this can increase the electoral salience of these groups in these districts (Bird, 2005; Dancygier, 2014; Akhtar and Peace, 2019). As such, party elites may see these districts as one's in which the expectation of a negative response by voters need not apply. They may be more likely to select ethnic minority candidates in these districts, regardless of the chances of winning. Thus, the tendency of party elites to select ethnic minority candidates in less favourable positions (as predicted in H1) may be reduced by the existence of these districts.

Furthermore, just as the electoral system may influence the size of the entity which is represented, so too may it influence the nature of representation which is on offer. Indeed, whether a representative was elected as an individual candidate or as a member of a party list affects that representative's perception of what their job is and to whom they are accountable (Bowler and

Farrell, 1993). For example, in elections to the Scottish Parliament and Welsh Senedd, Lundberg (2006) finds representatives elected via the single-member plurality tier evaluate constituency work as more important to their chances of re-election compared to those elected via proportional representation. Therefore, given the evidence that – relative to non-ethnic minority candidates – ethnic minority candidates receive higher levels of support from community and local interest groups (Thrasher et al., 2013), these candidates may be relatively less disadvantaged (as per H1) in single-member plurality elections.

Taking these considerations into account, one may expect the negative factors contributing to the election of ethnic minority candidates to be exacerbated by closed-list proportional systems. Indeed, parties may be more likely to nominate ethnic minority candidates on a closed-list but also more likely to place those candidates lower down the party list, meanwhile the negative factors contributing to their election via single-member plurality may be mitigated by smaller districts with a greater proportion of ethnic minority voters and a possible perception that ethnic minority candidates are better suited (given their support-base) to provide the forms of representation encouraged by single-member plurality systems. This leads to the second hypothesis tested by this paper:

H2: Ethnic minority candidates are less likely to be elected compared to non-ethnic minority candidates, across electoral systems, but even more so in closed-list proportional systems than those of single-member plurality.

After testing each of these hypotheses, I go on to explore the mechanism underlying the relative underperformance of ethnic minority candidates as it pertains to parties. This is done by looking at i) the proportion of ethnic minority candidates selected in each tier, ii) their position on the party list of the proportional tier relative to the number of seats that the party got at last election in this list, and iii) their district placement in the plurality tier compared to the margin of victory of the party at that district at the last election.

Data

Case selection

The hypotheses described above are tested using data from elections to the Scottish Parliament, Welsh Senedd, and London Assembly throughout the period 2007-2016.⁴ These elections each use a system of mixed-member proportional representation. Under these systems, the plurality seats are determined via a first-past-the-post single-member plurality system, and proportional seats are determined using a closed-list compensatory D'Hondt formula which allocates seats to parties to compensate for the disparities between vote and seat shares brought by the plurality seats. To ensure the parties contesting each of these tiers are comparable and that I have sufficient information on the competing candidates, I focus exclusively on the major parties with a consistent presence on each electoral tier – those being: The Conservatives, Labour, Liberal Democrats, Scottish National Party (in Scotland), and Plaid Cymru (in Wales). This results in a sample of

⁴ Specifically, the 2007, 2011 and 2016 Scottish and Welsh elections and the 2008, 2012 and 2016 London Assembly elections.

1,584 unique candidates, and 1,445 candidates (91%) for whom I was able to collect the necessary information to conduct the analysis, in particular a photograph (see below). In this sample, 159 are candidates for the London Assembly (10%), 824 (52%) for the Scottish Parliament, and 601 (38%) the Welsh Assembly. However, since many candidates compete under both tiers and that they often compete in several elections (30% of the candidates in my dataset compete in more than one election), this leaves me with a sample of 2,617 observations, among which 55% pertain to the plurality tier, while 45% pertain to the proportional tier. Finally, note that 54% of the total observations are associated with single-tier candidates while the rest are associated with dual candidates competing under both tiers.

A key threat to validity in studies that exploit mixed-member elections to estimate the effect of each electoral system separately is the ‘contamination effect’ that exists between electoral tiers. According to this, the choices made by parties and voters in one electoral system is not independent from the choices made in the other system. These choices for example include the decision of parties to participate in an election (Cox and Schoppa, 2002), of voters to vote strategically (Riera and Bol, 2017), or of candidates to campaign in a certain way (Trumm, 2017). This issue is particularly acute in mixed-member proportional systems like those covered in this paper where the proportional seats are given to parties to compensate for the discrepancies between votes and seats brought by the plurality tier. In these systems, there is a mechanical contamination between the two tiers. The way I handle this is in calculating two different dependent variables that assume two levels of independence between the tiers that correspond to different levels of how much parties, candidates and voters are able/willing to anticipate of the electoral results on the plurality tier.

Yet, the likely presence of a contamination effect means that evidence supporting H2 likely *underestimates* the effect of the electoral systems. If one considers the electoral system as a treatment, this treatment will be ‘fuzzy’ as the units assigned to one group will be partly affected by the other group. Hence, any difference between the two electoral systems will be an underestimation of the difference that would exist if the treatment was ‘sharp’.

Dependent variables

In principle, the dependent variable is simple: it is whether the candidate is elected or not in each electoral system. However, as mentioned just above, a key concern here is to account for the non-independence of the two electoral tiers of the mixed-member proportional systems covered in this paper. To account for this issue, I define two dependent variables with different levels of independence between the tiers. I expect to find similar results regarding the effect of the electoral system on the election of ethnic minority candidates, which would give some reassurance that it is not contamination between electoral tiers that artificially drive the effect.

In each of these dependent variables, the values on the plurality tier are the same: 1 to the candidates who have a plurality of votes in the local district in which they compete and who are thus elected, and 0 otherwise. What changes is the values on the proportional tier. In the first one, I simply take the actual electoral status of the candidates on the proportional status: 1 for the candidates who are elected under this system, and 0 otherwise. This variable in fact assumes that parties, candidates and voters are able to perfectly anticipate the results of the plurality tier. They

thus know how many compensatory seats the party has on the proportional tier and who are the candidates already elected on the plurality tier. I label this dependent variable as ‘actual election’ one.

Meanwhile in the second version of the dependent variable, I assume that parties cannot fully anticipate the electoral results on the plurality tier. In particular, I assume that they can anticipate how many seats they will win, but not which candidate will be elected. In other words, they know how many seats they will get in the proportional tier as a compensation, but they do not know which candidates will already be elected in the plurality tier. Concretely, it gives 1 to candidates who have a position on the party list that this is higher than the number of seats the party got in the proportional tier (this time considering the seats and votes results on the plurality tier), and 0 otherwise. I label this variable the ‘simulated’ one. Compared to the actual election results, this variable has the advantage of giving a better account of the candidates who have a very high position on the proportional party list but who are elected in the plurality tier. According to the ‘simulated’ variable, these candidates are considered as elected under both tiers, which makes sense given that their election on the proportional tier was safe given their position.

