

# Media bias and il Patto del Nazareno\*

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## Abstract

This paper examines the way media bias is affected by political events and, in particular, it investigates whether and to what extent the main Italian news programmes changed their editorial policies after the arrival of an innovative center-left leader like Matteo Renzi. Its purpose is to extend the work of Durante and Knight (2012), which studies these issues relating to the period from 2001 to 2007. The paper, which uses the AGCOM data referring to the speaking time devoted by each news programme to each political actors in Italy from 2008 to 2016, shows that the most biased stations towards the center-right coalition belonging both to the public and the private networks, namely TG4, Studio Aperto and TG2, reduced their respective biases if compared with the sample of Durante and Knight. Moreover, even the only biased station towards the center-left coalition, TG3, reduced its bias with respect to the past. In addition this paper shows that TG4 and TG2 mostly increased their coverage of the center-left coalition if compared with all the other stations, despite the fact that the main public news programme, TG1, varies its news content according to changes of the ruling coalitions. This differs from Durante and Knight (2012), who find out that, before the arrival of Matteo Renzi, it was TG1 which mostly changed its news content after any change of government. Moreover this paper investigates the way political airtime on television was distributed among the different members of the governments. The result is that, even on such unbiased stations as La7 and Sky Television, Matteo Renzi received more speaking time than Silvio Berlusconi in relation to the periods where they were respectively heads of the government. By contrast the members of the Berlusconi government had more opportunities to support their positions if compared to the members of the Renzi government. This paper also demonstrates the way

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demand-driven factors may shape news content, especially showing the rise of the Five Star Movement and the decline of the Berlusconi's party in terms of speaking time over the last eight years. Finally, this paper shows that even impartial institutional roles, such as the Italian President of the Republic, together with relevant political events, for instance the last Constitutional Referendum, may be affected by the strategic use of television. The results which are shown by the paper provide an insight into the way certain political agreements may influence news providers and as a consequence electoral outcomes. This is particularly evident in a country like Italy, where the connections between television and politics are deeply rooted.

**Keywords:** television, media bias, voting

**JEL Codes:** L82, D72, H0

# 1 Introduction

Partisan control, media bias and pluralism are delicate issues which need to be tackled in order to study their impact on the political scenery. The playing of political favouritism among media outlets in Italian politics has attracted much academic interests in recent years, designing theories on public regulation of media markets in order to reduce media bias.

In this paper I am going to investigate this field of studies in the context of the Italian broadcasting system, where the leader of the center-right coalition, Silvio Berlusconi, is the controlling shareholder of Mediaset<sup>1</sup>, the most important private broadcasting company, and where the public television is not only a commercial broadcaster (in spite of the fact that two thirds of its income comes from the television tax) but it is strongly sided with the politics of the country.

In particular I am going to analyze the news content of the main media outlets in the last decade (2008-2016), in order to measure the impact of the main recent political changes on media bias. I am going to draw on the work of Durante<sup>2</sup> and Knight<sup>3</sup> (2012), who conducted this analysis by studying the period from 2001 to 2007. While they concentrated on the effects of the shift from the center-left to the center-right of the ruling coalition, I am going to analyze the effects of the arrival of Matteo Renzi on the supply driven biases of the main Italian televisions. Yet before doing this, I am going to provide a brief background on the media economics research area (which is based on the Handbook of Media Economics (2015)), on the Italian television system and on the main related legal provisions ("The Par Condicio"), in order to have a broader knowledge of the context.

This paper is in fact structured as it follows: Section 2 provides a theoretical framework about media economics, which defines in particular the concept of media bias, with its main focus on the rise of this phenomenon, the various form it can take on and the main academic works which deal with this issue; Section 3 provides a background on the Italian television system, describing the characteristics of the main Italian stations and their policies; Section 4 describes the way The Par Condicio works in Italy, namely the legal provisions which the Italian televisions have to respect in order to guarantee political pluralism; Section 5 reproduces the main analysis regarding the supply-driven bias in Italy, and it is based on the AGCOM data that are related to the speaking time devoted to political actors by each news programme over the last eight years; Section 6 studies the way demand-driven factors have affected the content of the main Italian media companies over the last eight years; Section

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7 analyzes the impact of the last constitutional referendum in the Italian television system; Section 8 summarizes the results and provides the conclusions.

## 2 Theoretical framework

Basically, as far as politics is concerned, the main role of the media is to provide information to voters. As a consequence, voters become more responsive to the quality and efforts of politicians, improving political selection, incentives, policy and welfare (see Prat and Stromberg 2013). On the other hand there may be different reasons why voters seek out political information. For instance voters may be interested in how their welfare can be affected by political decisions. Or else they may want to deepen their knowledge of the various political actors in order to make the right choice when voting. Or perhaps this demand may be due simply to entertainment (see Anderson and McLaren (2012), Chan and Suen (2008) and Larcinese (2007)).

In general media consumption and political coverage increase when: the electorate is large; the advertising market is large; the private value of news is high; the cost of distribution of news is low; the media market is highly competitive and the demand elasticity prevails on the scale effects. As a result, large countries tend to have higher-quality political reporting, better informed citizens and better political selection. However news content varies according to the group of consumers it is addressed to. In particular the coverage of a specific issue which is related to a group of consumers depends on the size of the group, its advertising appeal, its journalistic newsworthy and the cost of distribution associated to this specific group. This depends on the existence of preference externalities which are associated with news consumption, namely on the fact that, in these markets, consumers get media products according to the extent that others share their preferences. Preference externalities are common in media markets because they are characterized by high fixed costs, preference heterogeneity across consumers and advertising finance. Indeed when fixed costs are significant, only a limited set of products can be provided by the market. In particular media markets provide only products which allow media firms to extract sufficient net revenues to cover these entry costs. This is particularly problematic when the structure of preferences varies substantially across groups of consumers, as it does in media markets. Thus generally only a subset of products which are demanded by consumers can be supplied by media firms (see Waldfogel 2007).

Advertising finance is the major source of revenues in many media markets. Hence if advertising demand is weak, then the market may be not served. When it is served, markets provide content which appeals to consumers who are desired by advertisers rather than con-

tent which broadly appeals to consumers themselves, providing yet another reason why the content one faces might depend on the preferences of others. We may therefore summarize by stating that the number and types of media products which are offered vary according to the characteristics of the market considered (see Steiner (1952) and Beebe (1977)). This may generate the multitasking problem which arises when political information becomes a by-product of the demand for entertainment or the demand for the private-used information. In this case politicians decide to focus only on the issues which are covered by the media, diverting the attention of the audience from the most socially valuable allocation of resources, and the result is that there are welfare losses for the society. These failures of the private media market provide supporting evidence for either public intervention or regulation. Public service media may compensate the inefficient quantity and quality of private media content by internalizing these externalities, but there still remains the problem of its lack of independence from the politicians that it should monitor, not to mention the problem of having lower economic incentives to innovate if compared to private providers. Glasser et al. (1989) proved that the private ownership of newspapers determines a more uniform coverage of information, while Djankov et al. (2003), analyzing the public media control in different countries, found out that even public forms of control may lead to poor government outcomes.

In general media bias occurs when media stations do not report news objectively, but they seem to push a specific viewpoint on one side of the political spectrum. Media bias may take on the forms of outright distortion and filtering of information. In the first case, media outlets tend to report false facts because the true ones are not agreeable to their own liking. In the second case, the information which is reported is true, but it is so distorted that it favours one specific position, providing only partial selected facts. Filtering is more widespread than distortion because viewers have limited time and attention. Hence media outlets select news from the mass of raw facts and distill them in useful ways (see Gentzkow et al. (2015)).

Furthermore media bias may derive from supply-driven or demand-driven reasons. Supply-driven bias arises when media firms prefer consumers to take particular actions. Generally in these cases owners accept lower profits because they would obtain personal gratification from favoring one political coalition. In other words, supply-side bias persists when media management is willing to sacrifice profits for political gain. This sometimes depends on pressures by governments, advertisers or other parties. This is less likely to happen when media market is highly competitive, because competition tends to match media outcomes better by means of the demand of consumers which, we may assume, asks for unbiased news. However it is the type and the amount of competition which determine the size and the direction

of media bias in the whole market. Mullainathan and Shleifer (2005) found out a positive relationship between competition and media bias, while Fonseca - Galvis et al. (2013) found out a negative one. On the other hand demand-driven bias occurs because consumers themselves demand bias (see Puglisi and Snyder (2011)). In particular consumers tend to choose those media which match their own preferences or beliefs in order to receive confirmatory news. In this situation, according to Gentzkow and Shapiro (2010), we can state that media owners ideological positions matter less than the consumers ones. In particular they studied empirically the US newspaper market, showing that newspaper content is related to the prevailing ideology of the readers. Demand-driven bias may arise from three different types of incentives. Delegation may arise when consumers delegate decisions and actions to media outlets because their expected utility is higher from receiving confirmatory and biased news (see Burke 2008). This is the case when bias takes the form of filtering. Psychological utility means that consumers simply get direct utility by receiving news the bias of which matches with their own prior beliefs (see Lord et al. (1979), Nickerson (1998) and Rabin and Schrag (1999)). Instead reputation arises when media outlets tend to give confirmatory news in order to match better consumers beliefs and, as a result, to obtain higher reputations (see Prendergast (1993), Brandenburger and Polak (1996), Gentzkow and Shapiro (2006)).

However measuring media bias is a difficult task: it requires a benchmark that is related to the media content it should be compared to. We can distinguish between explicit bias and implicit bias. The first one regards the ideological and partisan bias of media and can be observed by the editorial sections (see Ho and Quinn (2008) and Puglisi and Snyder (2015)). On the other hand the second one concerns the implicit political behaviour of media outlets. The latter may be more insidious because viewers might be less aware of it. Implicit bias can be measured by three methods. The comparison approach classifies media firms by comparing the text of news stories or broadcasts to the text of politicians of known ideological positions (see Gentzkow and Shapiro (2010) and Groseclose and Milyo (2005)). On the other hand the issue emphasis approach classifies media outlets according to the amount of coverage they give to different politically relevant topics (see Puglisi (2011), Puglisi and Snyder (2011) and Larcinese (2011)). In addition we must not forget that media are also classified according to the tone of their coverage (see Gentzkow et al. (2006), Lott and Hassett (2014), Barret and Barrington (2005)).

As I already mentioned, media sources deliberately deviate from truthful reporting in order to affect electoral outcomes. For instance, Della Vigna and Kaplan (2007) and Knight and Chiang (2011) attempt to determine to what extent media bias affects voters behavior. In particular we speak about media capture when the government actively tries to influence media industry and to suppress unfavorable information (see Besley and Prat (2006), Petrova

(2008)). On the other hand media power occurs when the government has a passive role and politically driven media outlets engage in biased reporting for political aims (see Prat (2014)). Media capture is complicated by the existence of high transaction costs between the government and the media industry, while media plurality represents an effective defense against both the phenomena. Indeed having a lot of independent media firms increases the individual incentive to publish information that consumers find interesting. Thus, media regulation should control the concentration levels in media markets. This type of regulation may assume three forms. Firstly platform-specific regulation comprises a large set of provisions which apply only to media, such as the limits in terms of ownership, market shares or advertising. This method becomes less effective when there are several platforms which provide the same content. Secondly general competition policy provisions comprise the standard set of competition rules which govern all industries to protect consumer welfare. However competition rules may be not adequate as incentive for media plurality. The third form of regulation consists of direct news provision through a large public service broadcasting (PSB) organization. The effectiveness of this solution depends on the number of incentives that the PSB has to affect the democratic process.

Within this conceptual framework, my paper mainly deals with media control and supply-driven bias in Italy and it is based on the work of Durante and Knight (2012). As it will be shown in detail later, the latter, which studied these issues in the Italian context during the period from 2001 to 2007, demonstrated that Mediaset showed explicit bias towards the center-right coalition by devoting it more speaking time if compared to the center-left coalition. In addition it showed that the RAI stations changed their coverage and ideological position according to the changes of the ruling coalitions. In particular the work illustrated the way the main public news programme TG1 shifted its news content towards the center-right coalition with the arrival of the second Berlusconi government. Furthermore it studied the different responses of the viewers according to these media content changes. By means of an econometric model applied to the viewers choice of media outlet, Durante and Knight found out that, after the change of coalition government from the center-left coalition to the center-right coalition right-leaning viewers became more likely to watch news programmes on the public stations. On the other hand left-leaning viewers responded to the coalition shift by changing their television habits, namely favouring TG3 over TG1 (TG3 remained a station biased towards the center-left coalition even after the government coalition shift).

My paper aims to reproduce this analysis by focusing on the period from 2008 to 2016 in order to understand the way recent political events may have affected both Durante and Knights results and, more generally, the provision of political news. In particular I am going to concentrate on the impact of the Renzi government, namely on the consequences in

terms of news content after the arrival of this innovative center-left leader. I am going to demonstrate the way political agreements and coalitions may affect news coverage and media bias. Yet before doing this it is necessary to describe the Italian television system in order to define the nature of our field of studies.

### 3 Background on Italian television

In the Italian television system, RAI is the state owned public service broadcaster which is controlled by the Ministry of Economy and Finance, although its funding model is mixed (license, advertisement and commercial revenue). Mediaset, La7 and Sky Television are the most important private broadcasting companies. Silvio Berlusconi, who is the leader of the center-right coalition, is also the controlling shareholder of Mediaset.

Although RAI is a joint-stock company, the majority shareholder is the treasury. Under the Berlusconi government, by means of the Gasparri Law<sup>4</sup>, RAI's board of directors comprised nine members, seven of whom were nominated by the Parliamentary Supervisory Commission, while the remaining two were nominated directly by the treasury. Treasury members included the president of the board of directors. Nowadays the board of directors is leaner (seven members) but it is still nominated mostly by the government or parliament and as for the director-general (now called managing director) he or she is still chosen by the treasury. That the system is structured in this way explains why RAI is accused of providing information which is not independent of political parties, and of lacking pluralism and an impartial policy. These problems cannot but be exasperated when a figure like Silvio Berlusconi became head of government and so, effectively, controlled the entire radio-television system. Hence it is crucial to take into account the Italian political scenery in order to study the Italian media market. To this purpose the figure below shows the outcomes of the last two general elections in Italy (held respectively in 2008 and 2013). While Silvio Berlusconi won the general elections which were held in 2008 and became the head of his fourth government, Pier Luigi Bersani won the general elections in 2013 by a small margin, which led to a change in the leadership of the center-left coalition and to the formation of the Letta government (eventually supported by Silvio Berlusconi himself).

