### An Informed 'No': Voting Behaviour in the Irish Fiscal Compact Referendum

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#### Abstract

Informed electoral decisions are key to the well-being of democratic institutions. Citizens gather relevant information not only via their peers but also from the mass media and they do so mostly during electoral campaigns. This paper aims to assess the role played by the Internet in influencing vote choice in the 2012 Irish referendum on the Fiscal Compact. Specifically, we explore the effect of online information on a single policy decision: the yes/no vote in the referendum. We rely on an original dataset from a representative survey of Irish citizens - carried out after the vote on May 31st. In addition to knowing if they used the Internet, we also have information on which websites respondents browsed during the referendum campaign. Thus, we are able to test the impact of pro- and anti-EU news gathered online on voting behaviour. To assess causality, we exploit the natural variation in broadband availability across the Irish territory to instrument online news-gathering. We find evidence that citizens who access political information on the Internet are more likely to reject the Fiscal Compact. However, the effect of the Internet on the referendum is conditional on the type of websites visited by voters and is mediated by their attitudes towards the EU and the national government. Specifically, voters who regularly visit anti-EU blogs and forums are more likely to vote against the Fiscal Compact, whereas visiting less biased websites does not affect voting behaviour. More interestingly, the Internet increases the probability of voting NO only for those voters who support the EU and the national government. This suggests that our results do not simply capture a selection into online news based on political preferences and party affiliation. Our paper contributes to the literature on voting behaviour and EU studies.

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*I think we risk becoming the best-informed society that has ever died of ignorance.* Ruben Blades

The idea that an informed citizenry is fundamental to the well-being of democracy is nowadays unanimously accepted. Modern society is arguably the best-informed society of all times; citizens have the option of gathering information from a wide array of media and sources, among which the Internet is becoming more and more prominent. While the impact of radio, television and newspapers has been extensively debated in relation to political behaviour and attitude formation (Banducci and Karp 2003; Brandenburg and Van Egmond 2011; De Vreese 2003; De Vreese et al. 2006; Ladd and Lenz 2009; Zaller 1992), the influence of the Internet on political behaviour remains under-explored. Particularly little is known about how online news-gathering may affect opinion formation and voting behaviour.

In this paper, we seek to shed light on how Internet-based news-gathering affected voting behaviour in the context of the 2012 Fiscal Treaty referendum in the Republic of Ireland. We make use of a quasi-experimental research design that allows us to establish whether there was a causal relationship between online-based newsgathering and voting in the Fiscal Treaty referendum. We use data from an original survey of Irish voters conducted by the polling company RED C after the vote on the Fiscal Compact on May 31<sup>st</sup> 2012. A representative sample of 1,000 Irish votes was interviewed immediately after the vote and asked a battery of questions on their voting behaviour and attitudes towards national and international actors. Moreover, respondents were asked about patterns of online news-gathering in the run-up to the vote. The availability of information on the types of websites visited for political news-gathering, together with the precise geo-location of respondents is an uncommon feature in voter surveys to date. In addition, the Irish referendum on the Fiscal Compact was the only popular vote on EU matters in the aftermath of the economic crisis.

The role of the mass media is of substantial interest when considered in relation to opinion formation and voting behaviour regarding the European Union. The widespread low level of knowledge of EU politics and policies is notorious, and a general lack of understanding of EU institutions and mechanisms among members of the European public makes citizens rely heavily on mass media when it comes to evaluating the European Union and when citizens are asked to cast a vote on European matters (Dalton 1985; De Vreese 2003; Sattler and Urpelainen 2011). The challenge of political communication in nation states is amplified in the EU - apolitical project that spans an entire continent, but where, as Dalton and Duval observe, "very few citizens have first- or even second-hand contact with Community affairs in Brussels" (1986, 186). Citizens are thus particularly dependent on mediated coverage when forming opinions about the functioning of the EU. Indeed, citizens have repeatedly reported that they rely heavily on television and newspapers as their principal sources of information on the EU (Eurobarometer, 68). As such, TV and newspapers are natural targets for scholars interested in understanding the role of mediated information in the formation of citizens' attitudes towards the EU. Content analyses have revealed that national broadcasters and newspapers pay low levels of attention to EU affairs (Anderson and McLeod 2004; De Vreese 2003), although recent studies indicate an increase in volume over time (De Vreese 2003; De Vreese et al. 2006; Schuck et al. 2011). Still, scholars have repeatedly pointed to the nonemergence of a European-level media system or 'public sphere' (Meyer 1999; Scharpf 1999).

Specifically in relation to referendum campaigns, the information available and campaign intensity can play a substantial role in determining vote choice and our work contributes to the literature on this by evaluating the role of Internet-based information. Hobolt (2005) presents suggestive evidence that when information about referenda is abundant citizens are better placed to make decisions in line with their previously existing attitudes. On the other hand, when citizens lack information, or the information available is too complex, people tend to base their vote choice on party cues and evaluations of the national government, leading to less predictable voting behaviour. We argue that in such a scenario understanding the effects of online-based information is an important insight in explaining vote behaviour in EU-related referenda, as a large proportion of European citizens use the Internet (Eurostat

2010-2011<sup>2</sup>) and it is reasonable to expect that the number of users will only increase in the future. The Internet provides a potentially unlimited amount of information. It also offers heterogeneous types of information, from credible sources to unverifiable information posted by individuals voicing their own opinions. These fundamental differences from traditional media could affect voting behaviour and their effects need greater scholarly attention.

We find evidence that citizens who access political information on the Internet are more likely to reject the Fiscal Compact. However, the effect of the Internet on the referendum is conditional on the type of websites visited by voters and is mediated by their attitudes towards the EU and the national government. Specifically, voters who regularly visit anti-EU blogs and forums are more likely to vote against the Fiscal Compact, whereas visiting less biased websites does not affect voting behaviour. More interestingly, the Internet increases the probability of voting NO only for those voters who support the EU and the national government. This suggests that our results do not simply capture a selection into online news based on political preferences and attitudes. The implications of our findings are of interest not only in the field of media effects and voting behaviour, but also to the debate on the role of forms of direct democracy on the ratification of EU treaties.

