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**Citizen Preferences about Border Arrangements in Divided Societies:  
Evidence from a Conjoint Experiment in Northern Ireland**

by

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**Abstract**

Border arrangements are often critical to the successful negotiation of peace settlements and the broader politics of post-conflict societies. However, developing an understanding of popular preferences about these arrangements is difficult using traditional surveys. To address this problem, we use a conjoint survey experiment to assess preferences about post-Brexit border arrangements in Northern Ireland. We map areas of convergence and divergence in the preferences about post-Brexit border arrangements of unionist and nationalist communities, simulate the degree of public support for politically plausible outcomes and identify the border arrangements that both communities can agree upon. In so doing, we outline an empirical approach to understanding public preferences about border arrangements that can be used to understand the degree of support for similar institutional arrangements in other divided societies.

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**Data Replication:** Data to replicate the analyses presenting in this paper are deposited at this link: <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/85URRX>

Border arrangements are among some of the most publicly recognised institutions in contemporary societies, governing both international relations and domestic politics (Simmons 2005, Diener & Hagen 2012). They are an essential component to the resolution of inter and intra state conflicts (Holsti 1991, Hensel 2001, Schultz 2015) and often define coexistence of different communities in divided societies (Cederman, Ruegger Schvitz, 2019). Yet, public preferences about border arrangements are rarely gauged. Even peace polls on territorial conflicts rarely focus on border issues (see for example Irwin 2004, Shamir and Shamir 1995, Kaymak, Lordos & Tocci 2008). This is not only a gap in the academic literature, but more importantly for the context we consider here, a key missing element of information for policy makers and post-conflict negotiators. Elites may end up negotiating with each other in relative isolation from public opinion and it can be difficult for politicians to gauge the level of popular support for different peace or border settlement options (Lederach 1997). The failures to ensure that there is popular support for agreements can lead to the rejection of peace settlements by referendums as demonstrated in Colombia (2016) and Cyprus (2004) while public endorsement of settlements can help secure their stability (McGarry & O'Leary 2009, Guelke 1999, Darby & Mac Ginty 2002). Because settling territorial disputes is crucial to peaceful interstate and intrastate relations (Owsiak, 2012) a fuller understanding of the preferences of affected communities is central to negotiating viable peace solutions.

Borders function as political institutions filtering and controlling the entry and exit of people and goods between territorially defined jurisdictions (Simmons 2005, Simmons and Kenwick 2019). As is the case with all political institutions we can identify a range of dimensions along which they vary in way that shape their effects on inter-state relations, trade, security and cultural identity (Simmons and Kenwick 2019). For example, border institutions differ in intrusiveness of their inspections, location of check points, financial

costs they impose on users and the legal jurisdiction into which they fall which can encompass financial and security issues.

Public opinion concerning these differences in border arrangements cannot be captured accurately by standard single item survey questions, which fail to identify the complexity of views about these institutions. In evaluating border provisions, respondents must consider the qualities of one border attribute traded-off against another attribute. For example, decreasing the costs of crossing the border by reducing border checks, may increase security concerns. In order to develop an accurate understanding of how citizens view border arrangements we must grasp how they make these trade-offs.

The methodological innovation that we propose in this paper is to apply conjoint analysis to identify citizen preferences about borders. Conjoint analysis has been applied to a range of questions of interest to political scientists including preferences about the attributes of political candidates (Teele et al, 2018 ), immigration (Hainmuller and Hopkins, 2015), welfare policy regimes (Hausermann et al, 2019) and peace settlements (Tellez 2019, Morgan-Jones, et al 2019) among others. In conjoint analysis, respondents rank or rate two or more hypothetical choices with multiple attributes; the objective is to estimate the influence of each attribute on respondents' choices or ratings (Hainmuller et al. 2014). The values of different attributes are randomised across respondents enabling strong causal inferences to be drawn. This proves particularly useful in mapping community-based preferences in divided societies, where it enables explaining differences and exploring solutions acceptable to all sides. Using this approach we offer a deeper understanding of how inter-community preferences diverge and how they could converge in a jointly supported solution.