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<sup>4</sup> l. May 3, 2004 n. 112

13-14 April 2008

630 seats in the Chamber of Deputies  
315 seats (out of 322) in the Senate of the Republic

Turnout

78.12%

First party

Second party

Third party



Leader

Silvio Berlusconi

Walter Veltroni

Pier Ferdinando Casini

Party

PDL

PD

Unione di Centro

Alliance

Center-right

Center-left

Seats won

344 C / 174 S

246 C / 134 S

36 C / 3 S

Coalition vote

17,403,145 C  
15,508,899 S

14,099,747 C  
12,457,182 S

2,138,246 C  
1,866,356 S

Percentage

46.8% C  
47.3% S

37.5% C  
38.0% S

5.6% C  
5.7% S

February 24-25, 2013

630 seats in the Chamber of Deputies  
315 (out of 319) in the Senate of the Republic

Turnout	75.2%			
	First party	Second party	Third party	Fourth party
				
Leader	Pier Luigi Bersani	Silvio Berlusconi	Beppe Grillo	Mario Monti
Party	PD	PDL	Five Star Movement	Civic Choice
Alliance	Center-left	Center-right		
Seats won	345 C / 123 S	125 C / 117 S	109 C / 54 S	47 C / 19 S
Coalition vote	10,049,393 C 9,685,437 S	9,923,600 C 9,405,652 S	8,691,406 C 7,286,550 S	3,591,541 C 2,797,734 S
Percentage	29.55% C 31.63% S	29.18% C 30.72% S	25.56% C 23.80% S	10.56% C 9.14% S

Figure 1. Electoral outcomes 2008 and 2013

During my sample the directors of TG1, TG2 and TG3 were replaced a few times, as it is shown in Table 1:

Table 1: Public TV news directors

## TG1

Period	Director
April 2009 - June 2009	Andrea Giubilo (ad interim)
June 2009 - December 2011	Augusto Minzolin (Center-right)
December 2011 - November 2012	Alberto Maccari (ad interim)
November 2012	Mario Orfeo (Center-Left)

## TG2

Period	Director
April 2002 - May 2009	Mauro Mazza (Center-right)
May 2009 - July 2009	Mario de Scalzi (ad interim)
July 2009 - March 2011	Mario Orfeo (Center-left)
June 2011 - August 2016	Marcello Masi
August 2016	Ida Colucci

## TG3

Period	Director
August 2001 - October 2009	Antonio di Bella (Center-left)
October 2009 - August 2016	Bianca Berlinguer (Left)
August 2016	Luca Mazz (Center-left)

Both RAI and Mediaset broadcast three main channels: respectively Rai 1, Rai 2, Rai 3; Rete 4, Canale 5 and Italia Uno. First, I am going to focus my attention on the traditional news programmes of these stations: TG1, TG2, TG3, TG4, TG5 and Studio Aperto.

As far as the other private broadcasting companies are concerned, La7 is owned by Cairo Communication, with its programmes becoming an increasingly important source of information for a greater number of people, while SkyTelevision is the most important pay television platform serving the Italian territory. I am going to focus on their two most important news programmes: TGLa7 and SkyTG24<sup>5</sup>.

<sup>5</sup>SkyTG24 is an all-news programme broadcasting live 24/7

## 4 Legal framework and Par Condicio

The Naples-based AGCOM, the Guarantee Authority in the Field of Communications, came into being in 1997 (the Maccanico law<sup>6</sup>). This body, which replaced the old *Garante per la radiodiffusione e le editoria*<sup>7</sup>, is made up of eight commissioners elected by the two houses of Parliament. The chairman is appointed by the Italian President of the Republic on recommendation of the head of the government. Thus it is a relatively independent body, the role of which is to ensure that the rules designed to prevent monopolies in the media and communication industry are not infringed and that diversity in news presentation is respected. The RAI Parliamentary Oversight Committee is composed of 40 members – 20 Deputies and 20 Senators – with a composition reflecting that of the parliament and a president selected by the minority. The Committee oversees the public television to ensure its respect of the public broadcasting principles such as pluralism and fairness.

The *Par Condicio* (inscribed in law in 2000 – law 28/2000) lays down the principle that the different political parties, irrespective of their electoral weight, must have equal access to television stations and be subject to the same condition. This body was meant to provide for equal access of political parties and coalitions to the broadcast media during campaign periods. We must also add that regarding the political pluralism issue there exists a non-written principle according to which televisions should devote exactly the same speaking time to the following three political entities: the government, the majority and the opposition. This silence procedure is known as the three thirds rule and it was derived from the French television system.

Under the *Par Condicio*, political-campaigning and political debates on TV, in talk shows and on newscasts cease two weeks prior to a general election when a blackout of sorts is introduced. *Par Condicio* also prohibits the dissemination of opinion polls two weeks prior to a general election. In particular, the provisions of the *Par Condicio* are effective during the official campaign period that begins with the dissolution of the parliament. Between the dissolution of the parliament and the deadline for presentation of the candidate lists, the law requires equal quantitative and qualitative coverage to all political parties represented in the parliament. From the presentation of the candidate lists to the beginning of the campaign silence period, the law required equal treatment to all parties competing in the elections.

The provisions of *Par Condicio* are overseen by two regulatory bodies: private broadcasters are regulated by the AGCOM, while public broadcasters are regulated by the RAI Parliamentary Oversight Committee. All this constitutes an element of pressure on operators,

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<sup>6</sup>l. July 31,1997 n.249

<sup>7</sup>l. August 6, 1990 n.223 art.6

which can end up being judged negatively on the basis of these counts. The time given to politicians on television is therefore rigorously measured and the impartiality of news report carefully monitored. Even the order in which different political positions is presented is strictly regulated. This rule was created to stem conflicts of interest regarding media content. The law legislates on political-party broadcasting in an attempt to ensure that candidates are treated equally and fairly, so they are meant to have the same amount of free airtime on public state broadcaster RAI.

In the period leading up to the 2008 local elections, for instance, AGCOM declared that TV transmissions should observe the criteria of impartiality, fairness, completeness, correctness, plurality of viewpoints and balance of political subjects, inviting broadcasters to redress the balance of news by adhering more strictly to the general principles of exhaustiveness and accuracy, objectivity, fairness impartiality and equality of treatment, even in non electoral periods. The above is equally as valid in electoral periods, with the addition of a recommendation that AGCOM issues for each campaign, which is also applicable to all public and private operators. The criterion of fairness is applied in a broad sense and does not only include parties already represented. For example, in the period which goes from the announcement of elections to the presentation of candidates, there must be equal amount of news about all political forces wishing to take part, even though they are not represented in the house for which they are running but are represented in the other (Senate or Chamber of Deputies) or in the European Parliament.

The programmes which do not comply with these legal provisions may incur in sanctions. In particular, when a news programme does not comply with the Par Condicio principles, AGCOM, as a form of compensation, can instruct that this news programme must devote additional airtime to the political parties which did not receive a fair amount of airtime, reestablishing the principle of impartiality. Moreover this programme may have to pay a fine which can range from 1000 to 20000 euros. In the most serious cases AGCOM can impose a thirty day broadcasting ban.

Some critics say Par Condicio can stifle political debate and freedom of speech. Others point out that this rule is necessary since, although Mediaset is subject to par condicio just like the state broadcaster RAI, Berlusconi has the potential to use Mediasets facilities for free to promote his own party, which some feel gives him an advantage over his political rivals in getting his message across to the electorate.

## 5 Measuring media bias

### 5.1 Station ideology

The aim of this paper is to investigate the dynamics of broadcast news coverage of the main political coalitions in Italy over the last eight years (2008-2016). To this purpose I am going to follow the same approach of Durante and Knight (2012), using for all the thesis the monthly content data on the main Italian broadcasting companies which are available from the AGCOM<sup>8</sup>. These data contain two main means to measure media content of the main Italian broadcasting companies: speaking time and news coverage. The former can be defined as the air time which is devoted through statements and interviews to politicians by broadcast stations, while the latter as the broadcast station air time covering a specific matter which is related to a given political subject. I am going to restrict my attention to the speaking time which is devoted to the different Italian political parties by the following media companies: RAI, Mediaset, Sky Television and La7. Indeed speaking time, which gives each political actor the opportunity to express his personal values on television, is a more suitable variable for measuring media bias than news coverage since the latter, unlike the former, takes into consideration both the positive and the negative coverage of a specific issue. To compute the speaking time of a coalition I am going to aggregate the speaking time which is devoted to its associated parties; as far as the ruling coalition is concerned, I am going to aggregate also the speaking time which is devoted to the head of the government, the members of the government and the speakers of the two houses of the Parliament. According to the three thirds rule, defined in the section above, in conjunction with the two aggregate measures which I am going to construct, the Italian television programmes should devote the 66,6% of the total speaking time to the majority, while the 33,3% of the total speaking time to the opposition. For the moment, I am not going to consider either the speaking time which is devoted to the President of the Republic (because of the nature of his impartial institutional role) or the extra-parliamentary political parties (because of their ephemeral and transient nature).

I am going to start by using the same concept of station ideology which is proposed by Durante and Knight in order to understand whether their results (regarding the period from January 2001 to September 2007) are confirmed in my different sample. Therefore the first part of this paper is going to study the way speaking time is distributed among the majority coalition and the opposition coalition on the broadcasting televisions which I mentioned before. If a television station provides on average the same speaking time (in percentage terms)

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<sup>8</sup><https://www.agcom.it/pluralismo-politico-sociale-in-televisione>

to the ruling coalition regardless of the coalition which governs the country, my conclusion is that this station is unbiased. On the other hand if a television station provides a different amount of speaking time to the ruling coalition depending on which of the two coalitions governs the country, my conclusion is that this station is biased towards to the coalition which receives more airtime. To this purpose I am going to compare the speaking time which is devoted to the majority coalition and the opposition coalition under two different governments: the fourth Berlusconi government (from May 2008 to October 2011) and the Renzi government (from March 2014 to December 2016). These are perfect examples to test the way media content may change in accordance with the change of the ruling coalition. In addition these data can be easily compared with the sample used by Durante and Knight, which contemplates few months of the second Amato government (from January 2001 to May 2001), the entire second Berlusconi government (from June 2001 to April 2006) and, partly, the second Prodi government (from May 2006 to May 2008). At this stage I am not going to consider either the Monti government or the Letta government (respectively, from November 2011 to April 2013 and from May 2013 to February 2014) because these two governments, which were formed during a financial emergency, were supported by a very vast parliamentary majority.

As it is shown in Figure 2(a), the majority coalition receives more coverage than the opposition coalition both during the Berlusconi government and the Renzi government on the Mediaset stations on aggregate<sup>9</sup>. We can also appreciate the way the fraction of time which is devoted to the Renzi majority is lower than the fraction devoted to the Berlusconi majority. This allows us to conclude that Mediaset has favored Silvio Berlusconi, its controlling shareholder, over the last eight years. This reasonable result is consistent with Durante and Knight (2012), but at the same time it presents an important difference: considering both periods, on the Mediaset stations the center-right coalition does not systematically receive more speaking time in comparison with the center-left coalition, which is what Durante and Knight observe in their sample. Thus we can conclude that the bias of the Mediaset stations towards the center-right coalition has been reduced if compared to the past. The same conclusion cannot be applied to the public channels on aggregate<sup>10</sup>, which instead devote a stable fraction of speaking time to the majority coalition (approximately 66,6%), regardless of which coalition governs the country. This is again shown by Figure 2(a), which for RAI group turns out to be very similar to the one proposed by Durante and Knight for the aggregate public stations during the period 2001-2007. In other words RAI television stations on

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<sup>9</sup>Aggregate measures of speaking time for the Mediaset group are obtained by computing the average speaking time given by the three main Mediaset programmes

<sup>10</sup>Aggregate measures of speaking time for the RAI group are obtained by computing the average speaking time given by the three main RAI programmes

aggregate have not changed their policy over the last eight years. RAI journalistic coverage varies in accordance with the board nominations of politically connected directors, namely in accordance with the formation of different coalition governments.

As far as the internal differences between Mediaset stations are concerned (Figures 2(b)), we can appreciate the way TG5 devotes its speaking time to the two majority coalitions with a more balanced approach if compared to TG4 and Studio Aperto. It is easily noticeable that often TG5 devotes more speaking time to the majority coalition even under the Renzi government. On the other hand since 2014 TG4 and Studio Aperto have devoted almost the same time both to the majority coalition and to the opposition coalition. Therefore the bias of TG5 towards the center-right coalition is inferior to the one of the other two Mediaset stations. As far as public stations are concerned (Figures 2(c)), all three RAI channels devote more speaking time to the ruling coalition regardless of which of the two governs the country. However on TG2 the gap between the speaking time of the majority coalition and the opposition coalition is lower under the Renzi government. The opposite is true for TG3, which instead devotes less time to the majority coalition with Silvio Berlusconi as head of the government. This proves that TG2 is biased towards to the center-right coalition, while TG3 is biased towards the center-left coalition. On the other hand TG1 presents the most regular behaviour, even if it seems that the gap between the majority coalition and the opposition coalition diminishes slightly with Renzi as head of the government. Similar patterns can be traced in the other two broadcasting companies: La7 and Sky Television. Indeed the news programmes TGLa7 and SkyTG24 devote a stable fraction of speaking time both to the majority coalition and to the opposition coalition (once again, approximately, 66,6% and 33,3% respectively), regardless of which of the two governs the country. This is represented in Figures 2(d). However this cannot derive from any changes in the boards of directors because the two stations are private owned media outlets<sup>11</sup>.