Independent variable: candidate ethnicity

Determining candidate ethnicity poses another challenge, as information on the background of a given candidate may be difficult to obtain and hard to apply consistently across the entire range of 1,445 candidates. To resolve this issue, I attempted to collect photographs of all the candidates

competing in the elections covered in this paper⁵ and used a facial recognition software that calculated the probability of that individual belonging to one of five ethnic categories (white, black, South Asian/Indian, East Asian, and other).⁶ These categories are broadly descriptive of the vast majority of the UK's ethnic composition and largely consistent with the ethnic categories described by the UK's Office for National Statistics.

Using these probabilities, I measure ethnic minority status continuously as one minus the inferred probability of a given candidate being white. To ensure the validity of this measure, I checked it against lists compiled by The Guardian (www.theguardian.com) and Operation Black Vote (www.obv.org.uk) that provide a verified measure of ethnic minority status among a subset of observations of the dataset, i.e., candidates contesting elections in 2011 and 2012 in the three assemblies covered (N=644, 37 ethnic minority candidates and 607 non-ethnic minority candidates). Among those candidates who were confirmed as non-ethnic minority the mean probability of belonging to an ethnic minority group according to the facial recognition software is about 0.11, whereas it is approximately 0.81 for confirmed ethnic minority candidates. A t-test reveals that this difference is statistically significant ($p < 0.001$). More details can be found in online appendix 1.

⁵ To obtain photographs of candidates in these elections, I make particular use of photos made available by DemocracyClub (democracyclub.org.uk), the Glasgow Digital Library (gdl.cdlr.strath.ac.uk) and OurCampaigns (ourcampaigns.com). Where a candidate photograph could not be obtained from any of these sources, a manual search for a candidate photograph took place. These manual searches involved searching the already mentioned sources for the same candidate in a different election, searching for the candidate on social media and corroborating their identity with their location and evidence of involvement with their associated party, visiting archived versions of websites belonging to the candidate's party or local council around the time of the election, as well as examining media reports and other results provided by Google when searching for the candidate. In total, this approach was successful in obtaining a photograph for approximately 91% of the universe of candidates described in the case selection.

⁶ The facial recognition software I use comes from www.sparshik.com and uses convolutional neural networks trained on a database of a minimum of 100,000 images to attribute a probability of an individual belonging to one of these five groups. This software was chosen due to its particular emphasis on correctly identifying South Asian faces, an attribute important in the context of the UK's substantial South Asian population.

In addition, this continuous measure of ethnic minority status is complemented by an analysis of a binary measure of the same derived by setting a threshold on the probability of being ethnic minority. I set this threshold at the level at which the probability of being ethnic minority is 0.8. As such, by this measure, a candidate is categorised as ethnic minority if their associated probability of being ethnic minority is greater than or equal to 0.8. Also, by this measure, a candidate is categorised as non-ethnic minority if their associated probability of being ethnic minority is less than 0.8. I chose this 0.8 threshold as it is one that maximizes the proportion of correctly classified candidates in the subset of 644 observations for which ethnic minority status is known (96.9%). This measure allows for a more intuitive definition of the ethnic minority status of the candidates as a binary instead of a continuous variable. According to this measure, 1,374 candidates are categorised as non-ethnic minority, while 71 are categorised as ethnic minority.

Finally, note that because the continuous version of the variable is a probability, it varies between 0 and 1, and is thus comparable to the binary version.

Moderating variable: electoral system

To test for differences in the placement of ethnic minority candidates, I make use of a binary indicator of which electoral tier an observation is associated – 0 for plurality, 1 for proportional. Note that dual candidates appear two times in the dataset, once as competing in the plurality tier, and once as competing under the proportional tier.

Control variables

Finally, to further decrease the potential for confounds in the relationship between ethnic minority status, electoral systems and candidate placement, I also include an array of control variables in the analysis. These include the incumbency status of the candidate at the time of the election, the gender of that candidate (as inferred by their name), their party affiliation, and their age (as derived once again from facial recognition software).

Table 1 gives the descriptive statistics of the main variables for the 2,617 observations of the dataset.

Table 1: Descriptive statistics

	Obs.	Mean	Std. Dev.	Min	Max
Elected (Actual)	2,617	0.23	0.42	0	1
Elected (Simulated)	2,617	0.23	0.42	0	1
Ethnic Minority (Cont.)	2,617	0.14	0.21	0	1
Ethnic Minority (Binary)	2,617	0.04	0.20	0	1
Tier (0 = Plurality, 1 = PR)	2,617	0.45	0.50	0	1

Results

I begin the analysis by presenting the results of Hypothesis 1. I do so with reference to estimates derived from a linear probability OLS regression predicting the electoral status of the candidate by their ethnic minority status.⁷ I also add assembly fixed effects cluster the standard error at the

⁷ Below I also use a logistic regression specification as a robustness test. The effects are similar.

candidate level. This clustering is necessary given that some individual candidates appear several times in the dataset and that the independent variable (i.e., ethnic minority status) is measured at the candidate level. Given that I have two measures of the electoral status ('actual' and 'simulated, see above) and two measures of ethnic minority status (continuous and binary), I have a total of four regressions covering all combinations of these two variables. Finally, I also show estimate each of these regressions with and without controls for age, gender, party and incumbency.

Figure 1: Overall difference associated with ethnic minority status

Note: Dots are marginal effect estimates of election derived from linear probability OLS regression. Thick bars are 90% confidence intervals, thin bars are 95% confidence intervals. N=2,617 in models without controls, N=2,420 in models with controls. Full regression results shown in online appendix 2.

Figure 1 illustrates the effect of being an ethnic minority candidate (compared to a non-ethnic minority candidate) on the probability of election. The left panel demonstrates this with reference to the actual measure of election. While the right panel does so with reference to the simulated measure. In both panels, the results are shown in the same order, first the continuous measure of ethnic minority status without controls, then the binary measure of ethnic minority status without controls, followed by the continuous measure plus controls, and finally the binary measure plus controls. The results indicate ethnic minority status is not associated with worse electoral outcomes overall. None of these estimates achieve statistical significance, and estimates change signs depending on specification. Therefore, this evidence is not sufficient to confirm the expectations set out in H1.

In order to test H2, I re-estimate the same linear probability OLS regressions, in which I add another moderating variable: the electoral system. This variable is then interacted with the ethnic minority status of the candidate.

Figure 2: Difference associated with ethnic minority status by tier

Note: Dots are marginal effect estimates of election derived from linear probability OLS regression. Thick bars are 90% confidence intervals, thin bars are 95% confidence intervals. $N=2,617$ in models without controls, $N=2,420$ in models with controls. Full regression results shown in online appendix 3.

Figure 2 displays the effect of being the ethnic minority candidate status on the probability of election by electoral tier. In each of these regressions, the effect of ethnic minority status associated with candidates on the proportional tier is negative and varies between -8 to -15 percentage points in the probability of being elected. In five instances these estimates are statistically significant at a level of $p < 0.05$, with another significant at $p < 0.1$. This negative effect is remarkably consistent across specifications.

