

Issue Salience on Twitter During Swedish Party Leaders' Debates

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Abstract

The objective of this study is to contribute knowledge about formation of political agendas on Twitter during mediated political events, using the party leaders' debates in Sweden before the general election of 2014 as a case study. Our findings show that issues brought up during the debates were largely mirrored on Twitter, with one striking discrepancy. Contrary to our expectations, issues on the left-right policy dimension were more salient on Twitter than in the debates, whereas issues such as the environment, immigration and refugees, all tied to a liberal-authoritarian value axis, were less salient on Twitter.

Keywords: issue salience, social media, Twitter, party leaders' debates, policy dimensions

Introduction

Political communication today is shaped by complex interactions between media coverage, public opinion and online content in a diversified media landscape. The variety of platforms supplying news and information, as well as the variety of actors involved, has allowed both a differentiated networked media agenda and a networked public agenda to develop (McCombs et al., 2014). The focal point of this study is how the aggregated networked political agenda on Twitter differs from that of traditional media during mediated political events. Twitter is one of the main platforms disseminating reactions to political broadcasts and discussions of these events are closely connected with political coverage in the traditional media. Reading about party leaders' debates on social media has become more common than watching them on television and people may read about the debates on Twitter before tuning in to watch (Vaccari et al., 2015). The way mediated electoral events are reflected on Twitter is one aspect of a larger

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question about the relationship between social media and media coverage, alongside the issue of their mutual dependence in shaping public opinion processes. The central question is the extent to which the political agenda of traditional media influences the issues raised on social media; we also asked why some issues assume more prominence than others in political discussions on social media.

The socioeconomic cleavages that used to dominate party competition and form the main political dimension have become less relevant (Kitschelt, 1994, 1995). Instead, issues such as immigration and environment are becoming more salient and more important to the electorate. There is as yet no clear understanding of how the rise of these issues resonates in the social media environment, which has a different audience than traditional broadcasting. The extent to which the logic behind political communication on social media and the political preferences of those who discuss politics on Twitter might favour some issues over others is therefore an important question to address. Coverage of mediated events such as party leaders' debates tends to be largely mirrored on Twitter (Kalsnes et al., 2014; Vergeer & Franses, 2016), but the extent to which there exist systematic deviations has not been examined in previous studies. In this study we compared newly salient political issues, such as the environment, immigration and refugees, with issues linked to the traditional left-right dimension to evaluate their relative potential to generate discussion on Twitter.

We analysed the relationship between the agenda of televised party leaders' debates and salience of issues on Twitter by comparing the issues addressed in two debates prior to the 2014 general election in Sweden with the salience of the same issues in debates on Twitter. The political issues addressed in the debates were identified in messages on Twitter over the same time period and these data provided the empirical basis for our comparison of political agendas. We addressed the following research questions: (1) How did the discussions of political issues on Twitter deviate from the televised debate in terms of temporal dynamics and amount of attention? (2) Did the amount of attention given to issues on the different policy dimensions (the liberal-authoritarian and the traditional left-right dimension) differ when the two media formats are compared; that is, were issues on either of the two dimensions more salient on Twitter than in the debates?

Sweden has a multiparty system, including parties that mainly compete on a left-right dimension and newer parties such as the Green party and populist radical right parties, so it provides an interesting context in which to study the response to the issues that were addressed in the debates. Later in the text we provide a more detailed discussion of the case of Sweden, but first we address the notion of issue salience and how intermedia issue salience might take form on social media during mediated electoral events.

Issue salience

The public salience of an issue can be defined as the relative significance and importance that the general public ascribes to it (Rabinowitz et al., 1982; Wlezien, 2005). The extent to which voters view an issue as related to the dominant dimension of political conflict (i.e., the left-right ideological dimension) is traditionally considered to be linked to its salience and the historical cleavage structure (Lijphart, 1999; Lipset & Rokkan, 1967). Issues that divide people along a left-right axis have traditionally been viewed as more important and therefore attracted more discussion, but relative issue salience in online

discussions may instead reflect the introduction of newer issues to public debate and the increased importance of a non-economic policy dimension (Hooghe et al., 2002; Inglehart, 1990; Kitschelt, 1994). The nature of this second dimension is matter of debate and several suggestions have been offered, the most common ones refer to post-materialism, new politics or the "Green/Alternative/Libertarian vs. Traditional/Authoritarian/Nationalist" (GAL/TAN) policy dimension (Hooghe et al., 2002). For the purpose of this study, issues that are not directly related to the traditional economic policy dimension will be considered to belong to the GAL/TAN dimension. Policy issues on this dimension include not only issues such as immigration, European integration, the environment and gender equality, but also defence and law and order (Kriesi et al., 2008).