## **Brexit and the Border**

Northern Ireland represents an ideal case to examine border issues in a divided society as the border is central to the politics of the peace process and has been a salient aspect in the politics of Northern Ireland since the early 1900s (Rankin 2007). The partition of Ireland in 1920 split the island into two political units: the Irish Free State which chose to leave the United Kingdom and Northern Ireland which remained part of it. On the one hand, Irish nationalists who wanted a united Ireland became a minority in a region of the United Kingdom dominated by unionists. Unionists, on the other hand, were committed to remaining part of the United Kingdom and feared becoming a minority if Ireland were to re-unite. Thus, the imposition of the border was central to the definition of the political identities of both communities (Coakley 2017).

The location of the border and arrangements for controlling it were contested for the rest of the twentieth century and were important to the violent conflict that emerged in the 1960s. Following the signing of the Belfast/Good Friday Agreement in 1998 the importance of the border in the politics of the region was reduced. The Agreement reduced violent conflict and established power-sharing provisions bringing stability. In addition, the integration of the UK into the European Union's (hereafter EU) common regulatory framework saw the reduction of border infrastructure and an increasingly free flow of goods and people. During the past 20 years, the border has become invisible, and this has facilitated trade, with cross border trade accounting for 61% of the total volume of exchanges between Northern Ireland and the EU. A further effect of EU integration has been to increase the security of the nationalist community in Northern Ireland, as they perceive their rights as more securely protected under EU law and guaranteed their free movement across the border (Guelke 2017).

The UK vote to leave the EU in 2016 sharply increased the importance of the border and reawakened concerns about the stability of the peace process (Phinnemore & Hayward 2017; Guelke 2017). This was compounded by three further conditions placing extra pressure on the border settlement. Firstly, during the Brexit referendum campaign, the main unionist and nationalist parties took opposing positions. The largest unionist party, the Democratic Unionist Party (DUP), campaigned for the UK to leave the EU, whilst Sinn Fein, the largest nationalist party, wanted it to remain (McCann & Hainsworth 2017). Secondly, the UK's 2017 Westminster General Election resulted in a Theresa May led conservative minority administration supported by the DUP. This meant the UK government was dependent on one of the region's parties to sustain itself in office. Thirdly, the UK withdrawing from the EU's single market and customs union, strengthen the practical implications of the fact that the Northern Irish land border would now be a EU external border. This could result in the need for extensive border checks to establish that goods and people moving from one jurisdiction to another meet the relevant regulations (Hayward, Campbell & Murphy 2017). This possibility dramatically increased the political significance of the border given the requirement for the UK government to negotiate a withdrawal agreement with the EU in order to provide for an orderly exit.

From December 2017 until January 2020 the UK parliament was deadlocked and unable to approve the Withdrawal Agreement that Theresa May's government had negotiated with the EU. At the time of data collection in May and June 2018 no withdrawal agreement outlining the status of Northern Ireland had been ratified by the UK Parliament. Only after the Westminster general election of December 2019, when Boris Johnson's Conservative

government secured a substantial majority to ratify in parliament a renegotiated Withdrawal Agreement Bill in January 2020.<sup>1</sup>

Despite the salience of the border issue in the politics of Northern Ireland and these negotiations, little attention has been paid to the preferences of residents of the region with the exception of Garry et al. 2018. In particular, no one has gauged citizen preferences surrounding the trade-offs inherent in possible changes to border institutions. More open borders might smooth the economic transaction costs of crossing borders but raise security concerns. Harder to cross borders might provide more practical and symbolic support of security and identity concerns but entail higher transaction costs. This is exactly the kind of trade-off Northern Ireland is now facing as it evaluates the consequences of Brexit. To what extent should borders between Northern Ireland and the Irish Republic and/or Northern Ireland and Great Britain be regulated? Should Northern Ireland maintain close contact with the Republic of Ireland and the EU at the risk of more legal distance from the rest of the UK? Complicating this issue is the fact that the relative anticipated cost of Brexit to the Northern Irish economy is high. The UK government estimates that between eight to twelve percent of the Northern Irish GDP could be lost depending on the precise Brexit outcome (Hughes & Hayward 2018). Would compensation for these losses shape views on acceptable border arrangements?

To explore how public opinion in the region evaluates these characteristics of border regulation, we analyse the results of a survey experiment administered to Northern Irish citizens in May and June 2018.

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<sup>1</sup> Though even then some confusion remained about the precise implications for border infrastructure of the Northern Irish see Curtis (2020).