Meanwhile, on the plurality tier estimates are less consistent. Indeed, none of the estimates without controls find a significant effect of ethnic minority status. Furthermore, the sign of these estimates varies between the continuous and binary measures of ethnic minority status (ranging between -3 and +6 percentage points). Moreover, adding controls to each of these models increases the magnitude and significance of the effect found on the plurality tier. These estimates range from 13 to 23 percentage points significant at either $p < 0.05$ or $p < 0.10$. This last result suggests that ethnic minority candidates might be more likely to be elected in the plurality tier than non-ethnic minority candidates. However, the lack of consistency among the estimates forces us to be cautious here.

Finally, the difference between effects found on the proportional tier vis-à-vis the plurality tier conform with the expectations set out in H2. Indeed, the interaction term used to distinguish the effect on each tier separately ranges 0.08-0.32 and is significant at $p < 0.05$ levels in five instances, $p < 0.10$ in one instance (see online appendix 3). This in turn is sufficient evidence to support H2.

Robustness checks

To assess the robustness of findings above, I conduct a series of supplementary tests. Given that this paper focuses on the moderating effect of the electoral system, I concentrate on the regressions with the interaction term between the electoral system and the ethnic minority status of the candidates (i.e., those of Figure 2). First, in order to increase internal validity of the estimates, I reduce the sample to dual candidates who compete in both the plurality and proportional tier (N=1,212, 43.88% of the main sample). In doing so, I thus hold the supply of candidates constant. Note that due to their dual status, these observations represent (in a sense) parties' most favoured

candidates. As such, these are the candidates for which the expectations of H1 are *least likely* to be confirmed. Nevertheless, the results of this robustness check are consistent with that of the main text (albeit at a slightly diminished magnitude, see online appendix 4). Second, I reproduce the linear probability OLS regressions using logistic regression specification. In these instances, the results remain very similar: ethnic minority candidates are less likely to be elected in the proportional tier compared to the plurality one (see online appendix 5).

Then I check whether the findings vary when I split the sample in different ways. First, I split the sample by region. These results indicate that the difference between electoral tiers is in large part driven by London (see online appendix 6). In some respects, this is to be expected. As the area in the case selection with the greatest density of ethnic minority inhabitants, London represents the location for which there is the i) the greatest capacity to nominate ethnic minority candidates by virtue of the ethnic minority population being relatively larger ii) the motivation for parties to nominate ethnic minority candidates is also greatest by the same rationale and iii) where the supposed advantages of ethnic minority status associated with single-member plurality may come into play.

Second, I perform the analysis separately for each electoral cycle: 2007/2008, 2011/2012, and 2016. I observe that the substantive findings remain the same for all cycles (see online appendix 7). Third, I split the sample by party and show that the results are the same for five parties (all but Plaid Cymru, see online appendix 8).

Testing the mechanism: Parties as gatekeeper

Now that the patterns underlying the relationship between the election of a candidate and their ethnic minority status have been determined, I turn attention to the mechanism underlying this relationship. I contend and examine the evidence that parties acting as gatekeepers are important agents accountable for the underperformance of ethnic minority candidates across electoral tiers in these elections. First, the theory outlined above anticipates parties to select a greater proportion of ethnic minority candidates to run on the proportional tier compared to the plurality tier because doing so allows party elites to strike the most efficient balance between the perceived incentives and disincentives for the selection of ethnic minority candidates. To examine this possibility, I estimate a series of linear probability OLS regressions in which the dependent variable is whether the candidate competes in the proportional tier (as opposed to the plurality tier). I use the same independent and control variables as for the analysis of Figure 2 above, including assembly fixed effects and standard errors are cluster by candidate. Figure 3 shows that ethnic minority candidates are more likely to appear on the proportional tier by a difference of 11 to 14 percentage points ($p < 0.01$), relative to non-ethnic minority candidates.

Figure 3: Ethnic minority status and tier placement

Note: Dots are effect estimates of competing in the proportional tier (as opposed to plurality tier) derived from linear probability OLS regression. Thick bars are 90% confidence intervals, thin bars are 95% confidence intervals. Full regression results shown in online appendix 9. N=2,617 in models without controls, N=2,420 in models with controls

Once ethnic minority candidates have been selected, we need to consider the exact position a within each tier that candidate is placed by the party. Indeed, the placement of a candidate has a direct influence on that candidate's chances of achieving election. On the proportional tier (especially because it is a closed list), the position on the party list has an obvious influence on a candidate's chances of winning insofar as a party can anticipate approximately how many seats, they are likely to win in a given district and accordingly what list positions are likely to translate

into the successful election of that candidate (Davidson-Schmich, 2010). Yet, on the plurality tier as well, the ‘placement’ of a candidate has a direct effect on their chances of winning. Some parties are indeed more popular in some districts than in others. Some districts are even considered as strongholds for some parties, i.e., districts that they are almost guaranteed to win. Although nomination strategies in the plurality tier involves some practical issues such as the need to move the place of residence of a candidate from a district to another, parties can still influence the ‘electability’ of candidates there.

To investigate the gatekeeping power of parties, I first look at the proportional tier. Based on the candidates competing in the proportional tier only, I estimate OLS regressions in which the dependent variable is the list position of each candidate described in either absolute terms (first position, second position, etc.) or relative to the seat quota achieved by the candidate’s party in election $t-1$.⁸ For example, if a party list received five proportional seats in a district in election $t-1$, a candidate placed fourth on this list in election t would have a value of +1 on the relative variable, and one placed seventh would have a value of -2. In both instances, the candidate’s chances of winning are decreasing in list position, 1 being the best position, 2 being the second best and so on. The results of these regressions are displayed in Figure 4 and indicate that ethnic minority candidates are associated with an absolute and relative list position greater than that of non-ethnic minority candidates, although the effects are small and not entirely consistent. Indeed, the magnitude of this difference ranges from 0.77 position lower down the party list ($p<0.1$) to -0.05 (i.e., position higher for ethnic minority candidates, non significant). Here, the tendency is

⁸ Although formally new electoral regions, I treat South Scotland as the continuation of South of Scotland, West Scotland as the continuation of West of Scotland, and Lothian as the continuation of Lothians as, notwithstanding some minor changes to the boundaries of these regions in 2011, they are virtually the same.

towards parties placing ethnic minority candidates in worse party list positions vis-à-vis non-ethnic minority candidates. The full results from this series of regressions are displayed in online appendix 9.

Figure 4: Effect of ethnic minority status on party list position (proportional tier)

Note: Dots are effect estimates of position in party list derived from OLS regressions. Thick bars are 90% confidence intervals, thin bars are 95% confidence intervals. N=1,180 in the models without controls, N=1,099 in the models with controls. Full regression results shown in online appendix 10.