The article proceeds as follows. We begin by introducing the theoretical framework of our study and describe our hypotheses and expectations. We then describe our data and specify the econometric strategy we adopt. Next, we present the results and we conclude by elaborating on their implications.

#### Voting behaviour in EU referenda

The literature on EU referenda offers three types of explanations of the significant determinants of vote choice. The first school, either defined as the 'issue voting' or 'attitude' school, contends that people's underlying attitudes towards the European Union exert the greatest explanatory power in understanding EU referenda (Franklin 2002; Franklin, Van der Eijk, and Marsh 1995). This theory assumes that voters hold

<sup>&</sup>lt;sup>2</sup> Available at

http://epp.eurostat.ec.europa.eu/portal/page/portal/product\_details/publication?p\_product\_code=KS-SF-12-050 [last accessed on 07/06/2013].

The second school, which is often refereed to as the 'Second-Order Elections" (hereafter SOE) school, argues that EU referenda are no different from European Parliament elections to the extent that in both cases what drives people's considerations are citizens' evaluations of the national government. The SOE theory (Marsh 1998; Reif and Schmitt 1980) sets apart national elections (first order) from local and European elections (second order) by postulating that voting behaviour in a second-order election is strongly affected by consideration of national governments' performances.

A third school, labelled the 'utilitarian' school, indicates utilitarian considerations on the effects of policies on European integration as the key determinant of support (Gabel 1998). This approach postulates that voters make judgments on the consequences of the ratification of the treaty in question accordingly to what would most benefit their well-being. Therefore, those who have a stable economic and labour position in society fell less threatened by new European regulation, whereas those who do not tend to be more prone to reject it and perceive Europe as a danger. In this respect, socio economic status represents an important set of elements to be accounted for.

Clearly these three explanations are not mutually exclusive; on the contrary they coexist and concur in explaining voting behaviour. Much of the scholarly debate on EU referenda is concerned with the relative impact of these explanations and the conditions under which their relative importance changes. Garry Marsh and Sinnott (2005) find that long-term attitudes towards Europe have a stronger predictive power than second-order considerations in the case of the two Nice Treaty referenda in Ireland. Hobolt (2005) investigates how levels of political awareness mediate the interplay of these three explanations, and shows that individuals displaying a higher level of awareness are more likely to vote according to their attitudes towards Europe. Garry (2013), in his analysis of the Irish referenda on Lisbon (I and II), finds that first-order elements – both long-term attitudes and utilitarian considerations in determining the outcomes of the referenda.

The roles of campaign salience and the media have also featured in the study of referenda, and empirical evidence suggests that both the prominence of the campaign and exposure to traditional media have a significant impact on the vote (Hobolt 2005; Vreese and Semetko 2004). The information spread through campaigns and the mass media is therefore key to a fuller understanding of voting behaviour in referenda. Information, in Hobolt's words, is "the data that allow people to acquire knowledge and act competently" (2007, 154) and the amount and type of information available on the Internet differ substantially from what is available via other media, firstly in terms of heterogeneity of content, secondly with regard to types of sources and thirdly in relation to the amount of noise associated with online-based information. These features of the online environment make the role of Internet-based news-gathering complex to predict, yet important to evaluate. The assumption that information leads individuals to better awareness in their attitudes and positions needs to be adjusted to the type of information. The Internet represents an enormous container of information, but arguably users may navigate to Babel as well as to knowledge (Jadad and Gagliardi 1998).

We address this issue by investigating not only whether online-based newsgathering affects voters' behaviour in the context of EU referenda but also whether such a linkage is of a causal nature. We test for direct effects of Internet news-gathering on vote choice as well as on attitudes towards Europe. Moreover, we pose the question of whether the effects of online newsgathering are conditioned by attitudes towards Europe, second-order considerations or utilitarian judgments on the short-term effects of the Treaty, controlling for socio-economic status. Finally, we test if different types of Internet-based sources significantly differ in their effects on voting behaviour.

#### Online news-gathering and its impact on the vote

In spite of the low level of visibility of European affairs in national media, a number of empirical studies have explored media effects on citizens' attitudes towards project Europe. Work in this tradition has been mostly experimental or quasi-experimental in nature. Exposure of treatment groups to specific media content has been used to explain opinions on the EU generally (De Vreese and Boomgaarden 2003; Semetko,

Van der Brug, and Valkenburg 2003), support for EU enlargement (Schuck and De Vreese 2006), and support for the accession of specific countries (Maier and Rittberger 2008). Mediated information has been consistently shown to exercise an identifiable effect on citizens' evaluations of EU affairs, with intense media coverage being linked to increases in citizens' levels of knowledge about the EU (De Vreese and Boomgaarden 2006). In terms of electoral politics, Banducci and Semetko (2004) conclude that individuals are more likely to turn out to vote in EP elections in media environments where the election campaign is featured prominently. To date, however, there has been nearly no empirical evaluation of how new media affect citizens' attitudes or voting behaviour in relation to the European Union. Possibly, the ephemeral nature of Internet content and the difficulties associated with analysing online-based content have represented substantial inhibitors for this type of study. The structural characteristics of the Internet also complicate the process of assessing its impact on political evaluations and behaviours.

The Internet represents a unique case in its capacity to offer limitless easily reachable information to anyone with access to it. Compared to traditional media, it exponentially multiplies opportunities to gather information on any issue an individual may be interested in. By means of hyperlinks, users can navigate away from an initial page and visit sites they did not actively search for, coming across amounts of information that are just not available via other media. When reading a newspaper an individual is confined to what is contained between its first and last page; on the Internet such boundaries simply do not exist. Moreover, the content of webpages that users can come across is radically different from what can be read in a newspaper or shown on TV. While media publishers and regulatory authorities act as gatekeepers on what can be broadcast and printed, the Internet remains largely unregulated. In other words, quality control of the information that goes up on the WWW can only be partially guaranteed. Finally, user-created content is prominent not only on specific platforms like social networking sites, but also on the websites of established media outlets. As such, online-based newsgathering can entail being exposed to opinions and statements that are unverified and possibly confounding, as well as to factual information.