## Experimental Design and Analysis

We gathered a sample of 759 respondents (age 18+)<sup>2</sup> from the Qualtrics Northern Irish Online Panel comprising the unionist and nationalist communities, as well as citizens who did not identify with either group<sup>3</sup>. Respondents were presented with pairs of hypothetical border agreements and asked to choose one. Each agreement had five attributes<sup>4</sup> mirroring the key dimensions of the future border arrangements to be agreed:

- Location of border stations
- Characteristics of border checks
- Monitoring of border crossings
- Responsibility for the costs of maintaining border infrastructure
- Compensation for changes to border arrangements

Each attribute had between two and five values, proposing alternative solutions. Table 1 reports the list of dimensions and corresponding values, and Figure 1 shows an example of paired choices. Overall, respondents saw four pairs of border settlements in separate screens and were asked to make a choice between the two options in each pair, for a total of eight potential agreements evaluated by each individual<sup>5</sup>.

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<sup>2</sup> The response rate for the web sample was 0.264, calculated as per AAPOR guidelines. After pilot testing the survey experiment on 80 subjects we established a minimum cutoff point of four minutes. Any entry produced in less than four minutes was excluded from the sample and recruitment continued until all entries were above the cut-off.

<sup>3</sup> We limit the analysis presented here to Unionists and Nationalists, respectively 331 and 242 individuals for a total of 573. Estimates for non-identifiers, who either indicated that they identified with neither community (146) or preferred not to say (40) can be found in Morgan-Jones et al (2018)

<sup>4</sup> The order of attributes was randomised for each respondent, as were the values.

<sup>5</sup> The full questionnaire is available upon request.



**Figure 1. Sample pair of border agreements**

Question 1

Please carefully review the options detailed below, then please answer the questions.

Which of these choices do you prefer?

	<b>Choice 1</b>	<b>Choice 2</b>
<b>Responsible for costs of maintaining border infrastructure</b>	Mainly UK government	Mainly government of Irish Republic
<b>Control of Border Crossings</b>	Separate control and operation of border crossings by RoI and UK governments with both sides working on their own	Separate control and operation of border crossings by RoI and UK governments with both sides working on their own
<b>Characteristics of Physical Border Checks</b>	Random physical checks of goods at depots away from border	Pre-departure electronic customs registration of all goods crossing border combined with remote electronic monitoring of vehicles crossing border
<b>Location of Border Stations</b>	At ports of entry to England, Wales and Scotland	At ports of entry to England, Wales and Scotland
<b>Compensation for changes to border arrangements</b>	None	Public Spending in Northern Ireland increased 10%

- Prefer choice 1
- Prefer choice 2

**Table 1. Northern Irish border dimensions and values**

<b>Location of Border Stations</b>	At ports of exit from the island of Ireland
	At ports of entry to England, Wales and Scotland
	At the land border between Northern Ireland and Republic of Ireland
<b>Characteristics of Physical Border Checks</b>	Border officers physically examine all goods and customs paperwork crossing border
	Pre-departure electronic customs registration of all goods crossing the border combined with remote electronic monitoring of vehicles crossing the border and random physical checks of goods at depots away from border
	Random physical checks of goods at depots away from border
	Pre-departure electronic customs registration of all goods crossing border combined with remote electronic monitoring of vehicles crossing border
	No checks on goods crossing border
<b>Control of Border Crossings</b>	Separate control and operation of border crossings by RoI and UK governments with both sides working on their own
	Shared control and operation of border crossings by RoI and UK governments including mixed UK/RoI teams on both sides of the border working together
<b>Responsible for costs of maintaining border infrastructure</b>	Mainly UK government
	Business and individuals using the border
	Mainly government of Irish Republic
	Shared by governments of UK and Republic of Ireland
<b>Compensation for changes to border arrangements</b>	None
	Public spending in Northern Ireland increased by 5%
	Public Spending in Northern Ireland increased 10%

The primary outcome of interest is the binary variable ‘border arrangement preferred’. This takes the value of 1 when respondents select the settlement and 0 otherwise. We estimate the marginal effects of the attributes’ values – coded as dummy variables - using a linear probability model following Hainmueller et al. (2014). We cluster the estimates’ standard errors by respondent to account for intra-subject correlation in Stata 15.