Finally, I also consider gatekeeping by parties on the plurality tier by examining the difference in lagged electoral margin from $t-1$ on the plurality tier (i.e. the difference in vote share between the

candidate's party in the plurality district in election $t-1$ and that of the winning candidate, or in the case of the winning candidate's party, the difference in the share of the vote between that candidate and the second place candidate). In other words, I check whether ethnic minority candidates competing under plurality are more likely to be placed in a district that the party is unlikely to win (based on results from previous election) compared to non-ethnic minority candidates. In this instance, the greater the negative magnitude associated with ethnic minority candidates, the greater the disadvantage experienced by these candidates.

Figure 5: Effect of ethnic minority status on lagged margin (plurality tier)

Note: Dots are effect estimates of margin between candidate's party and (second) best party in last election derived from OLS regressions. Thick bars are 90% confidence intervals, thin bars are 95% confidence intervals. N=1,278 in models without controls, N=1,175 in models with controls. Full regression results shown in online appendix 11.

Figure 5 shows that there is no association between the ethnic minority status of the candidate and the margin between the party and the (second) best candidates at the last election. The effect ranges from -0.59 (*n.s.*) to 4.51 percentage points (*n.s.*). They are inconsistent and insignificant.

Altogether, these results show that the tendency of parties to act as gatekeepers preventing ethnic minority candidates from winning in placing them in district unlikely to lead to their election is more pronounced on the proportional tier than it is on the plurality tier. Although the effects are not entirely consistent in the former, they are certainly inconclusive in the latter.

Conclusion

In this paper, I study the chances of winning associated with ethnic minority candidates compared non-ethnic minority candidates and the role of electoral systems in this respect. To do so, I analyse an original dataset of 1,445 unique candidates in elections to the Scottish Parliament, Welsh Senedd, and London Assembly in the period 2007-2016. These elections were held under a mixed-member electoral system, which provides a quasi-experimental setting to estimate the effect of the electoral system (plurality vs proportional tier) holding voters and candidates constant. In order to measure the ethnic minority status of candidates, I use a facial recognition software, that I further validate using verified candidate data that are available for a subset of my sample.

The results show that, overall, ethnic minority candidates are associated with electoral outcomes comparable to that of non-ethnic minority candidates. Nevertheless, there exists heterogeneity across electoral tiers. In particular, I find that ethnic minority candidates are consistently associated with *worse* electoral outcomes on the proportional tier. Meanwhile, the results for the plurality tier are not conclusive, and suggest that ethnic minority candidates are as likely to be elected as their non-ethnic minority counterparts in the plurality tier. These findings put together suggests that ethnic minority candidates are better off under plurality, particularly given the possible presence of a contamination effect between the two tiers of the mixed-member electoral system that diminishes any difference between the two.

Finally, exploring the mechanism behind the main effect, I find that parties are at least partially responsible for it: although parties are more likely to nominate ethnic minority candidates in the proportional tier, there is some evidence that, compared to non-ethnic minority candidates, they are placed down the party list in positions unlikely to be elected. By contrast, I do not find evidence that, in the plurality tier, parties place ethnic minority candidates in districts where they are unlikely to win based on previous electoral results. These findings are particularly important as they suggest that part of the lack of representation experienced by ethnic minority groups is at least partly due to parties acting as gatekeeper to this kind of representation.

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Online Appendix 1 – Validating Ethnic Minority Status

To validate the inferred measure of ethnic minority status, online appendix 3 – Figure 1 shows the distribution of the probability of ethnic minority status (“Pr(Ethnic Minority)”) by confirmed ethnic minority status as described by the Guardian and Operation Black Vote. As these figures demonstrate, the distribution of Pr(Ethnic Minority) varies substantially according to the candidate’s confirmed ethnic minority status. Indeed, for those candidates confirmed as ethnic minority, the distribution is negatively skewed with a mean of approximately 0.81, a median of approximately 0.93, and a higher concentration of observations in the range 0.9-1. Meanwhile, for those candidates confirmed as non-ethnic minority the distribution is positively skewed with a mean of 0.11, a median of 0.06 and a high concentration of observations in 0-0.1. The stark differences in the distribution of Pr(Ethnic Minority) by confirmed ethnic minority status shows

the facial recognition software used to infer ethnic minority status for the wider sample used in this paper is indeed valid.

Online Appendix 2: Hypothesis 1 (detailed results):

VARIABLES	(1) Simulated	(2) Simulated	(3) Simulated	(4) Simulated	(5) Actual	(6) Actual	(7) Actual	(8) Actual
Ethnic Minority Cont.	-0.09* (0.05)	0.03 (0.04)			-0.08 (0.05)	0.03 (0.04)		
Labour		0.07*** (0.02)		0.07*** (0.02)		0.08*** (0.02)		0.08*** (0.02)
Liberal Democrat		-0.08*** (0.02)		-0.08*** (0.02)		-0.08*** (0.02)		-0.08*** (0.02)
Plaid Cymru		-0.03 (0.03)		-0.03 (0.03)		-0.03 (0.03)		-0.03 (0.03)
SNP		0.10*** (0.03)		0.10*** (0.03)		0.13*** (0.02)		0.13*** (0.02)
Age		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)
Female		0.00 (0.02)		0.00 (0.02)		-0.00 (0.02)		-0.00 (0.02)
Incumbent		0.49*** (0.02)		0.49*** (0.02)		0.44*** (0.02)		0.44*** (0.02)
Ethnic Minority Binary			-0.06 (0.05)	0.06 (0.04)			-0.06 (0.05)	0.05 (0.04)
Constant	0.32*** (0.04)	0.28*** (0.05)	0.31*** (0.04)	0.27*** (0.06)	0.32*** (0.04)	0.28*** (0.05)	0.31*** (0.04)	0.28*** (0.05)
Assembly FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,617	2,420	2,617	2,420	2,617	2,420	2,617	2,420

Online appendix 2 – Table 1 shows the full results used to evaluate Hypothesis 1. In this table, models 1-4 relate to the actual measure of election, while models 5-8 relate to the simulated measure. The coefficients shown in this table represent the effect of a one unit change in each of the independent variables on the dependent variable.