Given the above, with respect to decision-making in referenda the Internet offers citizens the possibility of achieving full information on matters that tend to be complex for the average level of literacy of the mass public. However, the information available online is possibly not immune from bias. As such, equating the availability of information on a certain issue to better understanding the issue at stake is somewhat problematic, at least when the quality, tone and reliability of the information on the Fiscal Treaty referendum may – or may not – have better understood the Treaty and clarified their own preferences in relation to it, but it is reasonable to expect that the information encountered online may have weighted their vote choice. Therefore, we first explore if online-based news-gathering had an independent effect on vote choice by testing the following working hypothesis:

# $H_1$ : Those who gathered online information in the run-up to the Referendum displayed a significantly different vote choice from those who did not, ceteris paribus.

In evaluating the impact of online newsgathering on the vote in the referendum we need to acknowledge that browsing online for news relevant to vote choice is not a homogeneous experience and the Internet may exert different effects depending on the type of content users browse for. Nie et al. (2010) explore how the Internet has changed the supply of political news by theorizing that it saturates the political space, overlapping with mainstream media at the centre of the distribution of political opinions but providing a unique media space for the extremes. Given this fragmentation of the online news offer and the window of opportunities the Internet offers to non-mainstream positions, it may exert different effects depending on the type of content users browse for. While tracing patterns of online behaviour is not entirely possible beyond field or laboratory experiments, the structure of our data provides us with some nuances on the type of websites users visited, which allow us to disentangle the effects of different platforms. Respondents were asked the following question:

During the referendum campaign, over the last month, how often, if at all, did you use the following sources for information about the referendum? They could indicate whether and how often they had used: a) the Internet in general; b) the websites of a newspaper; c) political blogs and forums; d) the website of the Electoral Commission; and e) Twitter.

By availing ourselves of this information on Internet usage, we attempt to shed some light on how different online sources may impact voters' choices in referenda by evaluating separately the effects of the Internet in general, blogs/forums, and the websites of the Electoral Commission and Newspapers. As such, we formulate our second working hypothesis as follows:

# H<sub>2</sub>: *The effects of online newsgathering on voting behaviour depend upon the type of content browsed by users.*

While we have no exact indications of the array of websites a user may have been exposed to by hyperlinking, we know that the website of the Electoral Commission offered objective balanced information on the Treaty, that newspapers' websites published online content that could have been found in their paper versions and that blogs and forums tended to echo negative views of the European Union's role during the management of the economic crisis. Therefore, we assume that visiting the websites of newspapers and the Electoral Commission would provide users with unbiased information, whereas visiting blogs and forums may boost the likelihood of a NO vote, as these platforms tend to host content that negatively frames the European Union. The Irish Times issued a report on "The changing media landscape in Ireland between 2002-2008 and its implications for public opinion about the European Union" at the end of  $2008^3$ . The main focus of the report is on the position of Irish media on the 'yes' and 'no' campaigns during the EU referenda. The report argues that bulletin boards like Politics.ie and Boards.ie<sup>4</sup> and blogs are skewed against the EU and that they contain largely anti-establishment messages. It also claims that no positive online forum on the EU was present in Ireland in 2008 and there are no indications that the prevailing negative attitude of the Irish blogosphere towards the Euro and the EU's management of the crisis have changed since 2008. The Cedar Lounge Revolution Blog, winner or the Best Irish political blog award in 2009 and

<sup>&</sup>lt;sup>3</sup> The document is available at http://www.irishtimes.com/focus/2008/\$ [accessed on October 4, 2012.] <sup>4</sup> Politics.ie is run and owned by David Cochrane, campaign manager of Libertas, which was of one of

the principal 'no' campaign groups in the two referenda to ratify the EU Constitution. 'Politics.ie is Ireland's leading politics and current affairs website with more than 900,000 visitors a month'. http://www.politics.ie.

2011, is openly biased against the EU/IMF/ECB 'Troika'.<sup>5</sup> Therefore, we expect to find significant differences in the effects of online newsgathering depending on the type and source of information people relied on.

The above hypotheses explore the possible independent effects that online newsgathering may have on vote choice, keeping other factors constant. The other factors in questions are socio-economic characteristics and the three explanatory theories of voting behaviour in European referenda. While this modelling strategy allows us to evaluate whether online newsgathering has a causal impact on vote choice, we are interested in understanding if such an impact is conditional on the three theories of voting behaviour in EU referenda. Evaluations of the national government, attitudes towards the EU and utilitarian judgments on the consequences of the Treaty could in fact intervene in determining the effects of information encountered online.

Therefore, our second set of empirical analyses is targeted at understanding in more detail how the role of online-based information depends upon attitudes towards the national government, considerations on the effects of the referendum outcome and opinions on the European Union. We spell out three additional hypotheses:

 $H_{3a}$ : The effects of online-based newsgathering on voting behaviour are conditional on attitudes towards the European Union.

 $H_{3b}$ : The effects of online-based newsgathering on voting behaviour are conditional on attitudes towards the national government.

 $H_{3c}$ : The effects of online-based newsgathering on voting behaviour are channelled by evaluations on the effects of the Treaty.

In terms of the direction of the effects, two scenarios are plausible. If greater amounts of information lead to better-informed citizens and lead them to display a coherent pattern between attitudes and behaviour, we should expect the effects of online news-gathering to lead to a reinforcement of attitudes. Hence, for those who hold positive attitudes to the European Union the effects of online-based newsgathering should be positively associated with a YES vote. Similarly, those who positively evaluate the

<sup>&</sup>lt;sup>5</sup> Available at http://cedarlounge.wordpress.com/2012/02/01/privatisation-the-troika-the-governmentand-us/\$ [10/10/2012]. Posts with negative and sensational titles like 'Is the EU becoming the 'Fourth Reich'?' continue to attract high numbers of hits and replies on fora such as politcs.ie. For instance, this particular post received about 10,000 views. http://www.politics.ie/forum/europe/156084-eubecoming-fourth-reich.html [16/03/2011].

government (which supported ratification of the Fiscal Treaty) should display a positive relationship between reading online news and voting in favour of the Treaty. Finally, a positive evaluation of the consequences of the treaty's ratification should also condition the online news-gathering experience by making it lead to a higher propensity to vote YES. If this were the case, gathering news on the Internet would reinforce the effects of attitudes and judgments.