As we are primarily concerned with how preferences on border arrangements diverge or converge across communities, we present comparative results for unionists (331 individuals) and nationalists (242 individuals) in Figure 2. The figure gives clear evidence that location of the border is strongly defined by community identification. Across this particular dimension, preferences of nationalist and unionists are unsurprisingly divergent. Nationalists are strongly opposed to a Land Border, but indifferent to where a potential

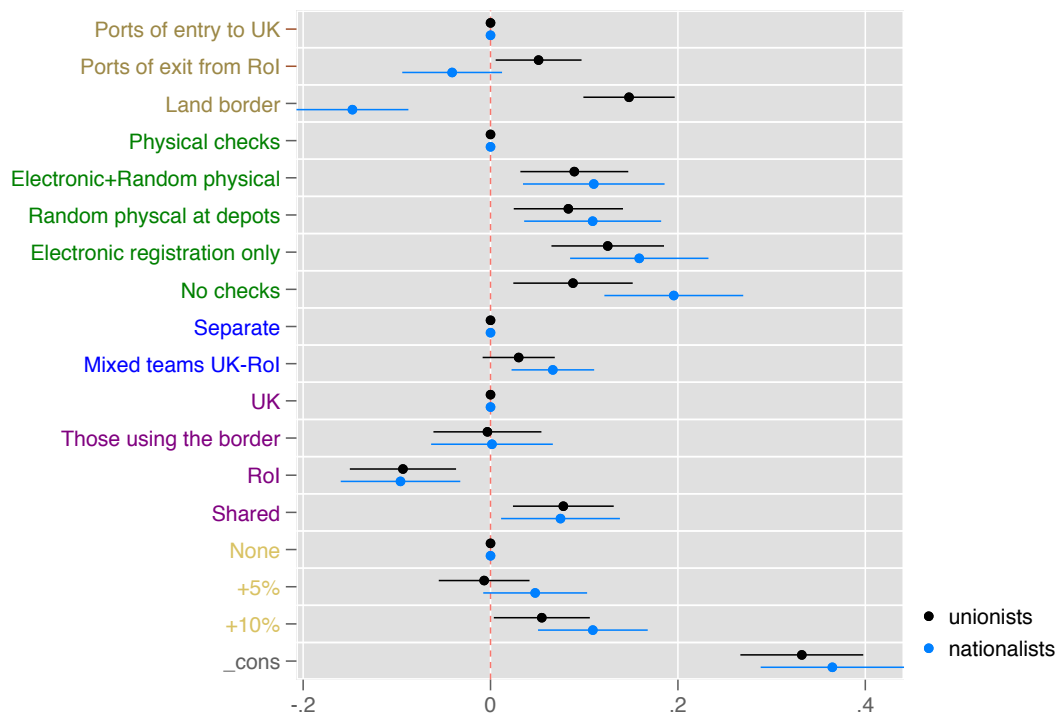
East/West border would be. Unionists strongly prefer a Land Border between the Northern and Southern part of the island of Ireland (North/South border) over an East/West border separating Northern Ireland from Great Britain. Preferences about whether the border should be at ports of entry to the UK or ports of exit from the Republic are insignificantly different from each other.

Turning to border checks, we find that both communities rank physical checks lowest, suggesting a strong preference for non-intrusive and time-saving forms of control. Nationalists prefer no checks over any physical or digital form of border control. Unionists are slightly more open to some form of checks but generally favour the least intrusive option: digital registration.

The two communities prefer shared over separate control. When it comes to paying for the maintenance of the border infrastructure, the preferences of unionists are aligned with those of nationalists and both are insignificantly different from the baseline category. As for compensation, nationalists think an increase in public spending is preferable to no compensation whatsoever, whilst unionists prefer compensation only in the order of a 10% increase in public spending.

All in all, the border location emerges as equally important to both communities and as the main source of divergence. Unionists are 15% more likely to support an arrangement with a land border while nationalists are 15% more likely to reject such a scenario. However, nationalists display an even stronger likelihood of supporting an agreement with no checks (20%) compared to physical checks. This dimension is highly salient to unionists as well: compared to physical checks, provisions for electronic registration only increase support for an agreement containing such a feature at 12%.