Online Appendix 3 – Hypothesis 2 (detailed results):

VARIABLES	(1) Simulated	(2) Simulated	(3) Simulated	(4) Simulated	(5) Actual	(6) Actual	(7) Actual	(8) Actual
Ethnic Minority Cont.	-0.03 (0.08)	0.14** (0.07)			-0.03 (0.08)	0.13* (0.07)		
Proportional	-0.05** (0.02)	-0.03 (0.02)	-0.06*** (0.02)	-0.04** (0.02)	-0.06** (0.03)	-0.03 (0.02)	-0.06*** (0.02)	-0.04** (0.02)
Ethnic Minority Cont. x Proportional	-0.09 (0.10)	-0.19** (0.09)			-0.08 (0.10)	-0.18* (0.09)		
Labour		0.06*** (0.02)		0.06*** (0.02)		0.08*** (0.02)		0.07*** (0.02)
Liberal Democrat		-0.08*** (0.02)		-0.09*** (0.02)		-0.09*** (0.02)		-0.09*** (0.02)
Plaid Cymru		-0.03 (0.03)		-0.03 (0.03)		-0.03 (0.03)		-0.03 (0.03)
SNP		0.10*** (0.03)		0.10*** (0.03)		0.13*** (0.02)		0.13*** (0.02)
Age		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)
Female		0.01 (0.02)		0.01 (0.02)		0.00 (0.02)		0.00 (0.02)
Incumbent		0.48*** (0.02)		0.48*** (0.02)		0.43*** (0.02)		0.43*** (0.02)
Ethnic Minority Binary			0.06 (0.09)	0.24*** (0.08)			0.06 (0.09)	0.23*** (0.08)
Ethnic Minority Binary x Proportional			-0.21** (0.10)	-0.31*** (0.10)			-0.21** (0.10)	-0.32*** (0.10)
Constant	0.34*** (0.04)	0.28*** (0.05)	0.33*** (0.04)	0.29*** (0.05)	0.34*** (0.04)	0.29*** (0.05)	0.33*** (0.04)	0.30*** (0.05)
Assembly FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,617	2,420	2,617	2,420	2,617	2,420	2,617	2,420

Online appendix 3 – Table 1 shows the full results used to evaluate Hypothesis 2. Once again, models 1-4 relate to the actual measure of election, while models 5-8 relate to the simulated measure. The coefficients shown in this table represent the marginal effect of a one unit change in each of the associated independent variable.

Online Appendix 4 – Dual Candidates Only

VARIABLES	(1) Simulated	(2) Simulated	(3) Simulated	(4) Simulated	(5) Actual	(6) Actual	(7) Actual	(8) Actual
Ethnic Minority Cont.	-0.10 (0.09)	0.07 (0.08)			-0.10 (0.08)	0.06 (0.08)		
Proportional	0.02 (0.03)	0.02 (0.03)	0.02 (0.03)	0.01 (0.03)	0.00 (0.03)	0.00 (0.03)	0.01 (0.03)	0.00 (0.03)
Ethnic Minority Cont. x Proportional	-0.04 (0.11)	-0.11 (0.12)			0.01 (0.12)	-0.05 (0.14)		
Labour		-0.05 (0.04)		-0.05 (0.03)		-0.04 (0.03)		-0.04 (0.03)
Liberal Democrat		-0.08*** (0.02)		-0.08*** (0.02)		-0.09*** (0.02)		-0.09*** (0.02)
Plaid Cymru		0.03 (0.05)		0.04 (0.05)		0.03 (0.04)		0.03 (0.04)
SNP		0.10*** (0.04)		0.10*** (0.04)		0.12*** (0.03)		0.12*** (0.03)
Age		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)
Female		-0.00 (0.02)		0.00 (0.02)		-0.00 (0.02)		-0.00 (0.02)
Incumbent		0.36*** (0.03)		0.36*** (0.03)		0.28*** (0.02)		0.28*** (0.02)
Ethnic Minority Binary			-0.02 (0.09)	0.19* (0.10)			-0.02 (0.09)	0.17* (0.10)
Ethnic Minority Binary x Proportional			-0.13 (0.11)	-0.24* (0.12)			-0.12 (0.11)	-0.24* (0.12)
Constant	0.23*** (0.06)	0.21*** (0.08)	0.20*** (0.06)	0.21*** (0.07)	0.23*** (0.06)	0.23*** (0.07)	0.21*** (0.06)	0.23*** (0.07)
Assembly FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,204	1,107	1,204	1,107	1,204	1,107	1,204	1,107

To keep the supply of candidates constant I perform the same analysis only on dual candidates.

The results of this analysis are consistent with those of the main text. Once again, models 1-4 pertain to the simulated measure of election and models 5-8 pertain to the actual measure.

Online Appendix 5 – Logit Estimates

VARIABLES	(1) Simulated	(2) Simulated	(3) Simulated	(4) Simulated	(5) Actual	(6) Actual	(7) Actual	(8) Actual
Ethnic Minority Cont. (Plurality)	-0.03 (0.08)	0.10** (0.05)			-0.03 (0.08)	0.10** (0.05)		
Ethnic Minority Cont. (PR)	-0.12 (0.10)	-0.16** (0.08)			-0.10 (0.11)	-0.15* (0.08)		
Ethnic Minority Binary (Plurality)			0.05 (0.07)	0.16*** (0.05)			0.05 (0.07)	0.16*** (0.05)
Ethnic Minority Binary (PR)			-0.26** (0.12)	-0.27*** (0.09)			-0.26** (0.12)	-0.29*** (0.09)
Incumbent		0.30*** (0.01)		0.30*** (0.01)		0.28*** (0.01)		0.28*** (0.01)
Female		0.00 (0.02)		-0.00 (0.02)		-0.00 (0.02)		-0.00 (0.01)
Age		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)
Labour		0.06** (0.02)		0.05** (0.02)		0.07*** (0.02)		0.07*** (0.02)
Liberal Democrat		-0.11*** (0.02)		-0.11*** (0.02)		-0.11*** (0.02)		-0.11*** (0.02)
Plaid Cymru		-0.04 (0.03)		-0.04 (0.03)		-0.03 (0.03)		-0.03 (0.03)
SNP		0.11*** (0.03)		0.11*** (0.03)		0.14*** (0.03)		0.14*** (0.03)
Assembly FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,617	2,420	2,617	2,420	2,617	2,420	2,617	2,420

Online Appendix 6 – Results by assembly

London Only

VARIABLES	(1) Simulated	(2) Simulated	(3) Simulated	(4) Simulated	(5) Actual	(6) Actual	(7) Actual	(8) Actual
Ethnic Minority Cont.	0.19 (0.16)	0.49*** (0.17)			0.19 (0.16)	0.49*** (0.17)		
Proportional	0.05 (0.12)	-0.15 (0.11)	-0.01 (0.09)	-0.24*** (0.09)	0.05 (0.12)	-0.15 (0.11)	-0.01 (0.09)	-0.24*** (0.09)
Ethnic Minority Cont. x Proportional	-0.38* (0.21)	-0.51** (0.20)			-0.38* (0.21)	-0.51** (0.20)		
Labour		-0.10 (0.10)		-0.12 (0.10)		-0.10 (0.10)		-0.12 (0.10)
Liberal Democrat		-0.31*** (0.08)		-0.32*** (0.09)		-0.31*** (0.08)		-0.32*** (0.09)
Age		0.01 (0.01)		0.01 (0.01)		0.01 (0.01)		0.01 (0.01)
Female		-0.07 (0.07)		-0.07 (0.07)		-0.07 (0.07)		-0.07 (0.07)
Incumbent		0.43*** (0.11)		0.40*** (0.11)		0.43*** (0.11)		0.40*** (0.11)
Ethnic Minority Binary			0.18 (0.13)	0.42*** (0.14)			0.18 (0.13)	0.42*** (0.14)
Ethnic Minority Binary x Proportional			-0.31* (0.18)	-0.41** (0.17)			-0.31* (0.18)	-0.41** (0.17)
Constant	0.26*** (0.07)	0.12 (0.22)	0.29*** (0.06)	0.17 (0.21)	0.26*** (0.07)	0.12 (0.22)	0.29*** (0.06)	0.17 (0.21)
Observations	227	146	227	146	227	146	227	146