Traditional media coverage is central to the agenda-setting process and the transfer of issue salience from the media to the public agenda (McCombs & Shaw, 1972). The amount of coverage an issue gets serves voters as a cue to its relative importance. In the traditional model of agenda setting, priming is the mechanism that explains why issues that get a lot of coverage become more important to voters than issues that receive little coverage (McCombs, 2014).

Issue diversity and social media

Given the logic of social media, it is worth studying salience of political issues in both new and traditional media – to put it in another way: can differences in salience be related to differences in media logic?

The mixing of the logic of older and newer media has resulted in a hybrid system (Chadwick, 2017). Social media logic has been defined as the norms, strategies, mechanisms and economic factors that shape its dynamics (Dijck & Poell, 2013). These factors have become increasingly entangled with mass media logic and, perhaps as a result, there are indications that the media agenda is becoming more homogenous and that attention on social media converges on fewer issues than the traditional news outlets (Park et al., 2013). If this is the case, then social media are neither conveying a different agenda nor broadening the coverage of political issues.

Political discussion on Twitter follows a hybrid logic of political coverage, in which the temporal dynamics and content of Twitter messages sometimes reflects the coverage of traditional news media and in others follows a logic specific to political expression on the internet (Jungherr, 2014). Integrating broadcast shows and social media through dual screening involves commenting on political mediated events as they unfold (Vaccari et al., 2015). During televised party leaders' debates, the political agenda on social media may mirror that of traditional media particularly closely, as social media discussions are closely aligned with the broadcasts (Chadwick et al., 2017; Kalsnes et al., 2014). A study of the response to Norwegian party leaders' debates did not find new political issues emerging in debates on Twitter, although there was critical scrutiny of the agenda (Kalsnes et al., 2014). Another study that specifically compared the coverage of issues during televised debates with the discussion of the same issues on Twitter, however, found that some issues consistently stood out in the online discussion, although online discussion was broadly aligned with the televised debates (Vergeer & Franses, 2016). A similar study comparing the content of a televised debate with the content of simultaneous comments on Twitter produced similar findings (Trilling, 2015). Important political issues that received little attention during the debate obtained considerably more attention on Twitter. Moreover, some of the topics debated on Twitter were not covered in the debate itself, for example the clothing of the politicians taking part. These tweets were negative or focused on funny, insubstantial aspects of the televised debate. Nonetheless, there was, overall, a close connection between Twitter comments and the televised debate (Trilling, 2015).

Although the response on Twitter to mediated events such as party leaders' debates is largely driven by what happens in the debates, these earlier studies suggest that some issues may become more prominent in the discussions on Twitter. Little is known, however, about the extent to which there are systematic differences in issue salience, or what type of issues that are most likely to attract attention on Twitter.

A Norwegian study comparing the overlap between the general Twitter and mainstream media agendas found very similar coverage; however, news regarding issues such as the environment, animal welfare and gender equality gained more attention on Twitter (Rogstad, 2016). All these issues belong to the GAL/TAN policy dimension and although this newer policy dimension has not been explored in the social media context, we do know about the types of parties and candidates that are likely to make successful use of social media platforms. So far social media appears to have benefitted smaller parties and less well-resourced candidates (Gibson & McAllister, 2015; Koc-Michalska et al., 2014). Political parties disadvantaged by traditional media because they present previously under-represented political views may also have an advantage online (Caiani & Parenti, 2013). Parties that mobilise voters primarily around newer issues (e.g. immigration and environmental issues) have emerged in parallel with the decreased importance of the left-right dimension and the rise in the salience of "new politics". Research indicates that post-materialist parties, such as environmental parties, are keen users of social media and these platforms also appear to match their ideology (Jacobs & Spierings, 2016). In line with these results, a study examining Twitter use by candidates in the European parliamentary election of 2014 found that the more extreme political candidates were on the GAL/TAN dimension, the more often they used Twitter. The opposite pattern was found for the left-right scale (Obholzer & Daniel, 2016).