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<sup>11</sup>La7 is owned by the entrepreneur Urbano Cairo, while Sky Television by Rupert Murdoch

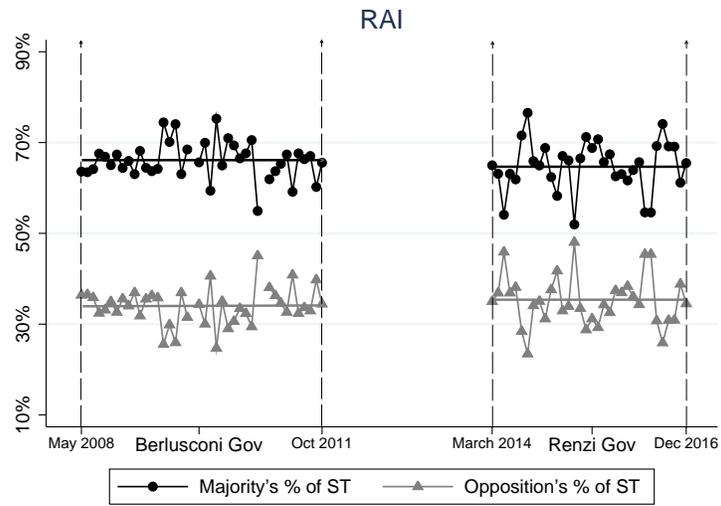
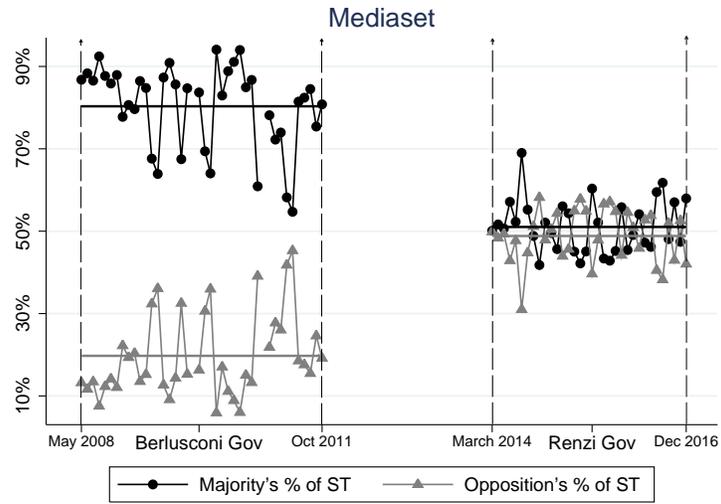
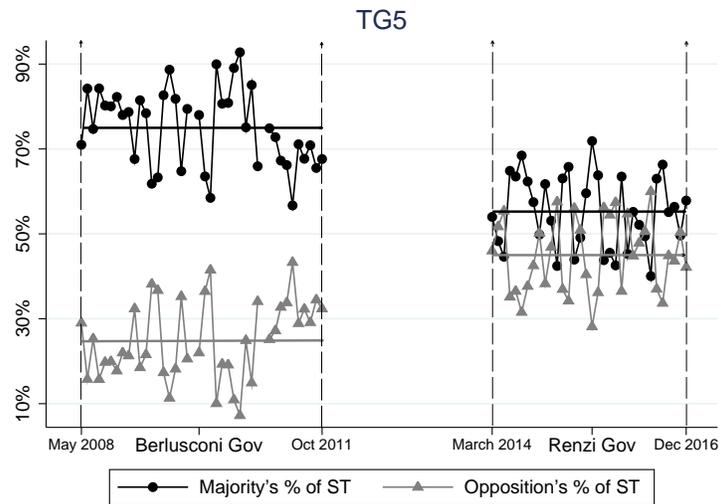


Figure 2(a). Majority versus opposition share of total speaking time by group



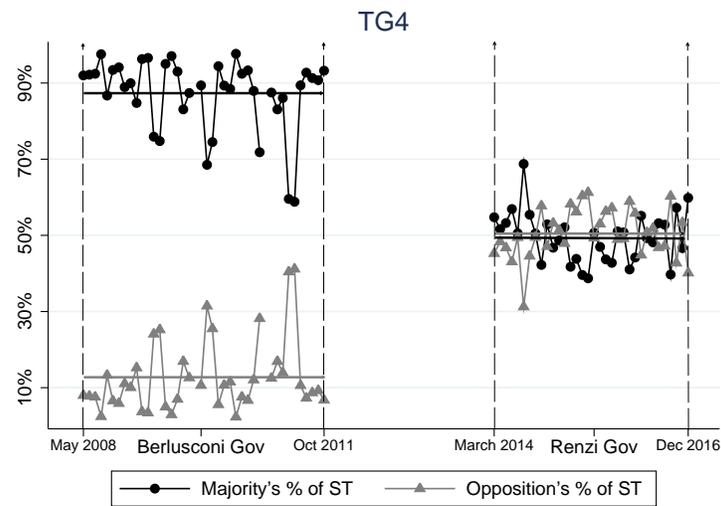
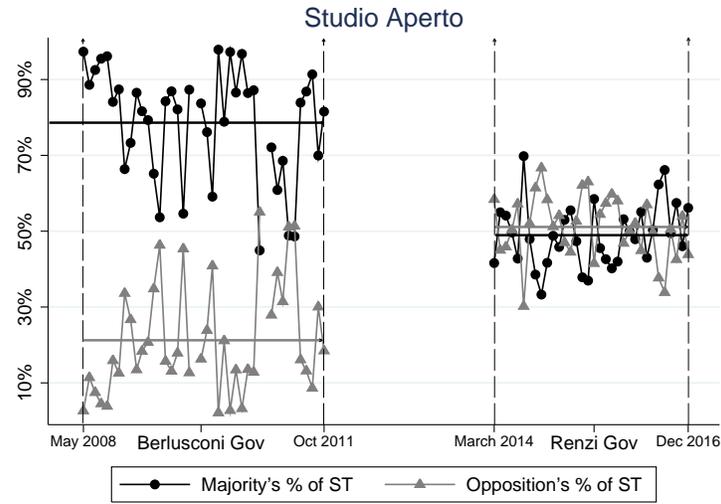
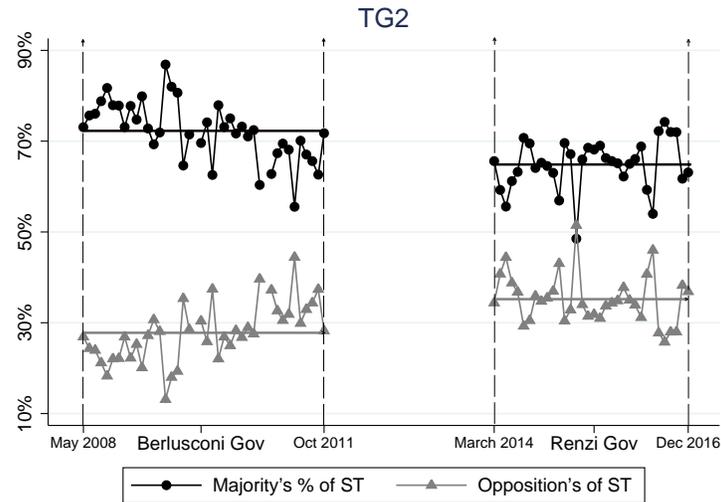


Figure 2(b). Majority versus opposition share of total speaking time by Mediaset channel



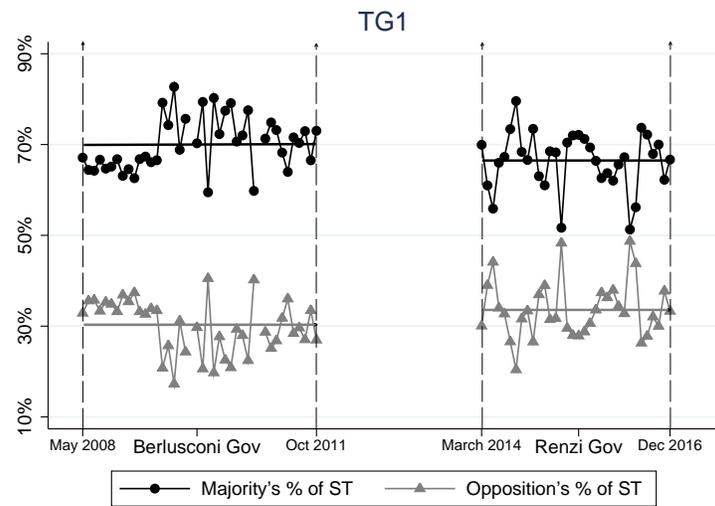
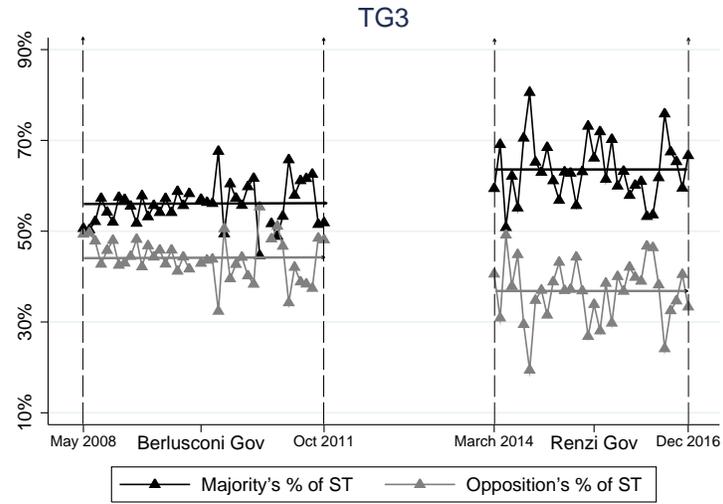
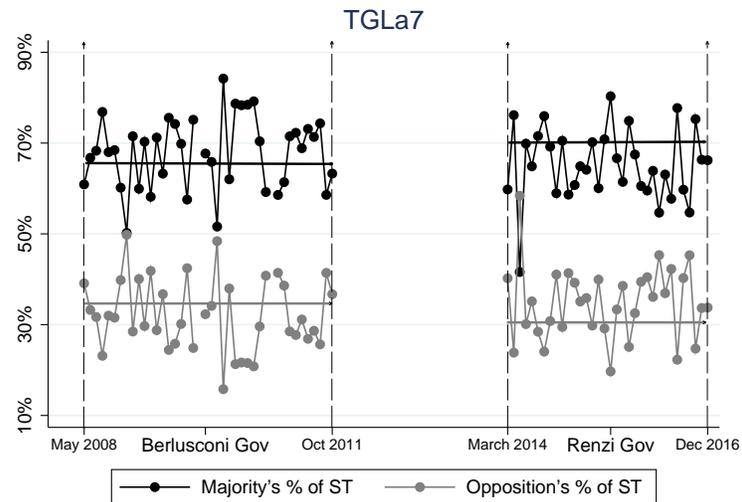


Figure 2(c). Majority versus opposition share of total speaking time by RAI channel



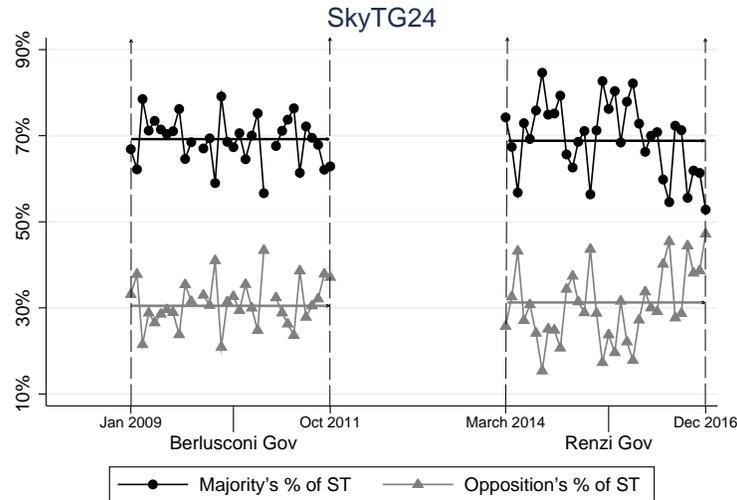


Figure 2(d). Majority versus opposition share of total speaking time on TGLa7 and SkyTG24

In order to verify these suppositions by means of a more econometric approach, I am going to regress the percentage of speaking time which is devoted to the majority coalition by each station on group dummies and interaction terms by using a dummy for the Berlusconi government, namely a variable which takes value 1 from May 2008 to October 2011 and value 0 otherwise. Both the statistical significance and the signs of these interaction terms testify the existence and the degree of a bias towards the center-right coalition. The results are shown in the tables below. Table 2(a) shows the results for RAI and Mediaset on aggregate, while Table 2(b) for each RAI and Mediaset station. Tables 2(c) displays results for TGLa7 and SkyTG24. The coefficient of the interaction term for the aggregate Mediaset stations (29.2) turns out to be large, positive and significant. This means that Mediaset on aggregate devoted more speaking time (with an increase of approximately 29%) to the majority coalition under a center-right government. This coefficient is smaller than the one which is found by Durante and Knight (34.5), proving how, in my sample, the bias towards the center-right coalition of Mediaset as a whole is smaller. Even the coefficient on the interaction term Berlusconi\_Rai for the aggregate public channels turns out to be positive, giving evidence of a slightly bias towards the center-right for the public network. However the value and the statistical insignificance of this coefficient do not allow us to conclude that RAI is clearly biased towards the center-right coalition, as I noted above by observing the graph.

Table 2(a): Distribution of total speaking time by group

VARIABLES	Majority Time
Mediaset	51.18*** (0.940)
Berlusconi_Mediaset	29.20*** (1.278)
RAI	64.87*** (0.940)
Berlusconi_RAI	1.173 (1.278)
Observations	444
R-squared	0.981

Standard errors in parentheses

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

By shifting to the interaction terms which are associated with each station, we can observe that all the coefficients for the Mediaset stations are significant. In particular the coefficient of TG4 (37.83) is greater than the coefficient of Studio Aperto (29.77), which, in turn, is greater than the one that is associated with TG5 (19.98). The first two coefficients are smaller than the respective ones which are found by Durante and Knight, attesting a reduction of the bias for TG4 and Studio Aperto. On the other hand the coefficient of TG5 turns out to be greater than the respective one which is found by Durante and Knight. Thus the most impartial Mediaset station increased its bias towards the center-right coalition. Turning to the public channels, the coefficient on the interaction term for TG2 (7.381) is positive and significant, confirming the bias of this channel towards the center-right coalition. On the contrary the coefficient on the interaction term for TG3 (-7.509) is negative and significant, showing the evident bias of this channel towards the center-left coalition. Again these two coefficients (in particular the latter) are smaller in absolute value if compared to the ones found by Durante and Knight. Thus these two opposite kinds of biases diminished if compared to the past. Finally the coefficient on the interaction term of TG1 (3.646) turns out to be positive and significant at a 10% level, differently from what Durante and Knight found in their regression. This proves the slightly bias towards center-right coalition of TG1 over the

last decade. The coefficients on the dummy terms for La7 and Sky Television<sup>12</sup> turn out to be not significant. Hence there is no clear evidence of a media bias towards one of the two coalitions for these two specific stations.

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<sup>12</sup>The number of observations for Sky is inferior because the related AGCOM data start from 2009

Table 2(b): Distribution of total speaking time by channel

VARIABLES	Majority time
TG1	66.39*** (1.386)
Berlusconi_TG1	3.646* (1.886)
TG2	64.81*** (1.386)
Berlusconi_TG2	7.381*** (1.886)
TG3	63.40*** (1.386)
Berlusconi_TG3	-7.509*** (1.886)
TG4	49.46*** (1.386)
Berlusconi_TG4	37.83*** (1.886)
TG5	55.11*** (1.386)
Berlusconi_TG5	19.98*** (1.886)
Studio Aperto	48.98*** (1.386)
Berlusconi_Studio Aperto	29.77*** (1.886)
TGLa7	65.24*** (1.386)
Berlusconi_TGLa7	2.640 (1.886)
SkyTG24	69.51*** (1.386)
Berlusconi_SkyTG24	-0.552 (1.991)
Observations	584
R-squared	0.986

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

By comparing the coefficients of each programme, it is possible to collocate the stations in a media bias spectrum. Indeed, it is easy to notice that the Mediaset stations lean to the center-right if compared to all the other stations. In particular it is evident that TG4 turns out to be the most biased news programme towards the center-right coalition, followed by Studio Aperto and TG5. Then it is obvious that TG2 represents the most biased news programme towards the center-right coalition among the public channels, followed by TG1, SkyTG24 and La7 (the latter two programmes are collocated at the unbiasedness point 0 because their coefficients are not significant). Finally we can conclude that TG3 is the most biased news programme towards the center-left coalition. All this is depicted in the figure below, where each news programme is located according to its respective level of bias.