Scotland Only

VARIABLES	(1) Simulated	(2) Simulated	(3) Simulated	(4) Simulated	(5) Actual	(6) Actual	(7) Actual	(8) Actual
Ethnic Minority Cont.	-0.15 (0.11)	-0.03 (0.07)			-0.15 (0.11)	-0.05 (0.07)		
Proportional	-0.05* (0.03)	-0.04 (0.03)	-0.05* (0.02)	-0.04 (0.02)	-0.05 (0.03)	-0.03 (0.03)	-0.05* (0.03)	-0.03 (0.03)
Ethnic Minority Cont. x Proportional	0.03 (0.13)	0.01 (0.09)			0.03 (0.13)	0.01 (0.10)		
Labour		0.02 (0.03)		0.02 (0.03)		0.04* (0.03)		0.04* (0.03)
Liberal Democrat		-0.06*** (0.02)		-0.06*** (0.02)		-0.06*** (0.02)		-0.06*** (0.02)
SNP		0.11*** (0.03)		0.11*** (0.03)		0.15*** (0.03)		0.15*** (0.03)
Age		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)
Female		-0.00 (0.02)		-0.00 (0.02)		-0.01 (0.02)		-0.01 (0.02)
Incumbent		0.41*** (0.03)		0.41*** (0.03)		0.34*** (0.02)		0.34*** (0.02)
Ethnic Minority Binary			-0.26*** (0.02)	-0.07*** (0.02)			-0.26*** (0.02)	-0.09*** (0.02)
Ethnic Minority Binary x Proportional			0.10* (0.06)	0.05 (0.06)			0.10* (0.06)	0.04 (0.06)
Constant	0.27*** (0.02)	0.13*** (0.05)	0.26*** (0.02)	0.13*** (0.04)	0.27*** (0.02)	0.14*** (0.04)	0.26*** (0.02)	0.14*** (0.04)
Observations	1,611	1,512	1,611	1,512	1,611	1,512	1,611	1,512

Wales Only

VARIABLES	(1) Simulated	(2) Simulated	(3) Simulated	(4) Simulated	(5) Actual	(6) Actual	(7) Actual	(8) Actual
Ethnic Minority Cont.	-0.14 (0.16)	-0.03 (0.09)			-0.14 (0.16)	-0.03 (0.09)		
Proportional	-0.11** (0.05)	-0.03 (0.03)	-0.09** (0.04)	-0.02 (0.03)	-0.12** (0.05)	-0.04 (0.03)	-0.09** (0.04)	-0.02 (0.03)
Ethnic Minority Cont. x Proportional	0.10 (0.19)	0.02 (0.11)			0.14 (0.19)	0.06 (0.12)		
Labour		0.17*** (0.04)		0.17*** (0.04)		0.17*** (0.04)		0.17*** (0.04)
Liberal Democrat		-0.07** (0.03)		-0.07** (0.03)		-0.07** (0.03)		-0.07** (0.03)
Plaid Cymru		0.01 (0.03)		0.01 (0.03)		0.01 (0.03)		0.01 (0.03)
Age		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)
Female		0.00 (0.03)		0.01 (0.03)		0.00 (0.03)		0.00 (0.03)
Incumbent		0.67*** (0.04)		0.67*** (0.04)		0.66*** (0.04)		0.66*** (0.04)
Ethnic Minority Binary			0.18 (0.21)	0.16* (0.10)			0.18 (0.21)	0.16 (0.10)
Ethnic Minority Binary x Proportional			-0.35* (0.21)	-0.24** (0.11)			-0.35* (0.21)	-0.24** (0.11)
Constant	0.28*** (0.04)	0.13** (0.06)	0.26*** (0.03)	0.12** (0.05)	0.28*** (0.04)	0.14** (0.06)	0.26*** (0.03)	0.13** (0.05)
Observations	779	762	779	762	779	762	779	762

Online Appendix 7 - Cycle 1 – 2007/8

VARIABLES	(1) Simulated	(2) Simulated	(3) Simulated	(4) Simulated	(5) Actual	(6) Actual	(7) Actual	(8) Actual
Ethnic Minority Cont.	-0.05 (0.11)	0.23** (0.11)			-0.06 (0.11)	0.22** (0.11)		
Proportional	-0.02 (0.04)	0.06** (0.03)	-0.02 (0.03)	0.03 (0.03)	-0.01 (0.04)	0.07* (0.03)	-0.02 (0.03)	0.04 (0.03)
Ethnic Minority Cont. x Proportional	-0.13 (0.13)	-0.36*** (0.13)			-0.14 (0.14)	-0.37*** (0.14)		
Labour		0.10** (0.04)		0.10*** (0.04)		0.12*** (0.04)		0.12*** (0.04)
Liberal Democrat		-0.01 (0.03)		-0.01 (0.03)		-0.01 (0.03)		-0.01 (0.03)
Plaid Cymru		0.11* (0.05)		0.11** (0.05)		0.11** (0.06)		0.12** (0.05)
SNP		0.08* (0.04)		0.09* (0.04)		0.11*** (0.04)		0.12*** (0.04)
Age		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)
Female		-0.02 (0.03)		-0.02 (0.03)		-0.01 (0.03)		-0.02 (0.03)
Incumbent		0.60*** (0.04)		0.60*** (0.04)		0.55*** (0.03)		0.55*** (0.03)
Ethnic Minority Binary			-0.01 (0.13)	0.46*** (0.16)			-0.01 (0.13)	0.45*** (0.16)
Ethnic Minority Binary x Proportional			-0.21 (0.15)	-0.62*** (0.17)			-0.21 (0.15)	-0.63*** (0.17)
Constant	0.34*** (0.06)	0.13 (0.09)	0.33*** (0.06)	0.14 (0.09)	0.34*** (0.06)	0.14 (0.09)	0.33*** (0.06)	0.15* (0.09)
Assembly FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	808	734	808	734	808	734	808	734