Parties that mobilise voters around the GAL/TAN dimension thus seem to be more active on social media than the parties that (primarily) mobilise voters around the traditional left-right dimension. In the next section, we discuss these aspects in relation to our case – the 2014 Swedish election.

Issue salience and social media use during the 2014 Swedish election

A unique feature of the 2014 election was the high salience of the immigration issue. For the first time in a series of national surveys of public opinion by the SOM Institute, immigration was among the top three most important issues (Martinsson & Weissenbilder, 2018), and the issue also dominated the news reports (19 per cent dealt with the issue in some way). Traditionally, labour market issues, taxes and the economy have dominated the Swedish election coverage (Johansson, 2017).

Thus, the 2014 election was unique in two respects: for the first time since the study of election campaigns in the media started in 1979, issues related to immigration dominated the agenda. (In the 2010 election, immigration was only covered in 4 per cent of news

reports). In addition, it is very unusual for any issue to receive as much coverage as immigration did in the 2014 campaign (Johansson, 2017). Other GAL/TAN-related issues that received more coverage than normal were defence and equality. Somewhat surprisingly, the environment was almost absent from the media coverage during the 2014 election despite the fact that this issue was of concern to many voters (Johansson, 2017). However, with the exception of the environment, GAL/TAN-related issues overall received unusually high media coverage in the 2014 election campaign.

Looking specifically at social media users in Sweden, those who support the Feminist party, the Green party or the Left party tend to be both younger and more active than other users (Sandberg & Bjereld, 2015). Parties on the GAL end of the spectrum thus have the highest number of active supporters on social media. We do not know, however, to what extent these social media users also participate in political discussions on Twitter. While far from all Swedes uses Twitter, the volume of tweets more than doubled between the 2010 and 2014 Swedish elections and the increase in the number of users discussing the election was even larger (Larsson & Moe, 2015). However, only a small number of users discussed the 2014 election extensively; the majority of users only wrote a few tweets about the election. Thus, a small group of "high-end users", mainly politicians, established journalists and bloggers, was responsible for a substantial part of the activity (Larsson & Moe, 2015) and the tweets about politics should therefore not necessarily be taken as expressions of personal political opinions. Instead, a large part of political comments can be assumed to stem from opinion leaders that participate in the discussions around, for example, party leaders' debates, in order to influence the wider political agenda. In turn, the discussion on Twitter might influence public perception through, for example, comments about the reporting of the debate by journalists.

Given previous research on social media logic and dual screening practices, we expected that the discussion of political issues on Twitter would follow the same sequence as in the party leaders' debates; in other words that there would be close temporal alignment between the debates and the discussion on Twitter. We did, however, expect to see differences in issue salience when comparing the aggregated political agenda on Twitter with that of the televised debates. Based on the assumption that the salience of issues would differ and that GAL/TAN-related issues had become increasingly salient in the media, we predicted that issues on the GAL/TAN dimension would be more salient in comments and discussions on Twitter than in the televised debates.

In the following section we discuss the choice of Sweden for a case study and describe the party leaders' debates that where held prior to the 2014 election and the political issues selected for discussion.

Case selection and data

In the run-up to the 2014 election Sweden had a minority coalition government, The Alliance, consisting of four centre-right parties: the Moderate party (conservative), the Centre party, the Liberal party and the Christian Democrats. Since 2010 the party system had been dominated by two parties – the Social Democratic party on the centre-left and the Moderate party on the centre-right – and two blocs coalesced around these parties: The Alliance in government and the Red-Green bloc (the Social Democratic Party, the Green party and the Left party) in opposition. A populist radical right party,

the Swedish Democrats, had obtained parliamentary representation in the 2010 election and positioned itself as an alternative to the two blocks (Aylott, 2015).