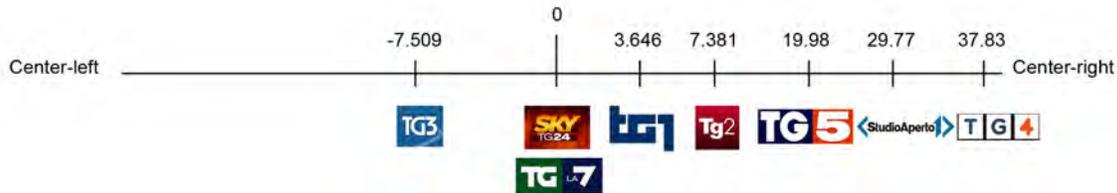


Figure 3(a). Media bias spectrum from 2008 to 2016

These distributions among the media bias spectrum are very similar to the ones found by Durante and Knight, which instead are represented in Figure 3(b). Indeed none of these stations modify enough their bias to take the political location of one of the competitors. However by observing the differences between my coefficients and the ones found by Durante and Knight, it is possible to derive important conclusions about the effects on the main Italian media outlets of the last political decade. Mediaset stations on aggregate reduced their bias towards Silvio Berlusconi, their controlling shareholder. On the other hand RAI stations on aggregate continued to favor in the same way the ruling coalition, regardless of which of the two governs the country. The most biased Mediaset news programmes (TG4 and Studio Aperto) shifted towards the center-left coalition in the political spectrum while the most impartial Mediaset channel, TG5, shifted slightly towards the center-right coalition. TG1 and TG3 shifted slightly towards the center-right coalition; TG2 shifted slightly towards the center-left coalition. La7 and Sky Television do not show any bias towards any political coalition.

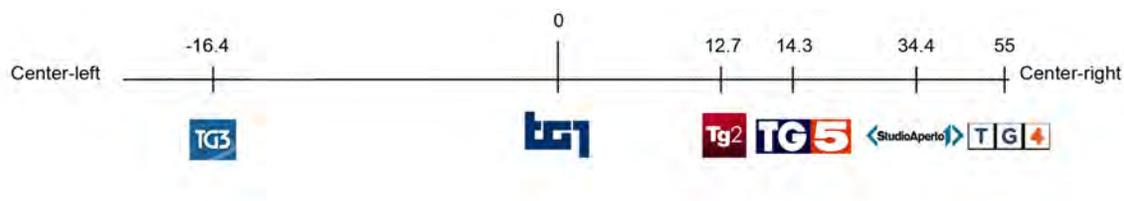


Figure 3(b). Media bias spectrum from 2001 to 2007 (Durante and Knight)

Let us discuss briefly our results. As various Italian commentators have stated, the arrival of the Renzi government, and in particular the arrival of Matteo Renzi as the new leader of the center-left coalition, shifted the entire center-left coalition towards the center of the political spectrum, opening up to a new ruling class. As a consequence, and in accordance with the simultaneous decline of Silvio Berlusconi as the leader of the center-right coalition, the television stations which had already been very biased towards the center-right coalition ended up in perceiving Matteo Renzi to be worthy of a more favorable coverage than former center-left leaders. These results may explain the reduction of the bias of TG4, Studio Aperto and TG2. On the other hand, to partially compensate the shift of the two other Mediaset programmes, TG5, which is the most impartial channel among the Mediaset ones, increased its bias towards the center-right coalition. Similarly this movement of the center-left coalition along the political spectrum explains the reduction of the bias of TG3 towards the center-left coalition; this station ended up in devoting less coverage to the new ruling class, which did not match its political leanings as it did in the past. Finally the two independent media outlets, La7 and Sky Television (which did not have any supply-driven reason to favour one specific coalition), simply decided to devote more speaking time to the winning parties of the last elections in order to maximize the audience by following the electoral trend and to follow the three thirds rule.

At this stage, I am going to weigh up the coefficients of media bias obtained in Tables 2(b) and 2(c) according to the average number of viewers which each news programme is able to reach. In this way, it is possible to sum up the values which are obtained in order to find an approximate measure of media bias of the whole Italian television market for news. To this purpose, I have gathered Nielsen Company's<sup>13</sup> (US) data on the Average Minute Rating (AMR), namely the average audience per minute which is obtained by each news station divided by the total of the population, considering the period from 2008 to 2016. The pie chart that is shown below divides the Italian market for news in eight slices, which represent

<sup>13</sup>Nielsen Holdings PLC (formerly known as Nielsen N.V.) is a global information, data, and measurement company with headquarters in the United States.

the relative importance of each news programme<sup>14</sup>. They can be interpreted as approximate measures of the market shares in this market, because they are obtained by dividing the total number of viewers reached by each news programme by the total number of viewers in the Italian television market for news.

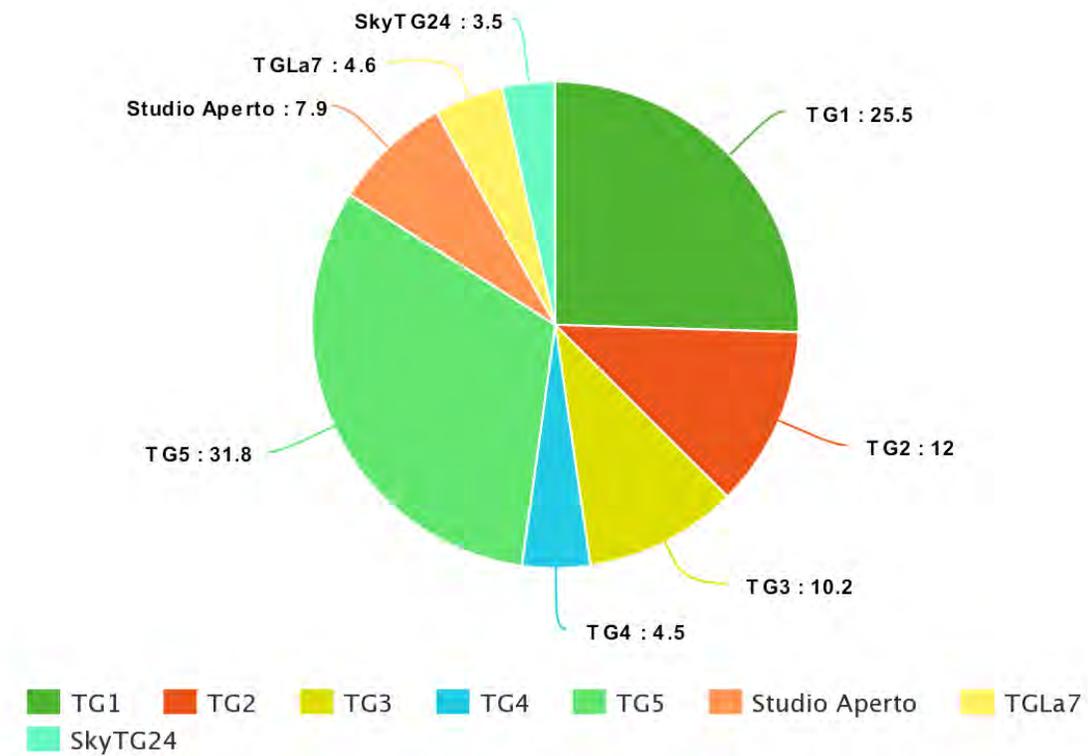


Diagram 1. Audience by channel from 2008 to 2016

We can observe that over the last eight years TG5 (31,8%) has been the most watched news programme in Italy. It is followed by TG1 (25,5%), which instead has been the most successful programme if compared to the other RAI programmes. By multiplying these values by the corresponding coefficient of station ideology, it is possible to derive the contribution  $w_i$  given by each programme to the overall bias of the market.

<sup>14</sup>In this analysis I considered all the editions of each news programme

N	Programme	Media bias	Audience	$w_i$
1	TG1	3,646	25,5%	0,92973
2	TG2	7,381	12%	0,88572
3	TG3	-7,509	10,2%	-0,765918
4	TG4	37,83	4,5%	1,70235
5	TG5	19,98	31,8%	6,35364
6	Studio Aperto	29,77	7,9%	2,35183
7	TGLa7	0	4,6%	0
8	SkyTG24	0	3,5%	0

It is easily observable that TG5 is the most capable news station at offering center-right biased content to a significant number of viewers. By summing up all these individual weights, it is possible to derive what I have called the Market Bias Indicator, namely a measure which shows whether and to what extent the overall Italian market for news has been biased over the last eight years.

$$\text{MBI (Market Bias Indicator)} = \sum_{i=1}^8 w_i = 11,457352$$

Therefore, we may conclude that the entire Italian television system has been biased towards the center-right coalition in the period mentioned above, devoting approximately 11% more speaking time to the majority under the Berlusconi government.

## 5.2 Optimal television policy

At this stage I am going to investigate the news programmes which mostly preserve political pluralism, particularly focussing on those television stations which are mostly in compliance with the three thirds rule presented in Section 4. To this purpose, I am going to impose linear restrictions on my regression coefficients (Tables 2(b) and 2(c)) in order to understand whether and to what extent each station significantly departed from the three thirds rule. In other words, I am going to impose the majority speaking time devoted on average by each station equal to 66,6%, under both the Berlusconi and Renzi governments. The results of these Wald tests are represented below.

$$\begin{aligned} (\text{TG1}) \text{ TG1} + \text{Berlusconi\_TG1} &= 66.6 \\ F(1, 432) &= 6.95 \text{ Prob } \leq F = 0.0087 \end{aligned}$$

$$(TG1) \text{ TG1} = 66.6$$

$$F(1, 432) = 0.02 \text{ Prob } \hat{c} F = 0.8798$$

$$(TG2) \text{ TG2} + \text{Berlusconi\_TG2} = 66.6$$

$$F(1, 432) = 18.47 \text{ Prob } \hat{c} F = 0.0000$$

$$(TG2) \text{ TG2} = 66.6$$

$$F(1, 432) = 1.60 \text{ Prob } \hat{c} F = 0.2067$$

$$(TG3) \text{ TG3} + \text{Berlusconi\_TG3} = 66.6$$

$$F(1, 432) = 67.62 \text{ Prob } \hat{c} F = 0.0000$$

$$(TG3) \text{ TG3} = 66.6$$

$$F(1, 432) = 5.13 \text{ Prob } \hat{c} F = 0.0241$$

$$(TG4) \text{ TG4} + \text{Berlusconi\_TG4} = 66.6$$

$$F(1, 432) = 252.44 \text{ Prob } \hat{c} F = 0.0000$$

$$(TG4) \text{ TG4} = 66.6$$

$$F(1, 432) = 147.38 \text{ Prob } \hat{c} F = 0.0000$$

$$(TG5) \text{ TG5} + \text{Berlusconi\_TG5} = 66.6$$

$$F(1, 432) = 42.53 \text{ Prob } \hat{c} F = 0.0000$$

$$(TG5) \text{ TG5} = 66.6$$

$$F(1, 432) = 66.25 \text{ Prob } \hat{c} F = 0.0000$$

$$(\text{Studio Aperto}) \text{ Studio Aperto} + \text{Berlusconi\_Studio Aperto} = 66.6$$

$$F(1, 432) = 87.20 \text{ Prob } \hat{c} F = 0.0000$$

$$(\text{Studio Aperto}) \text{ Studio Aperto} = 66.6$$

$$F(1, 432) = 155.60 \text{ Prob } \hat{c} F = 0.0000$$

$$(TGLa7) \text{ Berlusconi} + \text{Constant} = 66.6$$

$$F(1, 72) = 1.05 \text{ Prob } \hat{c} F = 0.3099$$

$$(TGLa7) \text{ Constant} = 66.6$$

$$F(1, 72) = 1.00 \text{ Prob } \hat{c} F = 0.3213$$

$$(\text{SkyTG24}) \text{ Berlusconi} + \text{Constant} = 66.6$$

$$F(1, 64) = 3.45 \text{ Prob } \hat{c} F = 0.0679$$

$$\begin{aligned} & (\text{SkyTG24}) \text{ Constant} = 66.6 \\ & F(1, 64) = 5.58 \text{ Prob } \leq F = 0.0212 \end{aligned}$$

We observe that, as far as most of the programmes are concerned, the null hypothesis (majority speaking time = 66,6%) is significantly rejected (at a 5% level), except for TG1, TG2 under the Renzi government, for SkyTG24 under the Berlusconi government and for TGLa7 under both the governments. As a consequence, we have to infer that these programmes devoted on average exactly the 66,6% of the total speaking time to the majority during the periods mentioned above. Hence, we are finally ready to see which programmes have mostly respected the three thirds rule over the last eight years. To this purpose I am going to use Figure 4(a) and Figure 4(b), which distribute along a spectrum the majority speaking time devoted on average by each station under the Berlusconi government and the Renzi government. These values are simply obtained by summing up the coefficients of Tables 2(b) and 2(c) according to the channel and the period considered<sup>15</sup>.



Figure 4(a). The three thirds rule under the Berlusconi government

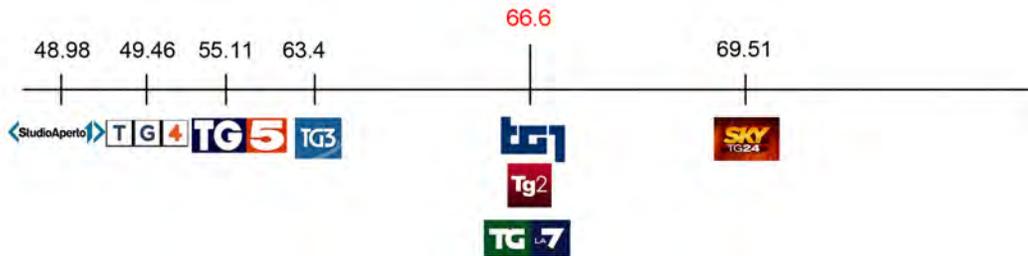


Figure 4(b). The three thirds rule under the Renzi government

We can notice that under the Berlusconi government the news programmes which mostly followed the three thirds rule are the two unbiased programmes TGLa7 and SkyTG24: they devoted on average the 66,6% of the total speaking time to the majority. Then TG1, TG2, TG5, TG3, Studio Aperto and TG4 follow, ranked in order from the closest to

<sup>15</sup>This does not apply to the programmes which do not reject the null hypothesis of the Wald test. Indeed, they should be located in correspondence of the 66,6%

the farthest, considering the optimal threshold (66,6%) of the three thirds rule. By making the same comparison under the Renzi government (Figure 4(b)), it turns out that TG1, TG2 and TGLa7 were the closest programmes to give to the majority the 66,6% of the total speaking time according to the Wald tests performed before. TGLa7 does not show differences between the two periods, due to the fact that its interaction term of media bias is not significant and it rejected the Wald test performed before<sup>16</sup>. Finally we can observe SkyTG24 (69,51%), TG3 (63.4%), TG5 (55.11%), TG4 (49.46%) and Studio Aperto (48.98%).