Cycle 2 - 2011/12

VARIABLES	(1) Simulated	(2) Simulated	(3) Simulated	(4) Simulated	(5) Actual	(6) Actual	(7) Actual	(8) Actual
Ethnic Minority Cont.	-0.06 (0.09)	0.11 (0.08)			-0.06 (0.09)	0.10 (0.08)		
Proportional	-0.01 (0.03)	-0.01 (0.03)	-0.02 (0.03)	-0.02 (0.03)	-0.01 (0.04)	-0.01 (0.04)	-0.02 (0.03)	-0.02 (0.03)
Ethnic Minority Cont. x Proportional	-0.11 (0.11)	-0.20* (0.11)			-0.12 (0.12)	-0.20* (0.11)		
Labour		0.15*** (0.04)		0.14*** (0.04)		0.16*** (0.04)		0.15*** (0.04)
Liberal Democrat		-0.08*** (0.03)		-0.08*** (0.03)		-0.09*** (0.03)		-0.09*** (0.03)
Plaid Cymru		-0.06 (0.05)		-0.07 (0.05)		-0.06 (0.05)		-0.07 (0.05)
SNP		0.19*** (0.04)		0.19*** (0.04)		0.23*** (0.04)		0.23*** (0.04)
Age		0.00 (0.00)		0.00 (0.00)		0.00 (0.00)		0.00 (0.00)
Female		0.02 (0.03)		0.02 (0.03)		0.02 (0.03)		0.02 (0.03)
Incumbent		0.43*** (0.04)		0.43*** (0.04)		0.36*** (0.04)		0.36*** (0.04)
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Ethnic Minority Binary			0.02 (0.10)	0.18* (0.09)			0.02 (0.10)	0.16* (0.09)
Ethnic Minority Binary x Proportional			-0.25** (0.11)	-0.32*** (0.11)			-0.25** (0.11)	-0.32*** (0.11)
Constant	0.36*** (0.06)	0.22*** (0.08)	0.34*** (0.06)	0.23*** (0.07)	0.36*** (0.06)	0.21*** (0.08)	0.34*** (0.06)	0.22*** (0.07)
Assembly FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	845	778	845	778	845	778	845	778

Cycle 3 - 2016

VARIABLES	(1) Simulated	(2) Simulated	(3) Simulated	(4) Simulated	(5) Actual	(6) Actual	(7) Actual	(8) Actual
Ethnic Minority Cont.	0.04 (0.11)	0.11 (0.09)			0.04 (0.11)	0.10 (0.09)		
Proportional	-0.11*** (0.03)	-0.10*** (0.03)	-0.11*** (0.03)	-0.11*** (0.02)	-0.12*** (0.03)	-0.11*** (0.03)	-0.11*** (0.03)	-0.11*** (0.03)
Ethnic Minority Cont. x Proportional	-0.06 (0.13)	-0.08 (0.12)			-0.01 (0.14)	-0.04 (0.12)		
Labour		-0.03 (0.04)		-0.04 (0.03)		-0.02 (0.03)		-0.02 (0.03)
Liberal Democrat		-0.15*** (0.03)		-0.16*** (0.03)		-0.15*** (0.03)		-0.15*** (0.03)
Plaid Cymru		-0.09** (0.04)		-0.09** (0.04)		-0.09** (0.04)		-0.08** (0.04)
SNP		0.06 (0.05)		0.05 (0.05)		0.08* (0.04)		0.08* (0.04)
Age		-0.00 (0.00)		-0.00 (0.00)		-0.00** (0.00)		-0.00** (0.00)
Female		0.03 (0.02)		0.03 (0.02)		0.01 (0.02)		0.01 (0.02)
Incumbent		0.41*** (0.04)		0.41*** (0.04)		0.38*** (0.03)		0.38*** (0.03)
Ethnic Minority Binary			0.17 (0.12)	0.23** (0.09)			0.17 (0.12)	0.23** (0.09)
Ethnic Minority Binary x Proportional			-0.20 (0.13)	-0.19 (0.12)			-0.20 (0.13)	-0.20* (0.12)
Constant	0.32*** (0.06)	0.47*** (0.08)	0.31*** (0.05)	0.46*** (0.08)	0.32*** (0.06)	0.49*** (0.07)	0.31*** (0.05)	0.49*** (0.07)
Assembly	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	964	908	964	908	964	908	964	908

Online Appendix 8 – Results by Party

Conservative Only

VARIABLES	(1) Simulated	(2) Simulated	(3) Simulated	(4) Simulated	(5) Actual	(6) Actual	(7) Actual	(8) Actual
Ethnic Minority Cont.	0.09 (0.17)	0.34** (0.17)			0.09 (0.17)	0.32* (0.17)		
Proportional	0.14*** (0.05)	0.12*** (0.04)	0.13*** (0.04)	0.08** (0.03)	0.13*** (0.05)	0.11*** (0.04)	0.13*** (0.04)	0.08** (0.04)
Ethnic Minority Cont. x Proportional	-0.17 (0.21)	-0.37* (0.20)			-0.13 (0.22)	-0.31 (0.22)		
Age		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)
Female		0.02 (0.04)		0.02 (0.04)		0.02 (0.04)		0.02 (0.04)
Incumbent		0.54*** (0.06)		0.54*** (0.05)		0.49*** (0.05)		0.49*** (0.05)
Ethnic Minority Binary			0.07 (0.23)	0.32 (0.23)			0.07 (0.23)	0.31 (0.23)
Ethnic Minority Binary x Proportional			-0.27 (0.25)	-0.41 (0.25)			-0.27 (0.25)	-0.41 (0.26)
Constant	0.32*** (0.08)	0.27** (0.11)	0.34*** (0.08)	0.33*** (0.11)	0.31*** (0.08)	0.30*** (0.10)	0.34*** (0.08)	0.36*** (0.11)
Assembly FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	687	633	687	633	687	633	687	633

Labour Only

VARIABLES	(1) Simulated	(2) Simulated	(3) Simulated	(4) Simulated	(5) Actual	(6) Actual	(7) Actual	(8) Actual
Ethnic Minority Cont.	0.07 (0.13)	0.35*** (0.11)			0.07 (0.13)	0.34*** (0.11)		
Proportional	-0.09 (0.06)	0.01 (0.05)	-0.11** (0.05)	-0.03 (0.04)	-0.09 (0.06)	0.01 (0.05)	-0.11** (0.05)	-0.03 (0.04)
Ethnic Minority Cont. x Proportional	-0.28 (0.17)	-0.48*** (0.15)			-0.28 (0.17)	-0.48*** (0.15)		
Age		0.00 (0.00)		0.00 (0.00)		0.00 (0.00)		0.00 (0.00)
Female		0.02 (0.03)		0.01 (0.03)		-0.00 (0.03)		-0.00 (0.03)
Incumbent		0.48*** (0.04)		0.49*** (0.04)		0.47*** (0.04)		0.47*** (0.04)
Ethnic Minority Binary			0.15 (0.13)	0.46*** (0.11)			0.15 (0.13)	0.45*** (0.11)
Ethnic Minority Binary x Proportional			-0.35** (0.16)	-0.59*** (0.14)			-0.35** (0.16)	-0.60*** (0.14)
Constant	0.48*** (0.08)	0.22** (0.11)	0.45*** (0.08)	0.21** (0.10)	0.47*** (0.08)	0.23** (0.11)	0.45*** (0.08)	0.22** (0.10)
Assembly FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	624	573	624	573	624	573	624	573