**Figure 2. Effect of border arrangements on Northern Irish respondents by community**



In the Appendix, we report our robustness tests, including our models controlling for socio-demographic characteristics and sample weighting.

### Simulation of Alternative Border Arrangements

The picture presented above is one of relative agreement across the two communities along multiple dimensions. In other words, there is scope for bilateral support for a solution, despite the expected cross-community divergence on where the border should be located. To identify what solutions would secure support – overall and by community - we simulate different combinations of border arrangements and estimate the support they would get by community and overall. In Table 2, we present the results of simulations of a range of potential

arrangements that might be considered politically realistic. This gives us a feel for the practical consequences and the level of popular support when border attributes are varied.

Simulation 1 explores the likelihood of support for a *No Deal* scenario in the event that a withdrawal agreement between the European Union and the UK could not be reached by January 31, 2020. In such a case, the border will be North-South, with the most intrusive form of checks (physical) control, operated separately and the UK responsible for maintaining the border. This is the least preferred option overall (only 42% support) and by community (unionists 51%, nationalists 28%). Whilst low popularity among nationalists is to be expected, a predicted support of merely 51% among unionists suggests that a *No Deal* outcome will not satisfy the majority of the unionist community either. Simulation 2 explores the North-South border with less intrusive checks (electronic only), shared control and maintenance of the border and no compensation. This is supported by 53% of all citizens, but there is a dramatic community split: it receives more unionist support (65%) but persuades less than half of the nationalists (40%). Both solutions would therefore pose challenges to the peace process, as their legitimacy among nationalists would be weak.

Simulation 3 is an East-West border, with checks performed at ports of entry to mainland UK. Here, checks are electronic only; there is shared control and maintenance of the border and no compensation. Under this scenario, nationalists would be more satisfied than unionists – as there would be no barriers between the North and South of the island of Ireland – but the confidence intervals around the estimates of both communities fall below the 50% line, indicating that such a solution may not fully satisfy either or both communities.

Simulation 4 revises this scenario with the addition of compensation (+10% increase in public spending). This boosts the support for this type of arrangement, with a steep increase (+12%) in the likelihood of nationalists supporting it. Unionists would also welcome an increase in public spending and would be 14% more likely to support this arrangement if

the increment were part of the package. The overall support of this scenario is 64%, indicating that including an increased public spending provision would be beneficial to reaching a shared solution. The provision of a combination of electronic and random physical checks (preferred by unionists), together with an increase in public spending in the region moves the lower confidence intervals of all the estimates safely above the 50% bar for each community as well as overall.

These simulations show the scope to design border options that will secure societal agreement and attract the overall support of both groups. Crucially, a *No Deal* arrangement would be very unpopular with the whole of the Northern Irish public and is likely to undermine the legitimacy of the border.

**Table 2. Simulations of support for border arrangements**

	1	2	3	4
	<b>No deal</b>	<b>North South, mild checks</b>	<b>East-West mild checks</b>	<b>East-West Intrusive checks &amp; compensation</b>
<b>LOCATION</b>	Land border	Land border	Entry	Entry
<b>CHECKS</b>	Physical	Electronic only	Electronic only	Electronic+ physical random
<b>CONTROL</b>	Separate	Mixed	Mixed	Mixed
<b>MAINTAIN</b>	UK	Shared	Shared	Shared
<b>COMPENSATION</b>	none	none	none	10%
<b>OVERALL SUPPORT</b>	42% [37%-46%]	53% [49%-58%]	54% [50%-59%]	65% [60%-69%]
<b>UNIONISTS</b>	51% [44%-58%]	65% [58%-72%]	50% [43%-57%]	64% [57%-70%]
<b>NATIONALISTS</b>	28% [21%-36%]	40% [32%-48%]	55% [46%-63%]	67% [59%-74%]

## Conclusion

This study of Northern Ireland is the first to apply conjoint analysis to the question of citizens preferences about territorial borders. In comparison, to traditional surveys, conjoint analysis provides respondents with a realistic decision-making environment that enables them to make choices across packages of options. It offers the analyst simple and concise visual maps of public support for the components and packages being discussed.<sup>6</sup> With its application, we identify a number of elements relevant to the work of public representative, civil servants and negotiators. Firstly, preferences of unionist and nationalist citizens for post Brexit border arrangement were much more convergent than was apparent at the political party elite and governmental level during negotiations. Secondly, Northern Irish citizens are very concerned about keeping the economic cost of crossing the border low. Therefore, both unionists and nationalists are prepared to compromise on solutions with low border crossing costs. Third, this study has repercussions on the current post Brexit border arrangements, that is likely to be similarly granular and contextual in nature. Public support will depend on how an East West border in the Irish Sea is mitigated in practice – and future research can explore how preferences change in response to the experience of these arrangements.