However, there are also grounds for imagining the opposite scenario taking place. Despite the pull in the nature of the Internet, the high fragmentation of online environments still produces exposure to dissonant opinions (Valentino et al. 2009). While conversion effects are unlikely, the possibility of voting against the government's recommendations and long-term attitudes towards the European Union is not to be ruled out. After all, the Irish electorate has displayed inconsistent patterns when it comes to EU referenda. The results of Lisbon II (2<sup>nd</sup> October 2009) overruled the rejection of the Lisbon Treaty (12 June 2008) after a span of eighteen months, and in 2001-2002 the Nice Treaty was first rejected then accepted by two referenda on the issue. While the Irish public remains largely supportive of the European Union (Commission 2011), short-term forces seems to play an important role in determining vote behaviour in referenda. As such, we regard it possible that we may find that browsing the Internet for news may lead to a voting behaviour that is inconsistent with attitudes towards the European Union, evaluation of the government, or even a utilitarian calculation of the effects of the treaty. As Elenbaas et al. (2012) note, opinions among the Irish population are not extremely stable: 'information should have a great potential to change existing opinions about the EU because these opinions are generally less established and informed than opinions in more familiar domains of public life'. If individuals do not have deeply-rooted preferences, and neither the Treaty nor attitudes towards the EU and the government have a measure of salience, they may be open to persuasion by short-term forces and stimuli such as the information encountered online.

#### **Research Design**

We test the previous hypotheses using a reduced-form approach. Below, we describe our data and our identification strategy.

#### Outcome variable

The dependent variable is a dummy that scores one if respondents vote NO to the EU Fiscal Compact treaty. We label the outcome variable Vote NO. The question on the vote was put very straightforwardly as follows: "Did you vote YES in favour or NO against in the Fiscal Stability Treaty referendum?". In our survey, 32% of the individuals vote NO to the Treaty. If we look at behavioural data, the Fiscal treaty was approved by 60.3% of the voters with an overall 50% turnout. We drop those respondents who refused to answer this question. As a result, we are left with 948 observations. All the respondents in the survey claim they turned out to vote.

#### Treatments

Our treatments are dummies built on the previously-mentioned issue of patterns of Internet use. For Internet in general we create two dummies. The first dummy "Internet" scores one if respondents go online once or twice and also if they go online regularly. The second dummy "Internet Regularly" scores one if and only if respondents go online regularly.

Moreover, we create a dummy that scores one if and only if respondents surf blogs and forums regularly *and* do not visit any of the other websites listed in the question. We do this since we want to isolate the effect of these websites, which, as explained above, are often biased against the EU. Finally, we create a dummy that scores one if respondents visit the website of a newspaper or of the Referendum Commission *and* do not visit any of the other websites listed in the question.<sup>6</sup> Again, the rationale behind this is to isolate the effect of online sources of objective information from online spaces that are very likely to emphasize negative partisan voices against the EU. We label these two variables "Blog Regularly" and "Newspaper and Commission Regularly" respectively.

<sup>&</sup>lt;sup>6</sup> We are unable to analyze visiting the website of a newspaper and the Referendum Commission official website separately since we do not have enough 'ones' in these dummies.

We include several control variables to account for confounding factors and to avoid overestimating the effect of our main covariates. All these covariates come from the aforementioned survey run by Red C (2012). Importantly, we include variables that capture the three mechanisms discussed above. Regarding support for the EU, we rely on the following question:

As regards the European Union in general, which of the following statements <u>comes closest</u> (in the text) to your view? 1) Ireland should do all it can to unite fully with the European Union; 2) Ireland should do all it can to protect its independence from the European Union.

If respondents answer 1), the dummy EU Supporter scores one; 0 otherwise.

To capture the utilitarian argument, we use the following question:

"If Ireland votes YES in favour of the Fiscal Treaty, I would like you to think about how much you agree or disagree with the following statements about voting in favour of the treaty: It helps Ireland avoid complete bankruptcy.

The resulting ordinal variable, Utilitarian Voter, ranges between 0 (i.e. disagree strongly) to 4 (agree strongly). We drop 12 respondents who answer "don't know".

With regard to the SOE argument, we rely on the following question:

How satisfied are you with the performance of the Fine Gael/Labour coalition government since it came into office after the last election – very satisfied, fairly satisfied, not very satisfied, not at all satisfied?

The resulting ordinal variable, Government Supporter, ranges between 0 (i.e. Very satisfied) and 4 (not at all satisfied).

Moreover, we include two variables capturing political knowledge about the European Union in general, and knowledge of the Fiscal Treaty in particular. The former is the total number of correct answers to six questions on general political knowledge of the current affairs of the EU and some of its member states<sup>7</sup>. The latter

<sup>&</sup>lt;sup>7</sup> The following true-false questions were asked: (1) Switzerland is a member of the EU; (2) Every country in the EU elects the same number of representatives to the European Parliament; (3) Denmark

is a self-assessment of how knowledgeable respondents felt about the Fiscal Treaty. Finally, we control for variables capturing the socio-economic characteristics of respondents: age, social class, working status, and whether respondents live in urban or rural areas. Table 1 shows univariate statistics of all the variables in our dataset.

#### [Table 1 about here]

#### Identification Strategy

If the sample of people browsing for news online and visiting specific websites (e.g. the EU Commission website) had been randomly selected from the whole population, it would have been sufficient to compare the proportion of NO votes expressed by those who went online with the proportion of NO votes of those who did not. Unfortunately, as is often the case with observational data, things are more complicated. If those characteristics that explain the probability of going online were correlated with the probability of voting NO to the Fiscal Compact Treaty, a simple logistic model would suffer from selection bias and endogeneity. Thus, to estimate the average treatment effect we rely on instrumental variables.

In particular, we exploit the fact that there was variable broadband coverage during the period under investigation. Not every geographical unit represented in the sample of respondents had access to high speed Internet at the time of the interview.