Liberal Democrats Only

VARIABLES	(1) Simulated	(2) Simulated	(3) Simulated	(4) Simulated	(5) Actual	(6) Actual	(7) Actual	(8) Actual
Ethnic Minority Cont.	-0.07 (0.04)	-0.02 (0.04)			-0.07 (0.04)	-0.02 (0.04)		
Proportional	0.03 (0.03)	0.01 (0.02)	0.02 (0.03)	0.01 (0.02)	0.03 (0.03)	0.01 (0.02)	0.02 (0.03)	0.01 (0.02)
Ethnic Minority Cont. x Proportional	-0.06 (0.05)	-0.04 (0.04)			-0.06 (0.05)	-0.04 (0.05)		
Age		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)
Female		-0.01 (0.02)		-0.01 (0.02)		-0.02 (0.02)		-0.01 (0.02)
Incumbent		0.47*** (0.07)		0.47*** (0.07)		0.45*** (0.07)		0.45*** (0.07)
Ethnic Minority Binary			-0.07*** (0.02)	-0.02 (0.01)			-0.07*** (0.02)	-0.02 (0.01)
Ethnic Minority Binary x Proportional			-0.02 (0.03)	-0.01 (0.02)			-0.02 (0.03)	-0.01 (0.02)
Constant	0.10** (0.05)	0.09** (0.04)	0.09** (0.04)	0.09** (0.04)	0.10** (0.05)	0.09** (0.04)	0.09** (0.04)	0.08** (0.04)
Assembly FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	640	592	640	592	640	592	640	592

Plaid Cymru Only

VARIABLES	(1) Simulated	(2) Simulated	(3) Simulated	(4) Simulated	(5) Actual	(6) Actual	(7) Actual	(8) Actual
Ethnic Minority Cont.	-0.35*** (0.12)	-0.14 (0.10)			-0.35*** (0.12)	-0.16* (0.09)		
Proportional	0.01 (0.09)	0.07 (0.06)	0.05 (0.07)	0.10* (0.05)	-0.01 (0.09)	0.05 (0.07)	0.05 (0.07)	0.10* (0.06)
Ethnic Minority Cont. x Proportional	0.26 (0.28)	0.20 (0.25)			0.42 (0.30)	0.36 (0.28)		
Age		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)
Female		-0.04 (0.04)		-0.04 (0.04)		-0.05 (0.04)		-0.05 (0.04)
Incumbent		0.73*** (0.08)		0.73*** (0.08)		0.70*** (0.07)		0.70*** (0.07)
Ethnic Minority Binary			-0.16*** (0.05)	-0.02 (0.03)			-0.16*** (0.05)	-0.02 (0.03)
Ethnic Minority Binary x Proportional			-0.05 (0.07)	-0.10* (0.06)			-0.05 (0.07)	-0.11 (0.06)
Constant	0.21*** (0.06)	0.11 (0.10)	0.16*** (0.05)	0.08 (0.09)	0.21*** (0.06)	0.14 (0.11)	0.16*** (0.05)	0.11 (0.10)
Assembly FE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Observations	206	202	206	202	206	202	206	202

SNP Only

VARIABLES	(1) Simulated	(2) Simulated	(3) Simulated	(4) Simulated	(5) Actual	(6) Actual	(7) Actual	(8) Actual
Ethnic Minority Cont.	0.09 (0.39)	-0.05 (0.33)			0.09 (0.39)	-0.04 (0.36)		
Proportional	-0.39*** (0.05)	-0.38*** (0.05)	-0.41*** (0.04)	-0.38*** (0.05)	-0.38*** (0.06)	-0.35*** (0.06)	-0.41*** (0.05)	-0.36*** (0.05)
Ethnic Minority Cont. x Proportional	-0.26 (0.39)	0.02 (0.34)			-0.31 (0.41)	-0.09 (0.39)		
Age		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)		-0.00 (0.00)
Female		-0.04 (0.04)		-0.04 (0.04)		-0.04 (0.04)		-0.04 (0.03)
Incumbent		0.32*** (0.04)		0.32*** (0.04)		0.21*** (0.03)		0.21*** (0.03)
Ethnic Minority Binary			-0.19*** (0.03)	-0.07** (0.03)			-0.19*** (0.03)	-0.13*** (0.03)
Constant	0.60*** (0.05)	0.50*** (0.11)	0.61*** (0.04)	0.49*** (0.10)	0.60*** (0.05)	0.55*** (0.09)	0.61*** (0.04)	0.54*** (0.09)
Assembly FE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Observations	460	420	460	420	460	420	460	420

Online Appendix 9 – Ethnic Minority Status and Tier Selection

VARIABLES	(1) PR Tier	(2) PR Tier	(3) PR Tier	(4) PR Tier
Age		0.002* (0.001)		0.002* (0.001)
Ethnic Minority Cont.	0.114** (0.045)	0.137*** (0.048)		
Ethnic Minority Binary			0.114** (0.045)	0.137*** (0.048)
Female		0.053*** (0.019)		0.053*** (0.019)
Constant	0.402*** (0.038)	0.356*** (0.038)	0.402*** (0.038)	0.356*** (0.038)
Assembly FE	Yes	Yes	Yes	Yes
Observations	2,617	2,420	2,617	2,420

Online Appendix 10 – Ethnic Minority Status and List Placement

VARIABLES	(1) Absolute	(2) Absolute	(3) Absolute	(4) Absolute	(5) Relative	(6) Relative	(7) Relative	(8) Relative
Age		-0.01 (0.01)		-0.01 (0.01)		-0.01 (0.01)		-0.01 (0.01)
Ethnic Minority Cont.	0.59 (0.42)	0.30 (0.42)			0.77* (0.43)	0.49 (0.42)		
Ethnic Minority Binary			0.07 (0.41)	-0.27 (0.40)			0.30 (0.41)	-0.05 (0.39)
Female		-0.26 (0.21)		-0.28 (0.21)		-0.25 (0.22)		-0.27 (0.22)
Constant	5.95*** (0.45)	6.89*** (0.62)	6.16*** (0.44)	7.10*** (0.60)	3.18*** (0.47)	4.21*** (0.65)	3.39*** (0.46)	4.44*** (0.64)
Assembly FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,180	1,099	1,180	1,099	1,180	1,099	1,180	1,099

Online Appendix 11 – Ethnic Minority Status and Lag Plurality Margin

VARIABLES	(1) Lag Margin	(2) Lag Margin	(3) Lag Margin	(4) Lag Margin
Ethnic Minority Cont.	-0.03 (0.05)	-0.01 (0.05)		
Ethnic Minority Binary			0.03 (0.05)	0.05 (0.05)
Age		0.00*** (0.00)		0.00*** (0.00)
Female		0.03 (0.02)		0.03* (0.02)
Constant	-0.08*** (0.03)	-0.14*** (0.05)	-0.10*** (0.02)	-0.15*** (0.05)
Assembly FE	Yes	Yes	Yes	Yes
Observations	1,278	1,175	1,278	1,175