We have assumed so far that the three thirds rule represents the optimal principle which guarantees impartial television policy and political pluralism. Some may argue that a different policy, namely one that devotes the same percentage of speaking time to the majority and to the opposition (50% and 50%), would be a more balanced rule. To answer these objections, I am going to analyze those stations which mostly ensured political pluralism by sticking to this 50% procedure which I am going to call 50% rule. Again, before building the spectrum of the 50% optimal television policy, I am going to test whether all these programmes have devoted to the majority the 50% of their total speaking time. The results of these Wald tests applied on both governments are reported below.

$$\begin{aligned} & \text{(TG1) TG1 + Berlusconi\_TG1} = 50 \\ & F(1, 432) = 236.73 \text{ Prob } \chi^2 F = 0.0000 \end{aligned}$$

$$\begin{aligned} & \text{(TG1) TG1} = 50 \\ & F(1, 432) = 134.64 \text{ Prob } \chi^2 F = 0.0000 \end{aligned}$$

$$\begin{aligned} & \text{(TG2) TG2 + Berlusconi\_TG2} = 50 \\ & F(1, 432) = 290.61 \text{ Prob } \chi^2 F = 0.0000 \end{aligned}$$

$$\begin{aligned} & \text{(TG2) TG2} = 50 \\ & F(1, 432) = 110.04 \text{ Prob } \chi^2 F = 0.0000 \end{aligned}$$

$$\begin{aligned} & \text{(TG3) TG3 + Berlusconi\_TG3} = 50 \\ & F(1, 432) = 20.49 \text{ Prob } \chi^2 F = 0.0000 \end{aligned}$$

$$\begin{aligned} & \text{(TG3) TG3} = 50 \\ & F(1, 432) = 90.08 \text{ Prob } \chi^2 F = 0.0000 \end{aligned}$$

$$\begin{aligned} & \text{(TG4) TG4 + Berlusconi\_TG4} = 50 \\ & F(1, 432) = 820.15 \text{ Prob } \chi^2 F = 0.0000 \end{aligned}$$

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<sup>16</sup>SkyTG24, instead, according to the Wald tests, should be located in correspondence of the 66,6% under the Berlusconi government and in correspondence for the 69.51% under the Renzi government, despite the fact that its interaction term is not significant.

(TG4) TG4 = 50

$F(1, 432) = 0.15$  Prob  $\chi^2 F = 0.7003$

(TG5) TG5 + Berlusconi\_TG5 = 50

$F(1, 432) = 371.37$  Prob  $\chi^2 F = 0.0000$

(TG5) TG5 = 50

$F(1, 432) = 13.07$  Prob  $\chi^2 F = 0.0003$

(Studio Aperto) Studio Aperto + Berlusconi\_Studio Aperto = 50

$F(1, 432) = 487.86$  Prob  $\chi^2 F = 0.0000$

(Studio Aperto) Studio Aperto = 50

$F(1, 432) = 0.52$  Prob  $\chi^2 F = 0.4724$

(TGLa7) Berlusconi + Constant = 50

$F(1, 72) = 203.41$  Prob  $\chi^2 F = 0.0000$

(TGLa7) Constant = 50

$F(1, 72) = 125.61$  Prob  $\chi^2 F = 0.0000$

(SkyTG24) Berlusconi + Constant = 50

$F(1, 64) = 223.33$  Prob  $\chi^2 F = 0.0000$

(SkyTG24) Constant = 50

$F(1, 64) = 251.31$  Prob  $\chi^2 F = 0.0000$

We can notice that, as far as most of the programmes are concerned, the null hypothesis (majority speaking time = 50%) is significantly rejected (at a 5% level), except for TG4 and Studio Aperto under the Renzi government, which therefore should be located in correspondence of the 50% in Figure 5(b). Now we are going to put all the programmes along the optimal policy spectra related to the Berlusconi and the Renzi governments.

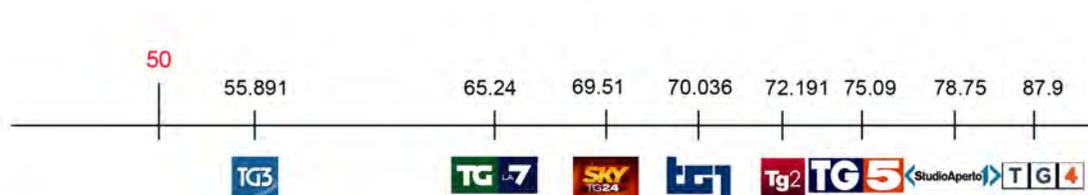


Figure 5(a). The 50% rule under the Berlusconi government

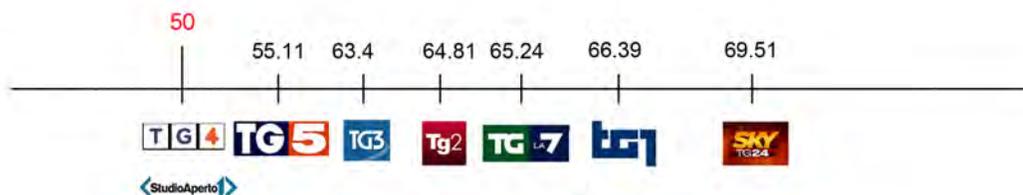


Figure 5(b). The 50% rule under the Renzi government

Figure 5(a) shows that under the Berlusconi government the closest programme to the 50% threshold is TG3 (55.89%). Next are the two unbiased programmes TGLa7 and SkyTG24, followed by the two other public stations, TG1 and TG2, with their respective 70.03% and 72.19% share of total speaking time. Finally we can observe the Mediaset stations, TG5, Studio Aperto and TG4, which devoted on average the 75.09%, the 78.75% and the 87.29% of the total speaking time to the Berlusconi majority. By shifting to the Renzi sample (Figure 5(b)), we already saw that the Mediaset programmes distributed the speaking time between the two coalitions in a more balanced way. In particular we can see that TG4 and Studio Aperto are exactly located in the centre, because the F-statistics of their Wald tests cannot be rejected. TG5 follows immediately, while all the other programmes are quite distant from the 50% benchmark. In particular we firstly encounter TG3, then TG2, TGLa7, TG1 and SkyTG24. These data show that optimal target criteria for television policies, together with the changes of the current ruling coalitions, may generate different outcomes in terms of political pluralism.

Now I am going to use the market shares of the Italian television market for news, which I presented in Section 5.1, in order to investigate deeper the optimal television policy issue for the two main aggregate television groups: Mediaset and RAI. According to these values, we are going to weigh the majority speaking time devoted on average by each RAI and Mediaset news programme under both the Berlusconi and the Renzi government. I am also going to compare the aggregate results concerning the two television groups with those obtained in Table 2(a). The latter, by contrast, do not take into account any differences in terms of audience among programmes. Before doing this, though, we need to derive the market shares each news programme holds inside its television group.

Total market (for news) shares of RAI =  $29,8 + 10,17 + 11,63 = 51,6$

Total market (for news) shares of Mediaset =  $25,45 + 8,92 + 4,89 = 39,26$

TG1 relative market share =  $29,8/51,6 = 0,5775$   
 TG2 relative market share =  $10,17/51,6 = 0,197$   
 TG3 relative market share =  $11,63/51,6 = 0,2254$   
 TG4 relative market share =  $4,89/39,26 = 0,1245$   
 TG5 relative market share =  $25,45/39,26 = 0,6482$   
 Studio Aperto relative market share =  $8,92/39,26 = 0,2272$

We can observe that TG1 holds about the 58% of the RAI market shares in the Italian market for news, while TG2 the 20% and TG3 the 22%. As far as the Mediaset stations are concerned, TG5 holds the 65%, of the Mediaset market shares in the Italian market for news, TG4 the 12% and Studio Aperto the 23%. Finally we are ready to use these information in order to compute the weighted aggregate majority speaking time devoted by RAI and Mediaset under both the Berlusconi and the Renzi governments.

TG1 (Berlusconi) =  $70,036 \times 0,5775 = 40,45$   
 TG1 (Renzi) =  $66,39 \times 0,5775 = 38,34$

TG2 (Berlusconi) =  $72,191 \times 0,197 = 14,22$   
 TG2 (Renzi) =  $64,81 \times 0,197 = 12,77$

TG3 (Berlusconi) =  $55,891 \times 0,2254 = 12,6$   
 TG3 (Renzi) =  $63,4 \times 0,2254 = 14,29$

TG4 (Berlusconi) =  $87,29 \times 0,1245 = 10,87$   
 TG4 (Renzi) =  $49,46 \times 0,1245 = 6,16$

TG5 (Berlusconi) =  $75,09 \times 0,6482 = 48,67$   
 TG5 (Renzi) =  $55,11 \times 0,6482 = 35,72$

Studio Aperto (Berlusconi) =  $78,75 \times 0,2272 = 17,89$   
 Studio Aperto (Renzi) =  $48,98 \times 0,2272 = 11,13$

RAI (Berlusconi) =  $40,45 + 14,22 + 12,6 = 67,27$   
 RAI (Renzi) =  $38,34 + 12,77 + 14,29 = 65,4$

$$\text{Mediaset (Berlusconi)} = 10,87 + 48,67 + 17,89 = 77,43$$

$$\text{Mediaset (Renzi)} = 6,16 + 35,72 + 11,13 = 53,01$$

We can notice that the RAI group does not show substantial differences between the speaking time devoted to the Berlusconi majority and to the Renzi majority. Indeed, this television group remains an overall unbiased network, as we found out in Table 2(a). In practice, the biases of TG2 and TG3 almost compensate each other, while TG1 does not behave differently between the two governments. On the other hand, the limited audiences reached by TG4 and Studio Aperto (the two most biased programmes towards the center-right coalition) make their contribution to the overall bias of the Mediaset group less consistent if compared to the TG5 bias. As a result, the Mediaset group turns out to be less biased towards the center-right coalition if compared with the results of Table 2(a), although its partiality remains remarkable ( $77,43 - 53,01 = 24,42$ ).

### 5.3 Relative shift of station ideology

The main weakness of the measure which I have used so far is the fact that it is not able to catch the shifts of the controlling party of the main public channel (TG1). In order to consider this aspect, Durante and Knight propose a relative time-varying measure of station ideology which estimate the changes in news content of the public network according to the changes of its political control. To this purpose they regress the speaking time which is devoted to the center-right coalition (and not to the majority) on group dummies and interaction terms with the usual dummy for Berlusconi as head of the government. In this case the interaction term coefficient provides a measure of the way a station modified the coverage of the center-right coalition with Berlusconi as head of the government, namely with Berlusconi controlling both the private and the public channels. In particular they omit the key coefficients for one station (TG1) in order to interpret the results in comparison with the shift of the coverage of the omitted station. In other words this measure of station ideology captures the changes in the relative positions on the political spectrum but, unlike the other measure, it is not able to demonstrate if a station is definitely biased towards the center-left coalition or the center-right coalition. By doing so, they find out that under the Berlusconi government the Mediaset stations shifted less their coverage of the center-right coalition if compared to RAI, supporting the idea that the news content of TG1 varies according to the changes of the RAI director-manager. On the other hand my paper tries to conduct this analysis by regressing the time which is devoted to the center-left coalition on group

dummies and interaction terms with a dummy for Renzi<sup>17</sup> as head of the government in order to understand which stations mostly changed their coverage of the center-left coalition with the rise of the Renzi government.

Firstly I am going to conduct my analysis for the Mediaset channels on aggregate, omitting the coefficients for RAI in order to understand how Mediaset stations change their coverage of the center-left coalition in comparison with the public network. The output is shown in Table 3(a).

Table 3(a): Distribution of total speaking time by group

VARIABLES	Center Left
Renzi	30.91*** (1.278)
Mediaset	-14.34*** (1.225)
Renzi_Mediaset	0.652 (1.808)
Constant	33.96*** (0.866)
Observations	444
R-squared	0.766

Standard errors in parentheses

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

The coefficient on the interaction term Renzi\_Mediaset is positive. This means that, under the Renzi government, Mediaset shifted more its coverage of the center-left coalition in comparison with the public network. Thus despite the fact that TG1 shifted its ideological position from the center-right coalition to the center-left coalition, Mediaset stations shifted mostly their media content towards the center-left coalition, reflecting the political support that Matteo Renzi received from Silvio Berlusconi during Renzi's first period as head of the government, when several reforms were written and voted together in the parliament by the two coalitions. Unfortunately the interaction term turns out to be not significant, probably meaning that the shift of the ideological position of the public network affects exclusively TG1, as Durante and Knight justify about their not significant interaction term. In order to analyze deeper this heterogeneity of coverage within the two main broadcasting companies, I am going to regress the time which is devoted to the center-left coalition on group dummies

<sup>17</sup>This dummy variable takes value 1 from March 2014 to December 2016 and value 0 otherwise.

and interaction terms for each RAI and Mediaset station. I am going to omit the coefficients of TG4 in order to interpret the interaction terms as the shift in the speaking time which is devoted to the center-left coalition by each channel in comparison with the shift in the speaking time which is devoted to the center-left coalition by TG4. Table 3(b) displays the results.

Table 3(b): Distribution of total speaking time by channel

VARIABLES	Center Left
Renzi	36.74*** (1.886)
TG1	17.25*** (1.808)
Renzi.TG1	-0.324 (2.667)
TG2	15.09*** (1.808)
Renzi.TG2	0.267 (2.667)
TG3	31.39*** (1.808)
Renzi.TG3	-17.45*** (2.667)
TG5	12.20*** (1.808)
Renzi.TG5	-6.546** (2.667)
StudioAperto	8.529*** (1.808)
Renzi.StudioAperto	-9.000*** (2.667)
TGLa7	19.40*** (1.808)
Renzi.TGLa7	-3.618 (2.667)
SkyTG24	18.33*** (1.917)
Renzi.SkyTG24	1.719 (2.742)
Constant	12.71*** (1.278)
Observations	584
R-squared	0.838

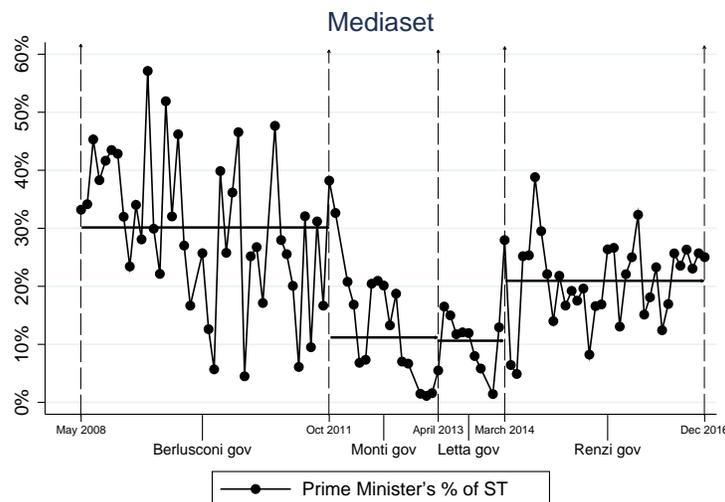
Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

All the coefficients on the interaction terms are negative, except for TG2 (0.267) and

SkyTG24 (1.719). This means that with the arrival of the Renzi government TG4, TG2 and SkyTG24 were the stations which moved mostly to the left in comparison with all the other stations. In other words we can state that the political distance between TG4 (the most biased channel towards the center-right coalition according to the first part of the paper) and most of the other stations is shortened. In particular these results are significant if we compare TG4 with TG3, TG5 and Studio Aperto. Most interestingly, under the Renzi government, the two most biased channels towards the center-right among their respective television group TG4 and TG2 shifted mostly their news contents towards the new majority, even more than the public programme TG1 which generally changes its political orientation according to changes in the ruling coalition.