Swedish voters' positions on various political issues have long been consistent with the left-right ideological division reflected in the Swedish party system, but Sweden is no exception to the emergence of new political conflict lines. Among the parties that mobilise voters around issues on the GAL/TAN dimension are the Green party and the Swedish Democrats, which have both established themselves within the party system, and the Feminist party, which obtained a seat in the European Parliament in the 2014 European election.²

Two party leaders' debates took place in October 2013 and May 2014 on the Swedish public service broadcaster (SVT)'s programme *Agenda*. The debates offered all the leaders of parties with national representation the opportunity to debate the issues ahead of the election in September 2014. The topics of debate were decided in advance by the programme makers and the hosts of the programme also decided how long the party leaders would spend discussing each issue. The choice of issues reflected what the programme makers considered to be the most important issues on the political agenda. In each debate, the party leaders discussed six predetermined political issues, half of which were essentially linked to the GAL/TAN dimension and the other half of which were linked to the traditional left-right dimension (Table 1). It should be acknowledged that the classifications are not mutually exclusive; a political issue can contain aspects of both dimensions. For example, the debate about open borders dealt with migrants from Eastern Europe begging in the street as well as the consequences of having a foreign labour force. Consequently, it is the predominant framing of an issue that relates it to one of the two dimensions.

The content of the televised debates was transcribed and a timesheet was used to calculate the amount of time (in minutes) spent on each issue.

Table 1. Coding of political issues discussed in the debates

Policy dimension	Issue	Topics discussed
Left/right	Economy and labour market	The state's economy and labour market (e.g. unemployment, budget deficit, taxes)
Left/right	School	Educational attainment, school performance, private schools and profits, class sizes, grades etc.
Left/right	Healthcare	Queues, waiting times, reduced capacity, care for the elderly etc.
GAL/TAN	Law and order; Defence	Crime, rape, crime prevention and penalties, safety policy, military capability, Ukraine, Russia, Swedish fighter planes, NATO
GAL/TAN	Environment	Climate change, CO2 emissions, renewable energy, UN negotiations
GAL/TAN	Immigration; Open borders	Common asylum rules within the EU, refugee crisis, EU migration, begging, labour migration

Comments: "Law and order" was a theme in one debate and "Defence" in the other, likewise "Immigration" and "Open borders".

Data collection and methods

Tweets written in Swedish during two five-day periods (4 October to 8 October 2013 and 2 May to 7 May 2014) were collected and used to analyse the relationship between issue salience in the debates and on Twitter. The data were gathered through Twitter's public streaming API and although the limitations associated with using this streaming API rather than the Firehose stream are well known (see for example Morstatter et al., 2013), it is difficult to estimate exactly how the used sample will differ from one derived by the use of the Firehose stream. Little is known about how the mode of data collection biases data and may ultimately influence the inferences drawn from Twitter data (Jungherr, 2016). The degree of uncertainty that Twitter's sampled API service imposes should therefore be acknowledged.

Streamed API data were filtered using several filters. A Swedish language filter was applied but in view of the dubious accuracy of this filter we also opted to used filters based on geographical coordinates and specific Swedish words. The latter filter consisted of a list of around 400 of the most common Swedish words retrieved from a modern corpus developed by the Swedish Language Bank, Gothenburg University (comprising newspapers, literature, blogs, social media etc.). The October sample contained 1,676,108 tweets and the May sample 2,139,741.

We used a set of hashtags to identify tweets that were related to the party leader debate rather than general political discussion on Twitter. We used the official hashtag of the Swedish television programme *Agenda*, #pldebatt, and added two programme-related hashtags used during the debate, #svtagenda and #agenda, to extend the material. The additional hashtags were selected because they were the most frequently used hashtags in the dataset during the period when the debates were taking place. Those who used these hashtags by definition indicated that they were contributing to a specific discourse and it is reasonable to assume that they were more engaged in the election debates than the average user. However, tweets made during the debates without one of these hashtags did not appear to discuss the issues at hand very differently from those that were hashtagged.³

Our comparison of the discussion on Twitter with the debate was limited to the period extending from two hours before the debate to one hour afterwards. This allowed us to capture discussions provoked by the debate itself. We used a dictionary-based approach, combined with semi-automatic modelling techniques to analyse discussions on Twitter. As part of pre-processing we used stemming and lemmatisation libraries specific to the Swedish language to identify the stem and lemma of all the words in our dataset. These techniques break text down into separate words and remove inflectional endings. The base dictionary form of a word, a lemma, can be used in different ways in a sentence (e.g., as a noun or verb), thus changing the meaning of the word. Identifying every word in a sentence makes it possible to compare tweets using a given word as a noun rather than a verb. For example, in Swedish "job" can have several inflections and be used as the verb "to work."