This case study of Northern Irish citizens' preferences about border arrangements demonstrates the usefulness of conjoint analysis to study public opinion in similarly divided societies. By pinpointing the relative importance of different elements of potential settlements, it enables identifying solutions that can mitigate disagreements over individual policy issues and ease reaching solutions. Securing

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<sup>6</sup> It is possible for instance to create a toolkit that allows policymakers to rework themselves conjoint survey data to create Northern Ireland -Brexit scenarios. Such toolkit will automatically rework the results of existing surveys to produce concise visual maps of cross-community preferences based on packages selected by users themselves



cross community support is vital to any form of settlement in post conflict society.

This study shows how conjoint experiments provide rich insights into which solutions are likely to secure such support.

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## Appendix

Below we report:

- Full model estimates in Table 1A below. Table 1A reports the estimates for 331 Unionists with a total N of 2648 (331\*8) and 242 Nationalists with a total N of 1936 (242\*8).
- Estimates for weighted versus unweighted samples in Figure 1A.
- Estimates – by community – with controls for gender, education and income in Figures 2A and 3A show.
- Estimates of a multiplicative model by community Table 2A
- Distribution of sample unweighted and weighted by community Table 3A

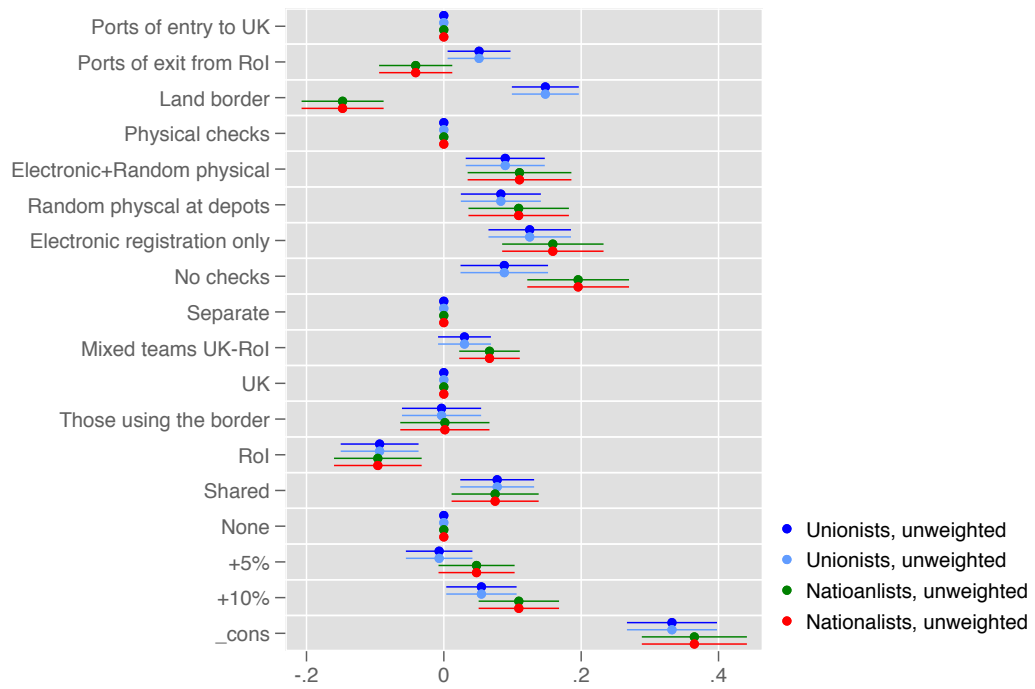
**Table 1A. Full estimates for the models reported in Figure 2**