### 5.4 Prime Minister and members of the government

At this stage I think it is interesting to analyze the way each station distributed its speaking time among the different members of the government in order to understand which are the main forces driving the media bias of the various programmes. In order to do this, I am going to compare the amount of speaking time which is devoted by each channel and group to the head of the government under the Berlusconi government (from May 2008 to November 2011), the Monti government (from November 2011 to April 2013), the Letta government (from April 2013 to February 2014) and the Renzi government (from March 2014 to December 2016).



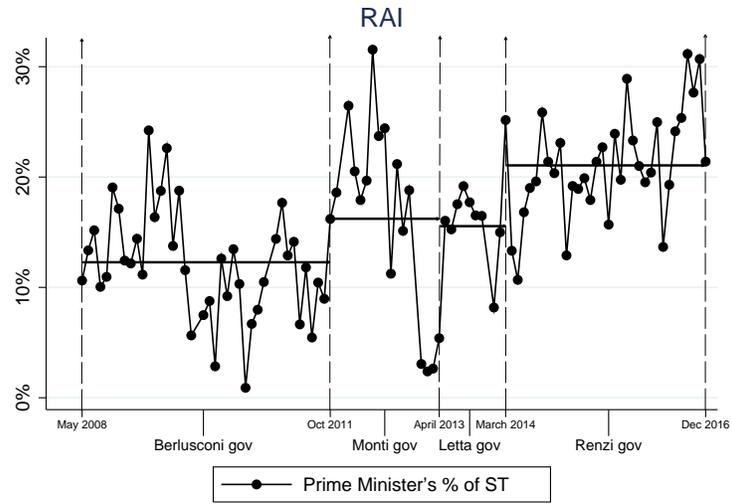
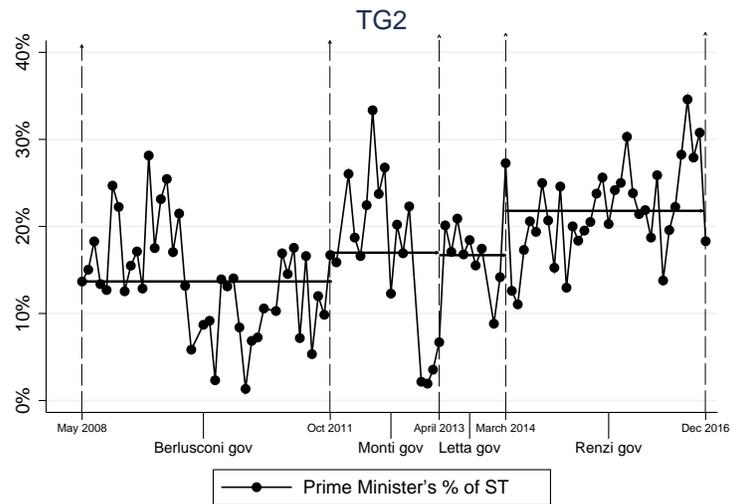
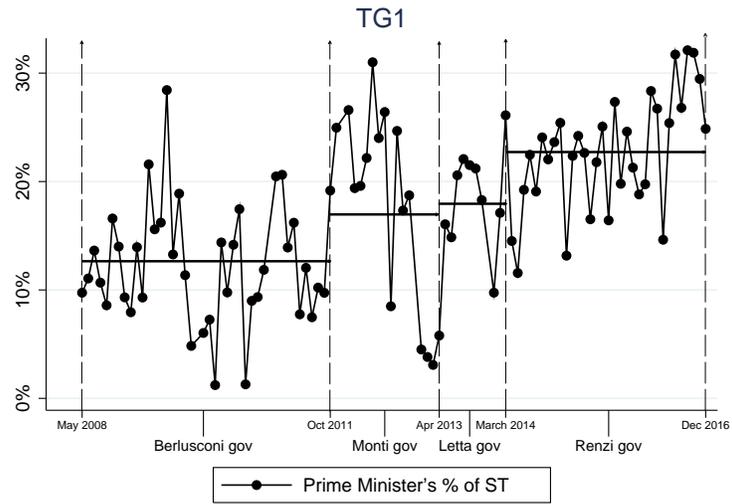
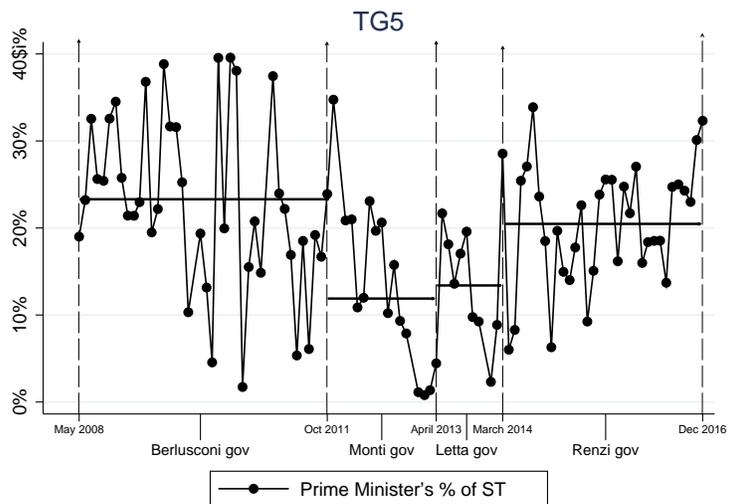
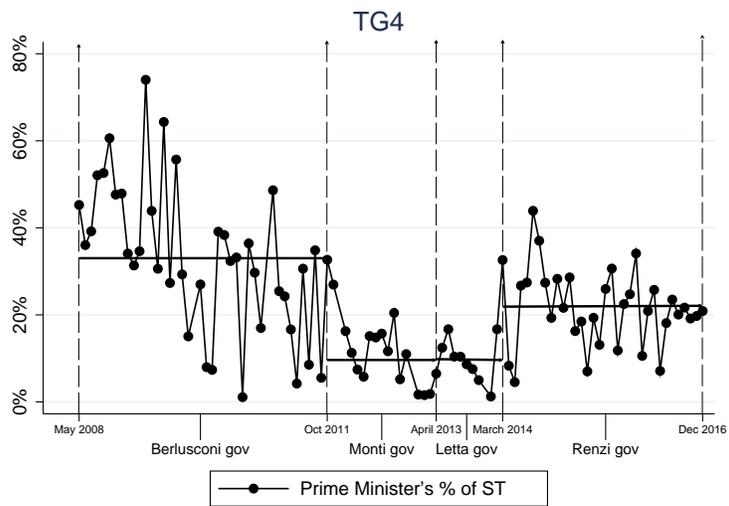
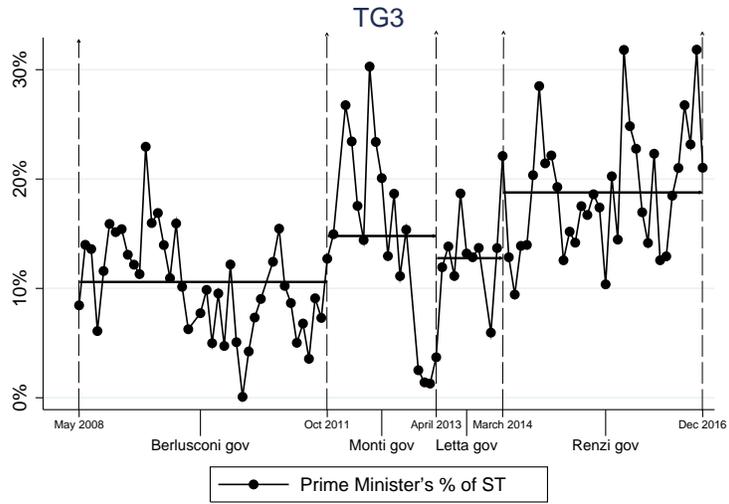


Figure 6(a). Prime Minister share of total time by group





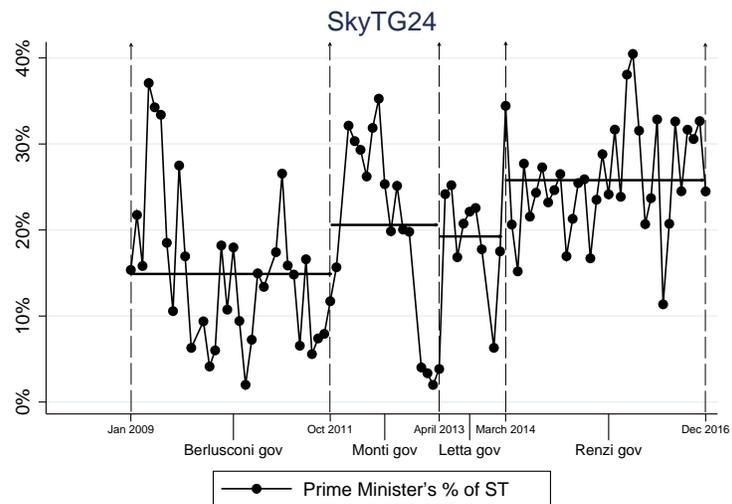
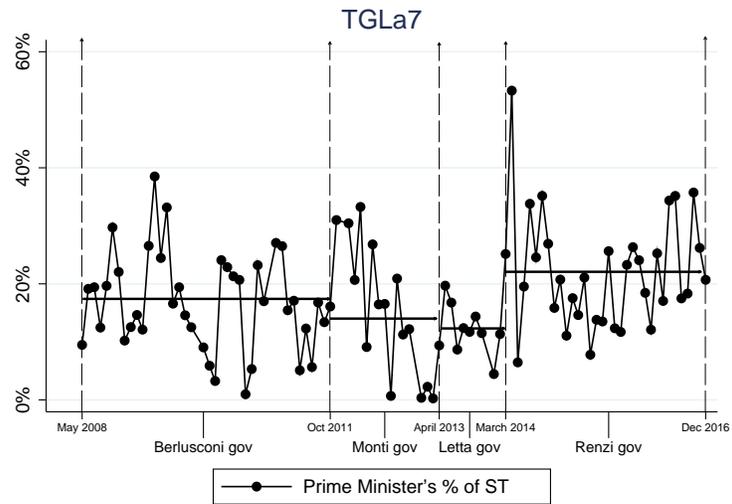
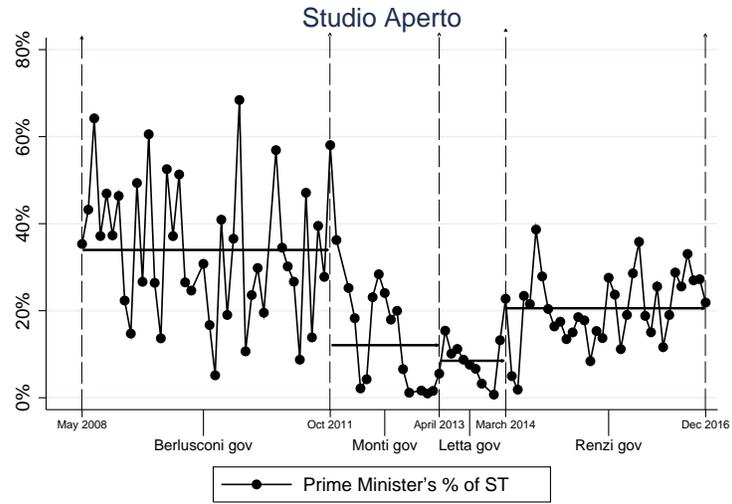


Figure 6(b). Prime Minister share of total time by channel

Despite the fact that the Letta government was supported even by the center-right coalition, it appears obvious that Matteo Renzi received definitely more coverage than his predecessor in the Mediaset stations. In addition the Mediaset programmes devoted to Matteo Renzi more coverage if compared to Mario Monti who, when he was head of the government, received approximately the same coverage of Enrico Letta. Only Silvio Berlusconi received more coverage than Matteo Renzi in all the Mediaset programmes because of obvious supply bias reasons. By shifting to the public network, we can notice that Silvio Berlusconi is the head of the government who received less coverage if compared to the last four heads of government. On the contrary it is Matteo Renzi who received more coverage if compared to the last four heads of government. A similar pattern can be observed for SkyTG24 and TGLa7, even if these stations devoted more airtime to Silvio Berlusconi if compared to Monti and Letta. These data confirm the personalistic approach of Matteo Renzi as head of the government, but I am going to look deeper into this issue by regressing the speaking time devoted to the Prime Minister, the other members of the government and the major party of each coalition (Forza Italia/PDL under the Berlusconi government, PD under the Renzi government) by each station. I am going to use group dummies and interaction terms, applying the dummy for the Renzi government. The results are shown below, in Table 4.

Table 4: Distribution of total speaking time by channel

VARIABLES	Prime Minister	Members of the government	Majority Party
TG1	12.36*** (1.450)	26.86*** (1.161)	20.42*** (1.342)
Renzi_TG1	10.40*** (2.139)	-6.907*** (1.712)	-1.171 (1.980)
TG2	13.81*** (1.450)	28.28*** (1.161)	19.19*** (1.342)
Renzi_TG2	7.995*** (2.139)	-10.25*** (1.712)	0.156 (1.980)
TG3	10.40*** (1.450)	15.20*** (1.161)	19.53*** (1.342)
Renzi_TG3	8.481*** (2.139)	-1.590 (1.712)	6.294*** (1.980)
TG4	33.06*** (1.450)	16.47*** (1.161)	33.77*** (1.342)
Renzi_TG4	-11.38*** (2.139)	-10.34*** (1.712)	-14.46*** (1.980)
TG5	22.95*** (1.450)	24.86*** (1.161)	19.59*** (1.342)
Renzi_TG5	-2.353 (2.139)	-15.21*** (1.712)	1.335 (1.980)
Studio Aperto	34.02*** (1.450)	21.44*** (1.161)	17.65*** (1.342)
Renzi_Studio Aperto	-13.52*** (2.139)	-14.98*** (1.712)	1.704 (1.980)
TGLa7	16.91*** (1.450)	21.21*** (1.161)	19.00*** (1.342)
Renzi_TGLa7	5.006** (2.139)	-5.491*** (1.712)	6.045*** (1.980)
SkyTG24	15.04*** (1.621)	24.99*** (1.298)	18.73*** (1.500)
Renzi_SkyTG24	10.83*** (2.259)	-6.357*** (1.808)	2.781 (2.090)
Observations	584	584	584
R-squared	0.853	0.877	0.869

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

We can observe that TG1 devoted more speaking time to the head of the government under the Renzi government (the interaction term is positive and significant), while it devoted more speaking time to the other members of the Berlusconi government. On the other hand the coefficient about the major party turns out to be not significant, meaning that TG1 did not make distinctions between the airtime which was given either to Forza Italia or PD when each of these was the major party of the coalition elected. Even TG2 shows a positive coefficient on the interaction term of the Prime Minister, thus devoting more airtime to Matteo Renzi as head of the government rather than to Silvio Berlusconi. However this is again compensated by the fact that TG2 devotes more airtime to the other members of the Berlusconi government rather than to the other members of the Renzi government. TG3 devoted more time to Matteo Renzi than Berlusconi, but it does not show any differences in the airtime which regards the respective other members of the two different governments. In this case, however, TG3 shows evidence of devoting more speaking time to the major party when dealing with the center-left coalition, which is consistent with the fact that TG3 is biased towards center-left coalition. By shifting to Mediaset, we can notice that TG4 constantly favoured the Berlusconi government in all possible ways. Not only did it devote more speaking time both to the head of the government and to the other members of the government, but it also devoted more time to Forza Italia as major party. As far as TG5 is concerned, evidence shows that it favoured the members of the government under the Berlusconi government by devoting them more speaking time. Indeed, according to the interaction term about the head of the government, TG5 does not seem to favour either Berlusconi or Renzi. As for Studio Aperto, it favoured Berlusconi through the speaking time which was devoted to the head of the government and to the other members of the government. By conducting this analysis for TGLa7 and SkyTG24, we find out that both stations devoted more speaking time to Renzi rather than Berlusconi and both devoted more speaking time to the other members of the government with Berlusconi head of the government (Table 5(a) and Table 5(b)).