We code a binary instrument Broadband based on information about where respondents live. This dummy variable scores 1 if respondents live in areas with broadband coverage and 0 if respondents live in areas without broadband coverage. 120 respondents in our sample live in areas without broadband coverage. Formally, we test the following model:

$$Internet_i = a_1 + \beta_1 \, Brodband_i + \beta_2 \, X_i + \epsilon_1 \quad (1)$$

$$NO Vote_i = a_2 + \beta_3 Internet_i + \beta_4 X_i + \epsilon_2, \qquad (2)$$

holds at the moment the presidency of the Council of the European Union; (4) the European Union is made up of 20 member states; (5) Last month the French re-elected Sarkozy as President of France; (6) Greece is having an election on June 17<sup>th</sup>.

where Internet is the outcome variable of the first stage, whereas its predicted values are the main covariates of the second stage. Broadband is the instrument of the first stage, X is a vector of control variables,  $a_1$  and  $a_2$  are constant,  $\beta_1...$   $\beta_4$  are coefficients, and  $\varepsilon_1$  and  $\varepsilon_2$  are error terms. The unit of analysis *i* is the individual.<sup>8</sup>

The instrument is the only variable not coming directly from the survey and we detail here how it was coded. To obtain the variable Broadband, we first encoded the geographical location of respondents and then performed a search for broadband availability for each respondent's geographical location. We searched for broadband coverage/availability in each location by consulting availability information supplied by major broadband providers and, additionally, by using two online services which provide detailed information on broadband coverage by location (getbroadband.ie and bonkers.ie).<sup>9</sup> For those locations without broadband coverage we also performed a final check by searching for the keywords "location+broadband" on google.ie.<sup>10</sup> Figure 1 shows a map of Ireland that depicts areas with and without broadband coverage at the time of the survey.

#### [Figure 1 about here]

The tetrachoric correlation between Broadband and our treatments is always statistically significant at the highest level. Moreover, in every estimation Broadband is always positive and statistically significant, also at the highest level, in the first stage equation. When we test the viability of our instrument by running 'ivreg2', the Cragg-Donald Wald F statistic is always larger than 20.<sup>11</sup> Thus, there are no concerns about the weakness of our instrument.

<sup>&</sup>lt;sup>8</sup> Since our outcome variable is a dummy, we use the command 'ivprobit' in STATA 12. The results do not change if we use 'ivreg2' or 'biprobit'.

<sup>&</sup>lt;sup>9</sup> These two websites were accessed in June 2012.

<sup>&</sup>lt;sup>10</sup> For all those locations whose name was present in more than one county we used "location+broadband+constituency".

<sup>&</sup>lt;sup>11</sup> This is a commonly used test when making causal inference with binary outcome variables. See the discussion on the STATA list [<u>http://www.stata.com/statalist/archive/2012-03/msg01345.html]</u> and the proceedings of the Stata Conference 2011 in Chicago

<sup>[</sup>http://www.stata.com/meeting/chicago11/materials/chi11\_nichols.pdf]

Our approach mimics the dynamics of a laboratory experiment, but we are clearly unable to randomly assign respondents to treatment and control groups. In other words, broadband coverage is not randomly distributed in our dataset. Respondents living in areas without broadband coverage differ significantly from respondents in areas with broadband coverage in many confounding factors which are associated with voting behaviour in EU referenda. Even more explicitly, many of our covariates are imbalanced with respect to Broadband.

To balance out areas with and without broadband we use entropy balancing (Hainmueller 2012). Specifically, we first check which covariates are imbalanced using simple t tests (or proportional tests in the case of dummies). Then, we balance these covariates using the STATA 12 command 'ebalance'. Finally, we run all our parametric models using the weights obtained from the entropy balance estimation. Table 2 summarizes the results of this balancing strategy. While means are perfectly balanced, minor imbalances remain in variance and skewness. Thus, we still include all the control variables on the right-hand side of our instrument variables estimations.<sup>12</sup>

#### [Table 2 about here]

#### **Empirical Results**

Table 3 shows the first set of results. Our treatment Internet is positive in Model 1, and is statistically significant at the conventional level. Similarly, the intensity with which individuals go online does not matter. Indeed, the dummy "Internet Regularly" is not statistically significant at the conventional level. The take-away message is clear here: the mere fact of going online did not exert an independent effect on vote choice in the Irish referendum on the Fiscal Compact Treaty.

#### [Table 3 about here]

<sup>&</sup>lt;sup>12</sup> Entropy balancing has the advantage of not disregarding unmatched observations. This is why we opted for entropy balancing over matching. If we used coarsened exact matching (CEM), we would be left with less than 50 matched observations, making any parametric analyses almost impossible to implement.

We now turn to discussing the results of the analysis looking at the type of website visited by our respondents. Model 3 and Model 4 show that the content matters. While 'Newspaper and Commission Regularly' is not significant (Model 3), Blog Regularly is positive and statistically significant with p < 0.05 (Model 4). Since Irish blogs and forums hold generally very negative views on the EU, visiting such websites increased the probability of voting NO to the Fiscal treaty. This finding is better understood if we consider that the origins of the crisis and the proposed solutions to it remain obscure to most citizens, whose most vivid concern is living with its consequences. In researching the decline of trust in the ECB, Jones notes that "people who [...] are exposed to conflicting views in the media are likely to become more ambivalent and they may become openly distrustful as the disagreement wears on." (2009, 1098). In such a scenario, where ordinary citizens are too overwhelmed by complex information to be able to effectively process it, negative messages can be particularly effective. The literature on negative campaign advertising indicates that negative messages are increasingly pervasive in contemporary politics and it is widely acknowledged that negative messages appear to be more memorable than positive ones (Lau, Sigelman, and Rovner 2007). A disproportionate impact of negative news on opinion formation has also been found in relation to citizens' evaluations of candidates and parties during US presidential election campaigns (Lau 1982, 1985). Soroka (2006) shows that public opinion reacts asymmetrically to economic information, finding that negative news appears to exert a stronger effect than positive news. Importantly, there is also a large body of literature in psychology showing that "bad impressions and bad stereotypes are quicker to form and more resistant to disconfirmation than good ones" (Baumeister et al. 2001, 323). Put simply, bold negative statements play well during periods of economic turmoil.