We manually created lists of words (dictionaries) relevant to each of the six political issues discussed in the debates. These dictionaries were based on transcriptions of the televised debates and official transcripts of previous parliamentary debates. The initial dictionaries would not have captured the issue-related conversations on Twitter properly

if different words were used on Twitter, so the data were also mined for Twitter-specific words typical of the party leaders' debate. A measurement known as frequency-inverse document frequency (tf-idf) was used to identify additional relevant words for each issue (for further discussion of the use of this technique for classifying co-occurrences of terms, see Aizawa, 2003). This was done by grouping all tweets into a document that contained at least one word from the initial word list. For example, "labour market" contained words such as "job". All the Swedish tweets mentioning "job" were aggregated into a single document, which allowed us to add words that might be relevant to the dictionary. Words belonging to the different categories were then manually added to the dictionary, creating an extended list of words. Each final dictionary contained between 150 and 200 words. Some dictionaries contained more words possessing several inflections, making them longer, but all dictionaries had similar numbers of words in base form. Based on the extended dictionaries, all tweets that contained at least one word in these lists and had a debate related hashtag were considered to discuss the corresponding issues in the debates. This approach meant that there was no overlap between the dictionaries. Retweets were treated as discussing a political issue in the same way as the original tweet.

We analysed our data qualitatively using the language technology analysis pipeline of *Korp*, a corpus infrastructure of the Swedish Language Bank, Gothenburg University, and the concordance search tool. The search interface was used if there were any uncertainties regarding the context in which a word appeared on Twitter. Applying a combination of methods and techniques enabled us to analyse tweets in detail and handle larger quantities of data.

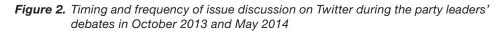
Results

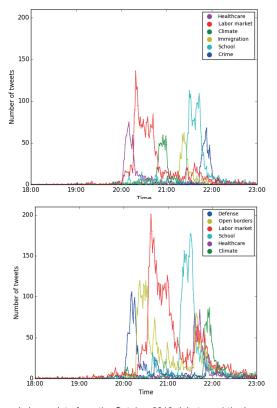
The proportions of tweets in the dataset with a party leaders' debate-related hashtag were 15.8 per cent (October 2013) and 22.5 per cent (May 2014).⁴ In line with previous research findings, we observed that the debate itself drove up the total amount of tweets sent (Bruns & Burgess, 2011; Jungherr et al., 2015). Moreover, the temporal dynamics of Twitter activity were closely related to the dynamics of the debate itself; i.e., the number of tweets rose during the debate but decreased during the 15-minutes break in the programme (Figure 1). The temporal dynamics and volume of tweets sent in the two debates were remarkably similar, with the biggest difference being that the peak in tweets just before the end of the debate was higher in May.

There was a close relationship between the time at which an issue was brought up during the debates and the period during which it was addressed on Twitter. We observed that the discussion of the various issues on Twitter followed the same sequence as in the televised party leaders' debates. In the October debate, the political issues were debated in the following order: healthcare, labour market, climate, immigration, education and crime; in the subsequent May debate, the order was defence, open borders, labour market, school, healthcare and then climate (Figure 2). The different issues generated varying numbers of tweets and the more prominent issues prompted a higher volume of tweets over a longer period of time.

Figure 1. Total amount of tweets sent during the time of the debate

Comments: The figure shows all the tweets in our dataset sent between two hours before the debate and one hour after. The debates started at 8 pm (20:00) and ended at 10 pm (22:00), with a break between 9 pm (21:00) and 9.15 pm.





Comments: The upper panel shows data from the October 2013 debate and the lower panel data from the May 2014 debate.

The labour market was the most discussed issue in both debates and topics related to the issue were mentioned in between 35 and 36 per cent of the tweets. In relative terms, the labour market was also discussed more on Twitter than during the debates (an additional five percentage points in October and an additional seven percentage points in May, see Table 2). Schooling was the second most prominent issue in both debates and the issue was also mentioned in a higher percentage of debate-related tweets than the percentage of time devoted to the issue during the debate. In May, "open borders" was also a more salient issue on Twitter than in the televised debate, whereas climate, healthcare, defence, crime and refugees were all discussed less on Twitter than in the debates. Thus, the political discussion on Twitter did not simply mirror the political agenda of the debates.