Therefore we can sum up by saying that Matteo Renzi generally receives more airtime as head of the government by all the stations (except Mediaset stations) if compared with Silvio Berlusconi. Conversely the members of the Renzi government received less speaking time than the members of the Berlusconi government from all the television stations. In particular these results are also consistent for the two unbiased stations (La7 and Sky Television). This explains the main differences between the two governments which are considered. On the one hand the Berlusconi government was an expression of a center-right ideology which was supported by several parties and political actors, aside from Forza Italia and Berlusconi. On the other hand the Renzi government was more centered on the strong and charismatic

figure of its new center-left leader.

## 5.5 President of the Italian Republic

In this section I am going to focus on the speaking time which was devoted to the Italian President of the Republic taking into account each television station and each television company. As already stated in section 5.1, the President of the Republic plays an impartial institutional role and this is the reason why the television speaking time devoted to this political figure cannot be considered into the majority or the opposition aggregate measure of speaking time analyzed before.

The Italian President of the Republic is elected every seven years by an electoral college which comprises both the two chambers of Parliament meeting in joint session. A two-thirds vote is required to elect the President of the Republic on any of the first three rounds of balloting. After that, a simple majority is sufficient. Therefore such an institutional role depends less on the ruling coalition, if compared to other offices. However this paper is going to show graphically that some supply-driven factors may also influence the speaking time devoted to the President of the Republic, especially when this figure has a burdened political past, which therefore must be taken into account.

The 11th President of the Republic, Giorgio Napolitano, was elected on 10 May 2006 and on 20 April 2013 he was the first president to be elected to a second term. Although the presidency is a nonpartisan office a guarantor of the constitution Giorgio Napolitano had been a longtime member of the Italian Communist Party. On the other hand, the 12th and incumbent President of the Republic Sergio Mattarella, was elected on January 2015, after a career as a constitutional judge. Figures 7 show the way the speaking time devoted to the President of the Republic has been distributed by each station and each company over the last eight years.

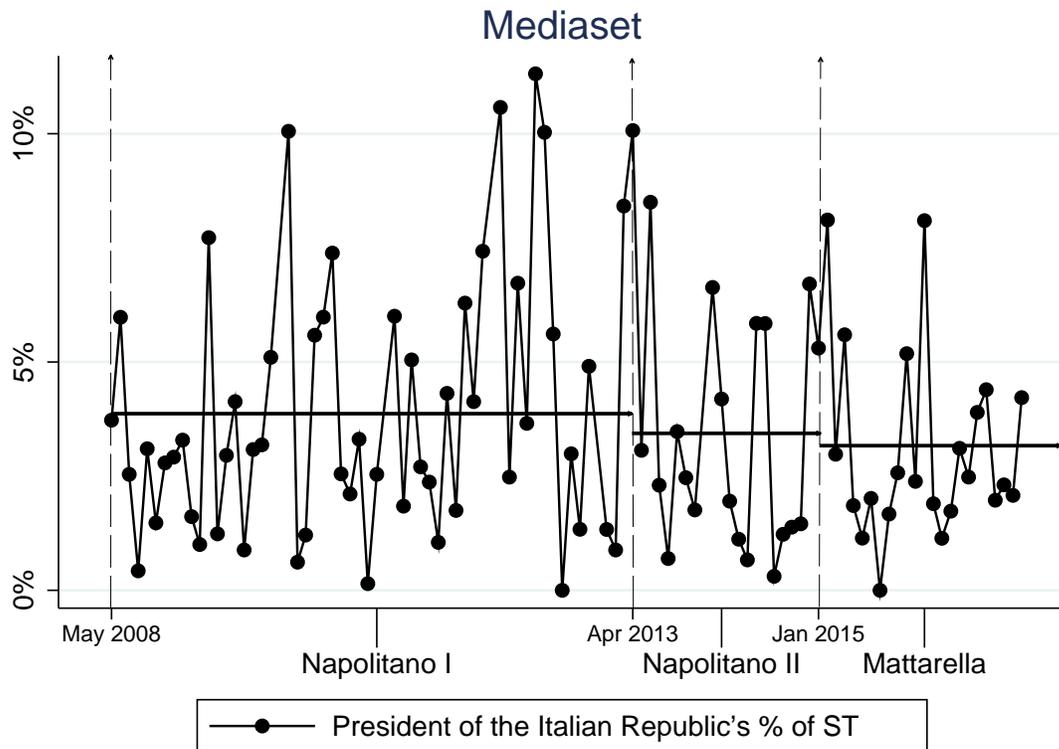
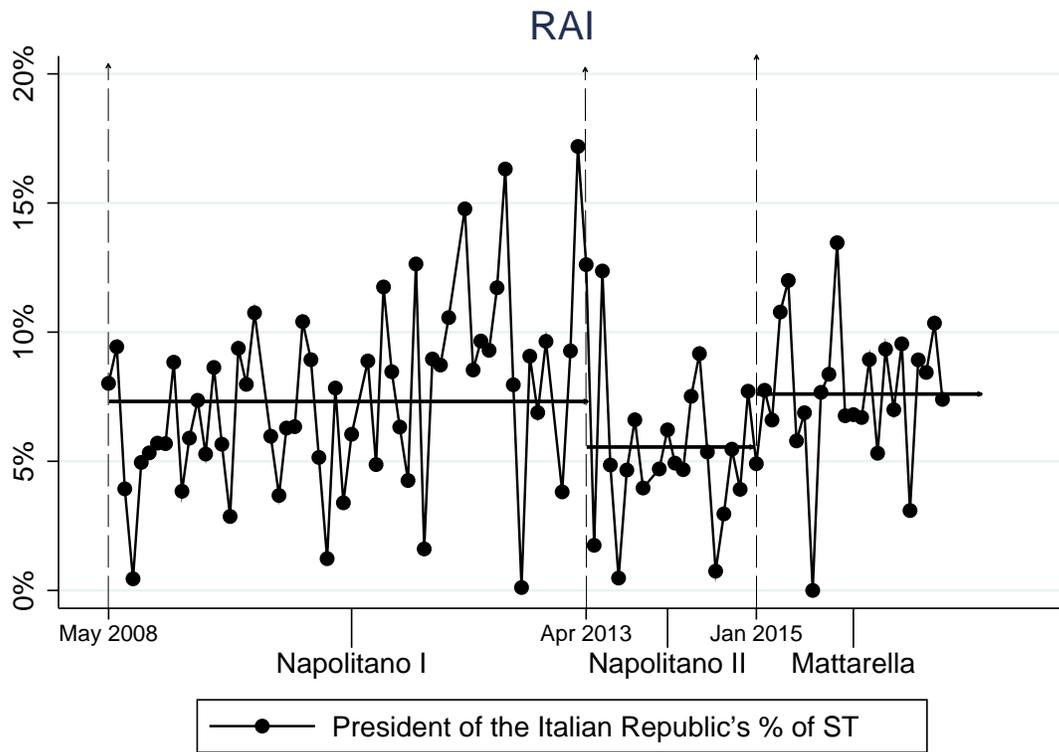
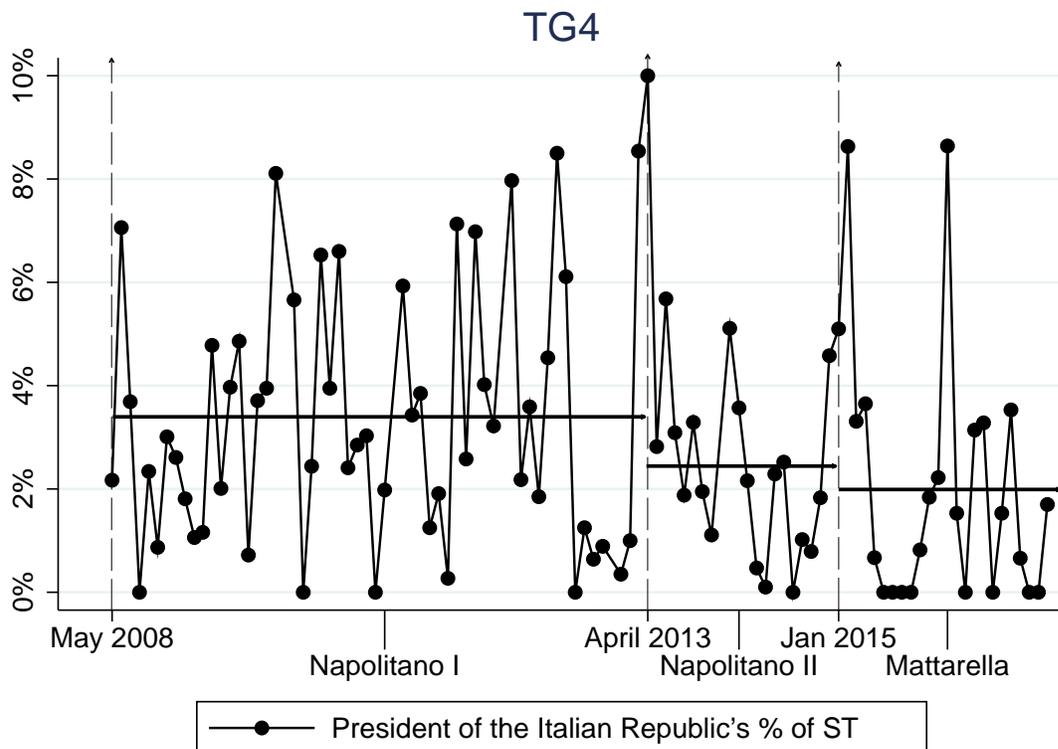
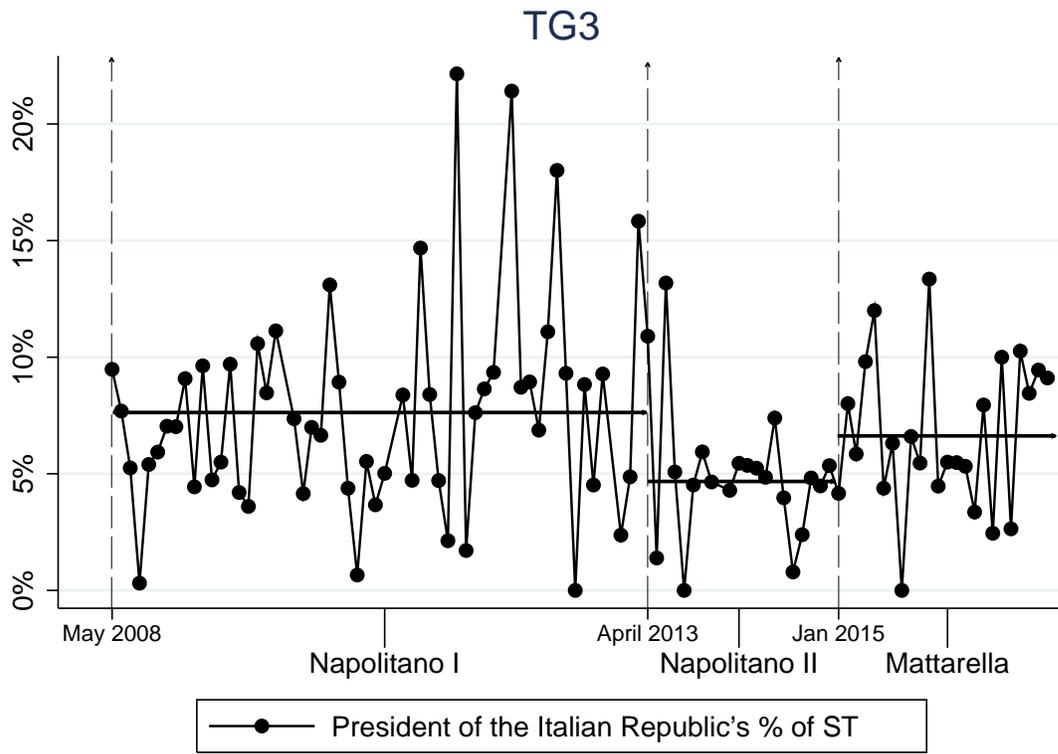
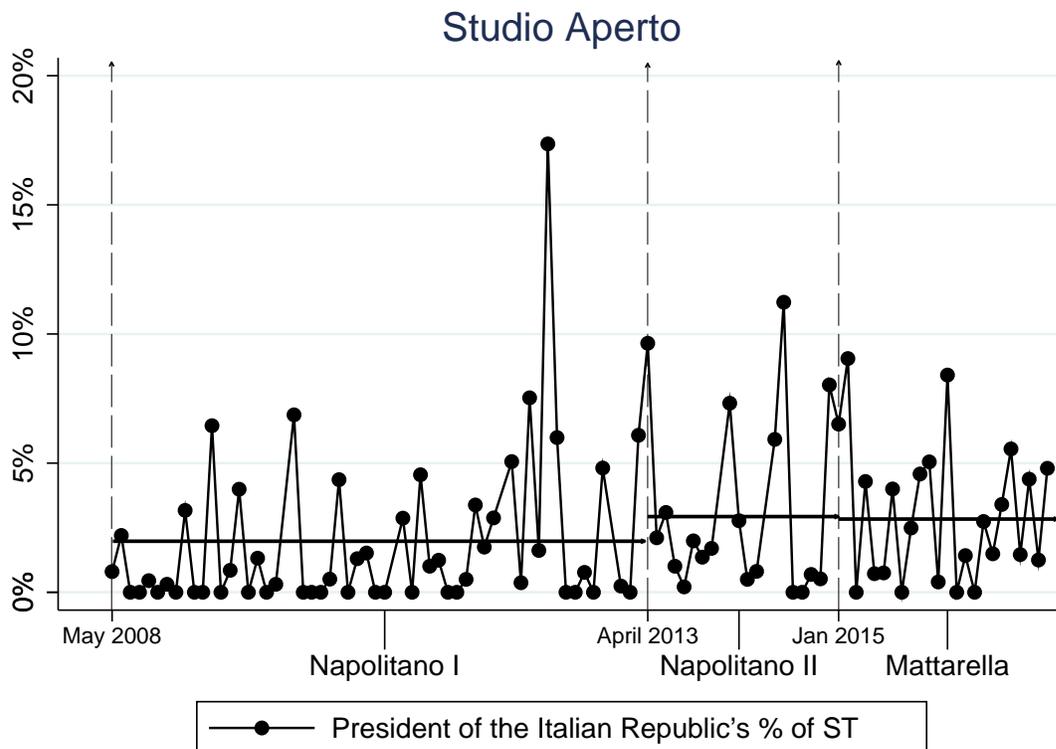
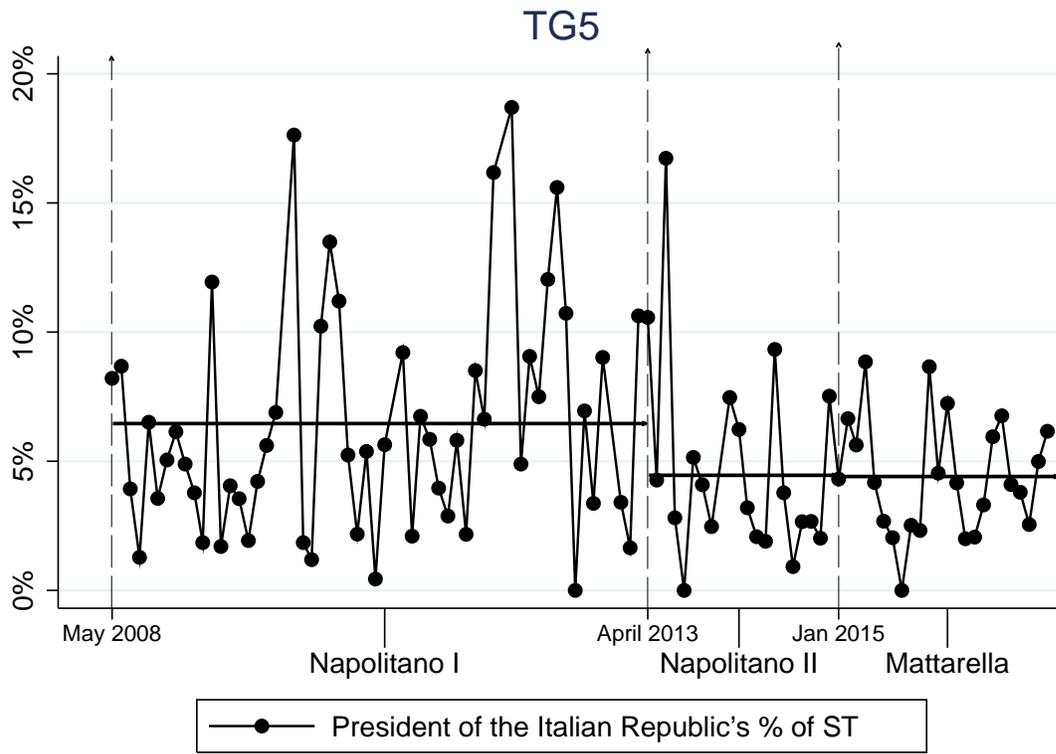