#### [Table 4 about here]

Table 4 shows the effect of Internet conditional on the three aforementioned mechanisms: EU support, utilitarian voter, and government support. Ideally, we would like to use an interaction term between Internet and each variable capturing

these three mechanisms, but that would lead to a 'forbidden regression' (Wooldridge 2009). The only way around such a problem would be to have at our disposal three instruments, which are not available to us. Thus, we run split-sample analyses for each mechanism. Specifically, we split our sample into two sub-samples: those respondents who display unfavourable attitudes towards EU integration and those who display favourable attitudes towards it (Model 5 and Model 6). Similarly, we look at two sub-samples: utilitarian vs. non-utilitarian voters (Models 7 and 8). Finally, we split our sample into two sub-samples: those respondents who negatively evaluate the government and those who hold favourable views of it (Model 9 and Model 10).

#### [Table 4 about here]

There is no evidence that online news-gathering has an effect conditional on utilitarian considerations of the effects of the Treaty. Neither those who positively evaluate the enforcement of the Treaty nor those who negatively regard its approval seem to be affected by online news-gathering in their voting behaviour. The results show that the Internet affects the voting behaviour of those individuals who hold favourable attitudes towards the EU and those who support the government. In particular, if they go online (once or twice, and regularly), EU (model 5) and government supporters (model 9) are more likely to vote NO in the referendum on the Fiscal Compact treaty. This is a very important finding since it implies that the Internet has the capacity to modify political behaviour rather than reinforcing political attitudes. As concerns about self-selection into online news are mitigated once we instrument the probability of going online, this finding is striking. Euro-sceptics are unaffected by the Internet as the results of model 6 show no significant impact of browsing online for news on the referendum.

Furthermore, we compute the effects of the above models in terms of the probability of voting NO. Table 5 summarizes the magnitude of the coefficients that are statistically significant at the conventional level. For those respondents who go online and hold favourable attitudes towards European integration, the probability of voting NO increases by 26%. Moreover, for respondents who go online and support the

government the probability of voting NO increases by 29%. Finally, regularly visiting blogs and forums increases by 29% the probability of voting NO.<sup>13</sup>

#### [Table 5 about here]

Finally, we conclude by noting that our models have good predictive power. In the majority of the models more than 80% of cases are correctly predicted. In general, the positive predicted values are always higher than 60%, excluding Model 6. Moreover, the control variables have the expected sign, adding plausibility to our results. In sum, our findings indicate that politicians and EU representatives should pay more attention to the Internet than they have done so far. Indeed, the Internet could really make a difference to the final outcome of close referenda on EU issues.

#### **Additional Evidence**

We perform a battery of robustness checks to make sure that our results are not sensitive to a particular model specification. One of them is using ivreg2 and biprobit, which give us very similar results.

Furthermore, we include a new dummy variable 'Twitter', which scores one if respondents use Twitter regularly. This treatment has a strong effect on the probability of voting NO in the referendum. This result requires further investigation, as the fragmentation of online content is maximized on Twitter.<sup>14</sup>

More importantly, Table 6 shows the results for models in which we include two new dummies: "Commission & Blogs" and "Newspapers & Blogs". These treatments score one if respondents visit the Commission website (or newspapers) regularly but they *also* visit forums and blogs, and the rationale behind this check is to control for respondents having been exposed to conflicting information. As explained above, the Electoral Commission website offered the most factual and objective explanation of the treaty, and Irish newspapers tend to be fairly objective if not mildly supportive of

<sup>&</sup>lt;sup>13</sup> We do not discuss Government Support since it is not statistically significant at the conventional level.

<sup>&</sup>lt;sup>14</sup> Results are available upon request.

the EU, whereas blogs tend to be critical of the EU, especially given the economic downturn. We are interested in understanding whether being exposed to what are effectively dissonant frames is a significant predictor of vote choice and which frame seems to have the higher impact. If the sign of the coefficients remains positive the impact of negative frames will be prevalent, whereas a negative sign would cast some doubts on the pervasiveness of negatively framed information.

#### [Table 6 about here]

Interestingly, while "Newspaper & Blogs" is not statistically significant (Model 12), in Model 11 "Commission & Blogs" is positive and statistically significant with p<0.01, supporting the idea that negative comments, news and opinions affect individuals exposed to them more than positive ones. This result also mitigates concerns that the previous result for Blog may merely capture a selection effect, i.e. people who hold negative views on the EU are inclined to visit only websites holding negative views on the EU. In other words, the impact of blogs and forums on the NO vote remains even among those individuals who regularly check the EU Commission website, which should contain unbiased information on the EU in general and the Fiscal Treaty in particular.

#### Conclusions

The results of the Irish referendum on the Fiscal Compact indicate that the majority of those who expressed a vote favoured the ratification of the treaty, despite the fact that the austerity measures already implemented in the context of the Irish bailout had provoked discontent in the Irish population and a decrease in levels of satisfaction with the European Union. Within this context we have investigated the effects of using the Internet for political news-gathering on the vote by making use of an original survey of Irish voters. We were able to estimate the causal effects of browsing the Internet for relevant news by making use of a quasi-experimental research design. Our identification strategy was facilitated by the availability of precise geo-location data on respondents and by viable information on broadband coverage across the Irish territory. Moreover, we had available detailed enough

information on patterns of online behaviour that clarified whether respondents had browsed certain platforms, so that we could tell apart those who had visited reliable sources of information (the website of the Electoral Commission) from those who had visited blogs and forums, as well as estimating the impact of divergent types of news in conjunction. Online spaces like blogs and forums are characterized by a negative tone towards those actors that imposed strict austerity measures: the European Central Bank, the International Monetary Fund and the European Union. While browsing the Internet in general, reading newspapers online, and visiting the Referendum Commission website did not have a direct impact on vote choice, visiting blogs and forums led people to a higher likelihood of voting NO. The number of subjects who actually performed this activity is low, but the effects that exposure to these online *loci* had on their voting behaviour are considerable. Negative tone and framing have been found to impact people more intensively than positive ones, and this may explain the efficacy of blogs and forums versus more objective sources. Our additional robustness checks show that the impact of visiting websites containing prevalently negative evaluations of the European Union and the treaty is not mitigated by also being exposed to factual information.