Table 2. Issue discussions in the televised debate and frequency in tweets

	Percentage of debating time spent discussing the issue	Percentage of debate-related tweets mentioning the issue	Difference between relative debating time and tweet volume
October 2013			
Healthcare	14	12 (1,168)	- 2
Labour market	31	36 (3,549)	+5
Climate	13	9 (939)	-4
Refugees	12	9 (933)	-3
School	17	24 (2,437)	+6
Crime	14	9 (937)	-5
Total	100	100 (10,023)	
May 2014			
Defence	15	10 (2,167)	-5
Open borders	16	21 (4,416)	+5
Labour market	28	35 (7,224)	+7
School	16	20 (4,174)	+4
Healthcare	13	6 (1,296)	-7
Climate	12	7 (1,486)	-5
Total	100	100 (20,763)	

Comments: The time devoted to each issue in the televised debates was measured manually and calculated as a percentage of the total time of the debate. The number of tweets mentioning issue-specific words was calculated and expressed as a percentage of all debate-related tweets, but it should be remembered that a tweet could address more than one issue. Pearson correlation coefficients for the relationship between relative time and relative volume were significant in both debates (October: R = .943, R² = .8892; May: R = .9271 and R² = .8595).

The salience of GAL/TAN and left-right issues in the televised debates and on Twitter was compared (Table 3). In both formats, "traditional" (economic) left-right issues were more prominent than GAL/TAN-related issues. In other words, contrary to our hypothesis, issues associated with the traditional left-right dimension (e.g., labour market and schooling) prompted more discussion on Twitter than GAL/TAN-related issues. While the percentage of time spent debating a given issue and the proportion of tweets mentioning it are quite crude measures of issue salience, the same pattern was observed in both debates: GAL/TAN-related issues were *not* more likely to prompt debate on Twitter than issues that divide people on the left-right dimension.

Table 3. Relative salience of political discussions grouped by policy dimension

	Percentage of time devoted to policy dimension during the televised debate	Percentage of debate-related tweets mentioning policy dimension	Difference between relative debating time and tweet volume
October 2013			
GAL/TAN (climate; refugees; crime)	39	27	-12
Left/Right (labour market; healthcare; school)	61	72	+11
May 2014			
GAL/TAN (climate; open borders; defence)	43	38	-5
Left/Right (labour market; healthcare; school)	57	61	+4

Comments: The table shows the salience of the two dimensions (the GAL/TAN and the Left/Right dimension) in the televised debates and in tweets related to the debates.

Discussion and conclusion

The total number of tweets sent rose substantially during the televised party leaders' debates, presumably in response to the debates. Politics-related tweets accounted for 36 and 44 per cent of tweets sent during the October and May debates respectively. Thus, whilst political issues did not dominate the general discussion on Twitter, they did account for a substantial proportion of tweets sent whilst the leaders' debates were taking place. It is notable that issues relating to the left-right dimension were *more* prominent in the online discussion than those linked to the GAL/TAN dimension. And, taking into consideration the time left-right issues were discussed in the televised debates, they were even more salient in the tweets.

This study contributes to the literature on Twitter responses during mediated political events. It has shown that the Twitter agenda follows the agenda of mainstream media closely, but with rather unexpected deviations, which leads to what we see as our second main contribution: Twitter appears to be enhancing the salience of the issues highlighted during mediated political events.

Social media has emerged as a distinctive mass communication mode that is intertwined with the mainstream media. It has been claimed that "giving voice to the people introduces an entirely new dimension of agenda setting" (Boynton & Richardson, 2016: 1978). During mediated events, however, the social media agenda is strikingly similar to that of the traditional mass medium, indicating that the agenda of mainstream media strongly influences what, when and how political issues are addressed in other media.

Further research into how the different policy dimensions evoke responses in different online settings would be of value. It is likely that those contributing to Twitter discussions around events such as televised party leaders' debates differ from Twitter users in general and that the aggregated political agenda that we observed is specific to Twitter.

Notes

- 1. The SOM Institute is a survey research organisation at the University of Gothenburg.
- 2. In the 2014 Swedish election, the Feminist party almost made it to the Swedish parliament: with three per cent of the votes, they ended up just below the four per cent threshold.
- 3. We compared the distribution of political issues in tweets with the hashtag #pldebatt and political tweets without one of our specified hashtags. The issues discussed in both types of tweet were strongly positively correlated (R=.8355 and R2=.6981), but it remains unclear whether the similarity in distribution is due to the televised debates or not.
- As we only accounted for those with the selected hashtags, the overall share of tweets discussing the debate was larger.

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