	(1) Unionists	(2) Nationalists
Ports of exit from Republic of Ireland	0.05** (0.01 - 0.10)	-0.04 (-0.09 - 0.01)
Location: Land Border	0.15*** (0.10 - 0.20)	-0.15*** (-0.21 - -0.09)
Checks: Electronic and Random Physical	0.09*** (0.03 - 0.15)	0.11*** (0.03 - 0.19)
Checks: Random Physical at depots	0.08*** (0.02 - 0.14)	0.11*** (0.04 - 0.18)
Checks: Electronic Registration	0.13*** (0.07 - 0.19)	0.16*** (0.08 - 0.23)
Checks: No Checks	0.09*** (0.02 - 0.15)	0.20*** (0.12 - 0.27)
Control: Shared	0.03 (-0.01 - 0.07)	0.07*** (0.02 - 0.11)
Maintenance: Users	-0.00 (-0.06 - 0.05)	0.00 (-0.06 - 0.07)
Maintenance: Ireland	-0.09*** (-0.15 - -0.04)	-0.10*** (-0.16 - -0.03)
Maintenance: Shared	0.08*** (0.02 - 0.13)	0.07** (0.01 - 0.14)
Compensation: +5%	-0.01 (-0.06 - 0.04)	0.05* (-0.01 - 0.10)
Compensation: +10%	0.05** (0.00 - 0.11)	0.11*** (0.05 - 0.17)
Constant	0.33*** (0.27 - 0.40)	0.36*** (0.29 - 0.44)
Observations	2,648	1,936
R-squared	0.04	0.06

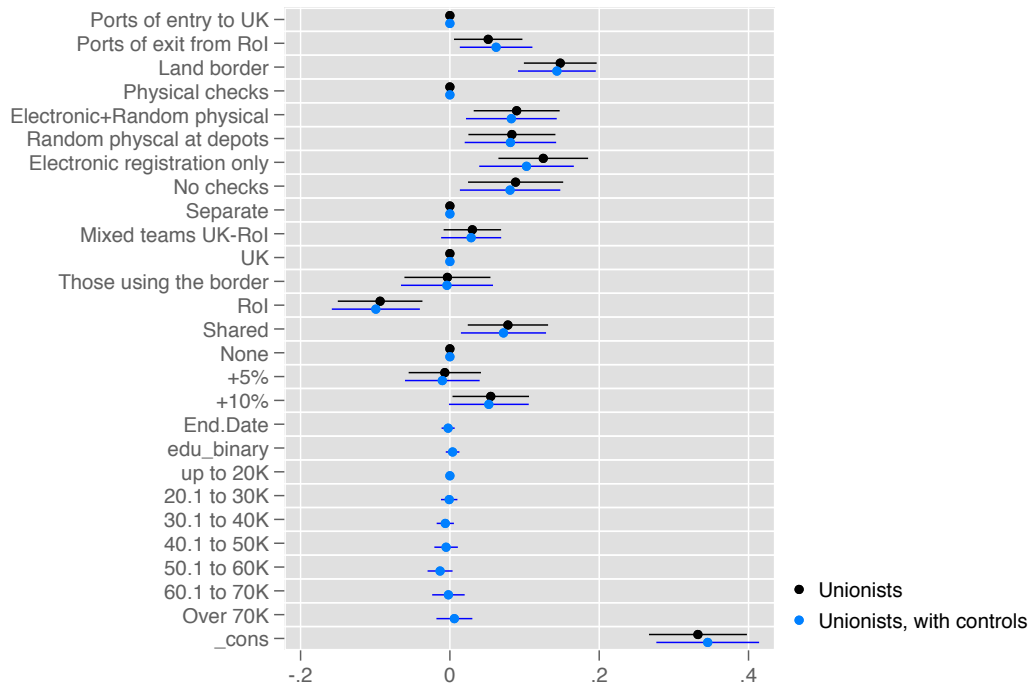
Robust confidence intervals in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