We also tested whether the impact of using online environments for news-gathering was conditional on attitudes towards European integration, evaluation of the national government and utilitarian calculation of the effects of the treaty. Our findings indicate that the Internet does not produce reinforcement effects. If anything, it increased the likelihood of voting against the treaty for those individuals who support the government and are in favour of more integration. This would appear counterintuitive at first, but the unstable voting behaviour in EU referenda displayed by the Irish electorate over the years may explain why voters are open to persuasion by short-term forces. In the case of a referendum, the role of information gathered online can play a key role in determining voting behaviour, especially when overall levels of information are scarce. Irish citizens have typically displayed favourable attitudes towards the EU since the early days of the country's membership. However, as early as 1995, (Sinnott 1995) noted that the relatively positive perceptions of EU membership among the Irish public corresponded with relatively poor levels of factual knowledge.

Our findings indicate that while the number of subjects affected was small, the Internet impacted voting behaviour in this particular European referendum, and in order to understand whether this is due to the particular circumstances of the time or the country more comparative research is needed. The role of media effects in relation to voting behaviour remains overlooked in the literature, especially when it comes to new media. However, the fast growth of Internet penetration all over Europe suggests that these forces will play an increasingly important role and their potential effects will have to be evaluated in order to better understand and predict electoral behaviour.

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Figure 1. Geographical distribution of Broadband Coverage.



# Table 1. Descriptive statistics.

Variable	Obs	Mean	Std. Dev.	Min	Max
Vote NO	948	0.32	0.47	0	1
Internet	948	0.47	0.50	0	1
Internet Regularly	948	0.22	0.42	0	1
Blog Regularly	948	0.03	0.18	1	1
Newspaper & Commission Regularly	948	0.20	0.40	0	1
Broadband	948	0.87	0.33	0	1
Age	948	4.65	1.58	2	7
Social Class	948	3.44	1.87	1	8
Working Class	948	2.81	2.02	1	7
Rural	948	2.45	1.27	1	5
EU Support	948	0.57	0.49	0	1
Knowledge	948	4.00	1.46	0	6
Bankruptcy	948	2.04	1.11	1	4
Government Trust	948	1.94	0.73	1	4
Satisfaction with Government	948	2.62	0.89	0	3
Knowledge of the Treaty	948	1.67	0.69	0	3

Covariates	Broadband=0	Broadband=1	T-test	Balance
Age	4.27	4.70	0.01*	٧
Social Class	4.16	3.34	0.00**	٧
Working Class	2.40	2.87	0.01*	٧
Rural	3.34	2.32	0.00**	٧
EU Integration	0.53	0.58	0.28	٧
Knowledge	3.45	4.07	0.00**	٧
Effects of the Treaty	2.20	2.02	0.09	٧
Government Trust	2.02	1.92	0.20	٧
Satisfaction with Government	2.83	2.59	0.01*	٧
Knowledge of the Treaty	1.45	1.70	0.00**	٧

Table 2 T tests (or proportional tests) of the covariates for Broadband=0 and Broadband=1. <sup>V</sup> implies that balance of means is reached before or after 'ebalance'.

\*\* p<0.01; \* p<0.05

	(1)	(1)	(3)	(4)
Internet	1.320			
	(-0.382 - 3.022)			
Internet Regularly	( ,	0.921		
		(-0.610 - 2.451)		
Newspaper &		( )		
Commission Regularly			1.433	
			(-0 594 - 3 460)	
Rlog Regularly			(-0.574 - 5.400)	5 391**
Diog Regularly				(1.004 - 9.778)
Λge	0.203*	0.054	0.051	0.006
Age	(-0.016 - 0.421)	(-0.061 - 0.169)	(-0.054 - 0.155)	(-0.082 - 0.094)
Class	0.097	0.038	0.030	0.029
01035	(-0.049 - 0.242)	(-0.071 - 0.147)	(-0.068 - 0.128)	(-0.041 - 0.099)
Working Status	-0.068	-0.039	-0.034	-0.025
working Status	(-0.167 - 0.031)	(-0.138 - 0.061)	(-0.123 - 0.056)	(-0.025)
Rural	0 145**	0 140*	0.093	0.089
Kurai	(0.013 - 0.277)	(-0.007 - 0.286)	(-0.047 - 0.232)	(-0.049 - 0.227)
FU Integration	-1 087***	-1 136***	-1 085***	-0.768*
EO Integration	(-1 5620 613)	(-1 5160 757)	(-1 5620 608)	(-1 627 - 0 092)
Political Knowledge	0.070	0.072	0.051	0.046
i ontical Knowledge	(-0.062 - 0.202)	(-0.065 - 0.208)	(-0.092 - 0.195)	(-0.076 - 0.167)
Effects of the Treaty	0.649**	0.820***	0 729***	0 581*
Effects of the fifeaty	(0.131 - 1.167)	(0.610 - 1.030)	(0.366 - 1.092)	(-0.021 - 1.182)
Trust in Government	0.854***	0.946***	0.821**	0.622
Trust in Government	(0 259 - 1 448)	(0.461 - 1.432)	(0.174 - 1.467)	(-0 249 - 1 492)
Satisfaction with	(0.20) 1.110)	(0.101 1.132)	(0.171 1.107)	(0.21) 1.192)
Government	0.288*	0.263	0.257	0.090
	(-0.030 - 0.605)	(-0.068 - 0.593)	(-0.060 - 0.574)	(-0.261 - 0.441)
Knowledge of the Treaty	-0.081	-0.151	-0.131	0.004
C ,	(-0.348 - 0.185)	(-0.476 - 0.174)	(-0.408 - 0.146)	(-0.208 - 0.216)
Broadband Coverage	0.153***	0.256***	0.146***	0.028***
6				
First Stage	(0.053 - 0.253)	(0.219 - 0.293)	(0.094 - 0.198)	(0.010 - 0.047)
Constant	-5 976***	-5 192***	-4 582***	-3 344
Constant	(-7.4384 513)	(-6.7113 674)	(-6.9872.178)	(-7.477 - 0.789)
	(,	( 0.,11 0.0,1)	(0.207 2.170)	(,, 00))
Correctly classified	83%	86%	72%	84%
Observations	939	939	939	939

Table 3. Direct effects of different online newsgathering patterns on NO vote.

Observations939939939939Robust CI in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Outputs from the first stage are not reported<br/>other than the coefficient and CI for Broadband Coverage. Estimates are available upon request.