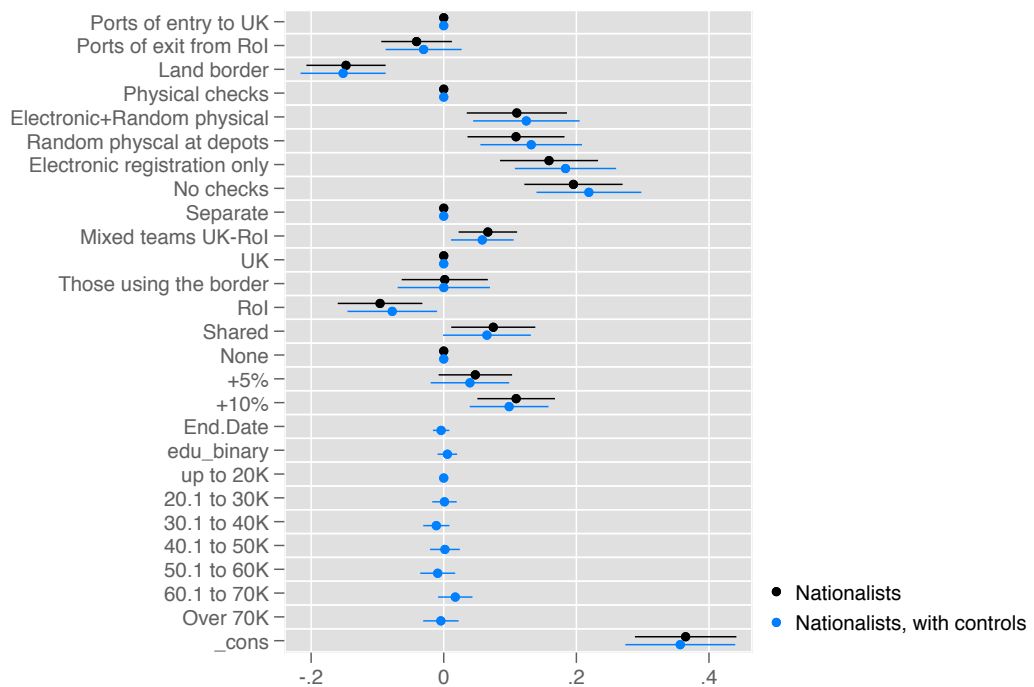
**Figure A1. Sampling weight by community. Weighted versus unweighted samples**



**Figure 2A. Models with controls: Unionists**



**Figure 3A. Models with controls: Nationalists**



**Table 2A. A Multiplicative Model by community**

Ports of exit from Republic of Ireland	-.040 (-.093 .012)
Location: Land Border	-.147*** (-.206 -.087)
Unionists	-.032 (-.133 .067)
<hr/> <i>Location*Community</i> <hr/>	
Ports of exit from Republic of Ireland*Unionists	.092** (.022 .162)
Land Border *Unionists	.295*** (.218 .372)
Checks: Electronic and Random Physical	.110** (.035 .185)
Checks: Random Physical at depots	.108** (.036 .181)
Checks: Electronic Registration	.158*** (.085 .232)
Checks: No Checks	.195*** (* .121 .269)
<hr/> <i>Checks*Community</i> <hr/>	
Electronic and Random Physical*Unionists	-.020 (-.115 .073)
Random Physical at depots*Unionists	-.025 (-.119 .067)
Electronic Registration*Unionists	-.033 (-.128 .061)
No checks*Unionists	-.107** (-.204 -.010)
Control: Shared	.066** (.022 .110)
<hr/> <i>Control*Community</i> <hr/>	
Mixed teams UK-RoI*Unionists	-.036 (-.094 .021)
Maintenance: Users	-.004 (-.063 .066)
Maintenance: Ireland	.002** (-.159 -.032)
Maintenance: Shared	.0747** (.011 .137)
<hr/> <i>Maintenance*Community</i> <hr/>	
Users*Unionists	-.004

RoI*Unionists	(-.091 .081)
	.002
Shared*Unionists	(-.082 .087)
	.003
Compensation: +5%	(-.079 .085)
	.047*
Compensation: +10%	(-.007 .102)
	.109***
	(.050 .167)
<hr/>	
<i>Compensation*Community</i>	
<hr/>	
5%*Unionists	-.054
	(-.127 .018)
10%Unionists	-.054
	(-.131 .023)
Constant	.364***
	(.288 .440)
Observations	4,584
R-squared	0.04
<hr/>	

**Table 3A. Distribution of sample unweighted and weighted by community**

	Unweighted number of respondents	Percent of unweighted respondents	Weighted number of respondents	Percent of unweighted respondents
Unionists	331	44	255	34
Nationalist	242	33	194	26
Neither	40	6	97	13
Prefer not to say	146	19	212	28
Total	759	100	759	100