Table 4. Effects of online newsgathering conditional on attitudes towards EU integration, utilitarian evaluations of the Treaty's consequences and government support.

	(5)	(6)	(7)	(8)	(9)	(10)
	EU Supporte	Non EU Supporters	Utilitarian pro treaty	Utilitarian against treaty	Govern. Supporters	Non Govern. Supporters
Internet	2.448***	0.098	0.932	1.032	2.120***	0.076
	(2.119 - 2.776)	(-1.598 - 1.793)	(-2.061 - 3.925)	(-1.680 - 3.743)	(1.498 - 2.743)	(-2.581 - 2.733)
Age	0.394***	0.021	0.095	0.155	0.302***	0.072
	(0.256 - 0.531)	(-0.212 - 0.254)	(-0.355 - 0.546)	(-0.067 - 0.377)	(0.161 - 0.443)	(-0.316 - 0.459)
Class	0.147***	0.020	0.083	0.071	0.100*	-0.003
	(0.048 - 0.247)	(-0.151 - 0.192)	(-0.125 - 0.292)	(-0.174 - 0.317)	(-0.004 - 0.203)	(-0.424 - 0.418)
Working status	-0.082	0.011	0.015	-0.194**	-0.115**	0.021
	(-0.198 - 0.033)	(-0.138 - 0.159)	(-0.147 - 0.177)	(-0.365 0.023)	(-0.211 0.019)	(-0.205 - 0.246)
Rural	0.171**	0.079	0.101	0.289**	0.162**	0.508***
	(0.019 - 0.324)	(-0.116 - 0.273)	(-0.069 - 0.270)	(0.024 - 0.553)	(0.038 - 0.285)	(0.146 - 0.870)
Political	-0.074	0.174*	-0.050	0.177**	0.043	-0.003
	(-0.177 - 0.028)	(-0.005 - 0.352)	(-0.236 - 0.137)	(0.005 - 0.350)	(-0.084 - 0.170)	(-0.228 - 0.221)
EU Integration			-0.898***	-1.415***	-0.702***	-3.191***
			(-1.261 0.536)	(-2.256 0.574)	(-1.160 0.243)	(-4.512 1.870)
Effects of the	-0.008	1.020***			0.266	1.395***
_	(-0.352 - 0.336)	(0.703 - 1.338)			(-0.166 - 0.698)	(0.612 - 2.178)
Trust Government	0.102	1.554***	0.954***	0.796		
	(-0.142 - 0.346)	(0.954 - 2.154)	(0.367 - 1.542)	(-0.191 - 1.783)		
Satisfaction with Government	0.135	0.267	0.101	0.478**	0.434**	-0.021
	(-0.165 - 0.436)	(-0.148 - 0.682)	(-0.227 - 0.429)	(0.052 - 0.904)	(0.031 - 0.838)	(-0.537 - 0.495)
Knowledge of the Treaty	-0.086	-0 220	-0.078	-0.070	-0 184	-0 137
- 1 Out j	0.000	0.220	0.070	0.070	0.107	0.157
	(-0.323 - 0.151)	(-0.628 - 0.188)	(-0.403 - 0.248)	(-0.486 - 0.345)	(-0.480 - 0.112)	(-0.743 - 0.470)
Broadband Coverage <i>First</i>						
Stage	0.125**	0.274***	0.153**	0.146*	0.111**	0.315***

			31			
	(0.030 - 0.220)	(0.168 - 0.380)	(0.029 - 0.277)	(-0.011 - 0.303)	(0.000 - 0.222)	(0.118 - 0.512)
Constant	3.971***	-6.941***	-3.812***	-4.082***	-4.338***	-2.175
	(-5.585 - -2.357)	(-10.244 3.639)	(-6.444 1.179)	(-6.374 1.791)	(-5.823 2.853)	(-7.377 - 3.026)
Correctly	87%	66%	85%	84%	78%	92%
Observations	539	400	664	275	728	211

Robust CI in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Outputs from the first stage are not reported other than the coefficient and CI for Broadband Coverage. Estimates are available upon request.

# Table 5 Effects on probability of voting NO.

Increase in NO Vote for	$\delta_y/\delta_x$	C.I.
EU Support	-25%	[-46%, -5%]
Effects of the Treaty	+19%	[7%, 31%]
Blog Regularly	+29%	[0.2%, 57%]]
Internet   EU Support=1	+26%	[0.4%,51%]
Internet   Government support=1	+29%	[10%, 48%]

	(11)	(12)
Commission & Blogs	4.371**	
	(0.918 - 7.824)	
Newspapers & Blogs		1.129
		(-0.634 - 2.892)
Age	0.053	0.054
0	(-0.029 - 0.135)	(-0.056 - 0.165)
Class	0.034	0.032
	(-0.036 - 0.104)	(-0.071 - 0.136)
Working status	-0.026	-0.040
-	(-0.095 - 0.043)	(-0.136 - 0.057)
Rural	0.072	0.115*
	(-0.074 - 0.219)	(-0.022 - 0.252)
Political Knowledge	-0.852**	-1.142***
-	(-1.6310.073)	(-1.5350.749)
EU Integration	0.049	0.057
	(-0.075 - 0.172)	(-0.085 - 0.198)
Effects of the Treaty	0.524	0.772***
	(-0.104 - 1.153)	(0.495 - 1.048)
Trust Government	0.584	0.862***
	(-0.253 - 1.420)	(0.269 - 1.454)
Satisfaction with Government	0.153	0.287*
	(-0.149 - 0.456)	(-0.041 - 0.615)
Knowledge of the Treaty	-0.199*	-0.139
	(-0.405 - 0.008)	(-0.442 - 0.164)
Broadband Coverage	0.034***	0.199***
	(0.010 - 0.059)	(0.148 - 0.249)
Constant	-3.153	-4.888***
	(-7.241 - 0.934)	(-6.7633.012)
Correctly classified	71%	80%
Observations	939	939

Table 6. Direct effects of different online newsgathering patterns on NO vote, dissonant frames.

Robust CI in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Outputs from the first stage are not reported other than the coefficient and CI for Broadband Coverage. Estimates are available upon request.