Figure 7(a) President of the Italian Republic speaking time by group







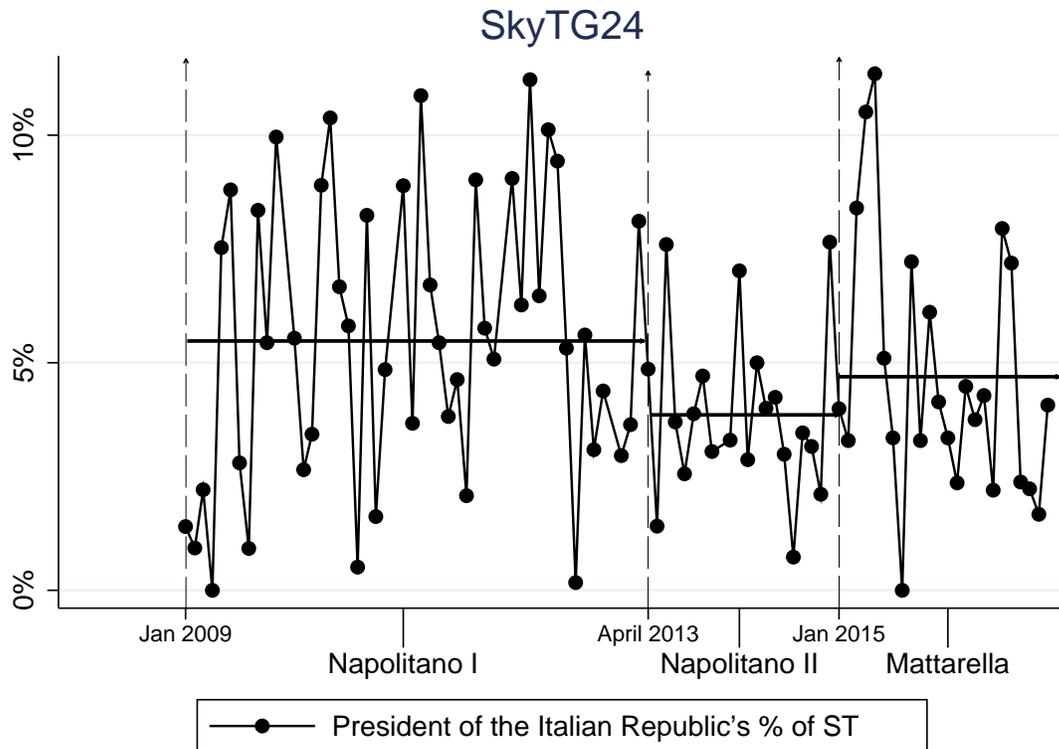
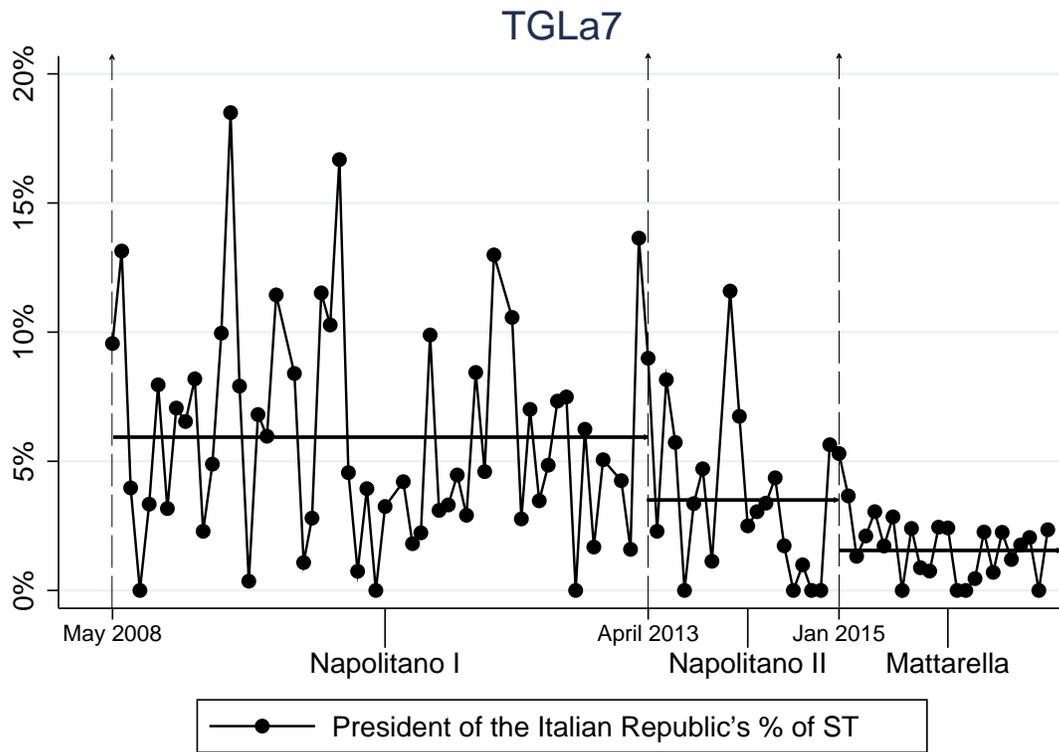


Figure 7(b) President of the Italian Republic speaking time by channel

First of all we can observe that, if compared to the public stations, all the Mediaset stations devoted less speaking time to Giorgio Napolitano during both his offices. This supports the idea that Silvio Berlusconi was not enthusiastic about the election of Giorgio Napolitano as President of the Republic because of his past as a Communist party member. This conclusion is particularly evident by observing the two news programmes TG4 and Studio Aperto, which, as observed above, are the two most biased programmes towards the center-right coalition.

We can also notice that all the stations devoted more speaking time to Giorgio Napolitano during the first office if compared to the second one. We can state that Giorgio Napolitano interfered less in the political process during his second office because of his extraordinary re-election as President of the Republic. This is the reason why we cannot compare the speaking time which TG1 devoted to Napolitano under the Berlusconi government and the Renzi government. After all it is hard to understand whether this variable was affected by the management changes of TG1.

Finally we can also observe that each news programme, except for TG1 and Studio Aperto, devoted less speaking time to Sergio Mattarella, if compared to Giorgio Napolitano. This is significant and shows that Mattarella has a far less interventionist approach, if compared to his predecessor. However the fact that Mattarella has been devoted more speaking time on TG1, if compared to Napolitano first office, helps us to evaluate the degree of control which Berlusconi had over the public network during his government.

## 5.6 Rainews24

In this section this paper is going to reproduce the previous analysis by taking into account a secondary public channel: Rainews24<sup>18</sup>, which is also the only public station which broadcasts live 24/7.

Interestingly, by collecting the data it was easy to notice that this station has radically changed its policy after the arrival of Renzi government. Indeed from March 2014 Rainews24 has started to devote more speaking time and news coverage to all political actors, becoming more politically inclined.

Before to start the analysis, let's give a look to the directors of Rainews24 in the last decade.

Table 6(a): Rainews24 directors

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<sup>18</sup>Rainews24 was created on April 26, 1999 thanks to a Service Contract between the Italian public television network RAI and the Italian Minister of Communications.

Period	Director
November 2006 - January 2013	Corradino Mineo (Center-left)
January 2013 - August 2015	Monica Maggioni (Center)
August 2015 - November 2015	Mirella Marzoli (ad interim)
November 2015 - February 2016	Giancarlo Giojelli (ad interim)
February 2016	Antonio di Bella (Center-Left)

As far as the supply-driven analysis is concerned, Figure 8 shows that Rainews24 devoted more speaking time to the majority than the opposition during both the Berlusconi government and the Renzi government. We can also appreciate the way the fraction of time which was devoted to the Renzi majority is greater than the fraction devoted to the Berlusconi majority. These patterns permit us to conclude that Rainews24 favoured Matteo Renzi.

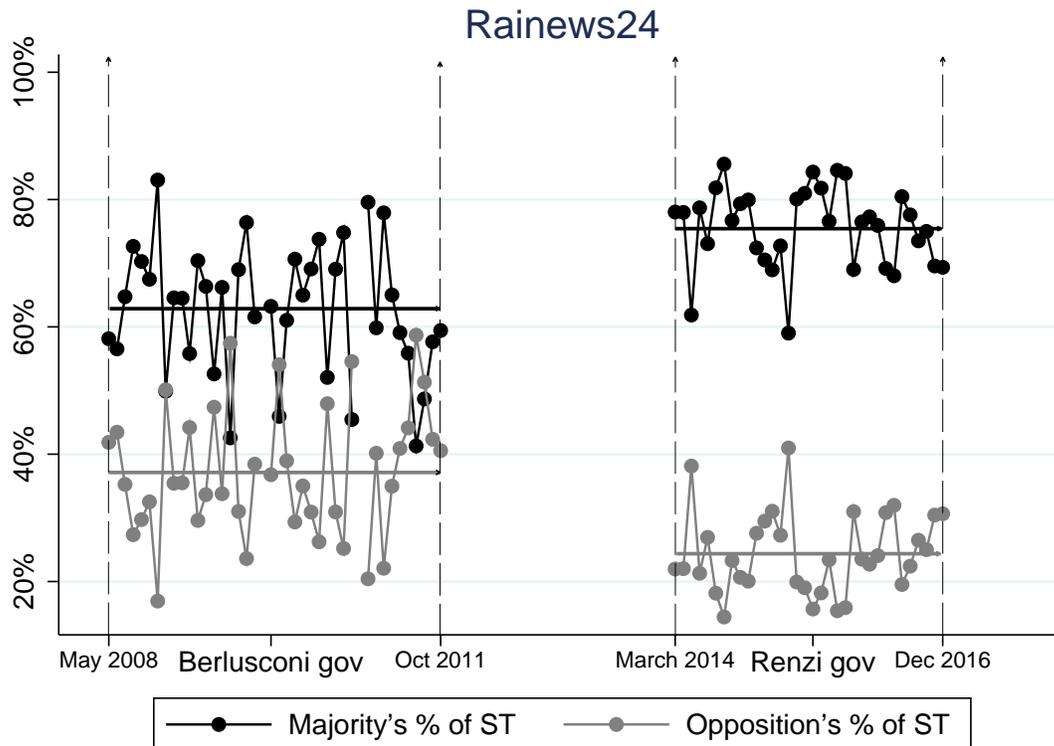


Figure 8 Majority versus opposition speaking time on Rainews24

Following the econometric approach, Table 6(b) shows the output obtained by regressing the speaking time devoted to the majority by Rainews24 on a constant and on a dummy variable for the Berlusconi government. We notice that under the Berlusconi government the majority received on average the 62.68% of the total speaking time (the algebraic sum of the

two coefficients), while under the Renzi government it received on average the 75.6% of the total speaking time. Indeed, the negative coefficient (-12.92) of the dummy for the Berlusconi government demonstrates that Rainews24 is significantly biased towards the center-left coalition.

Table 6(b): Distribution of total speaking time on Rainews24

VARIABLES	Majority time
Berlusconi	-12.92*** (2.022)
Constant	75.60*** (1.487)
Observations	74
R-squared	0.362

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

By locating Rainews24 along the media bias spectrum presented in Section 5.1, we see that, together with TG3, Rainews24 is the only Italian news programme which is biased towards the center-left coalition, actually more biased than TG3.

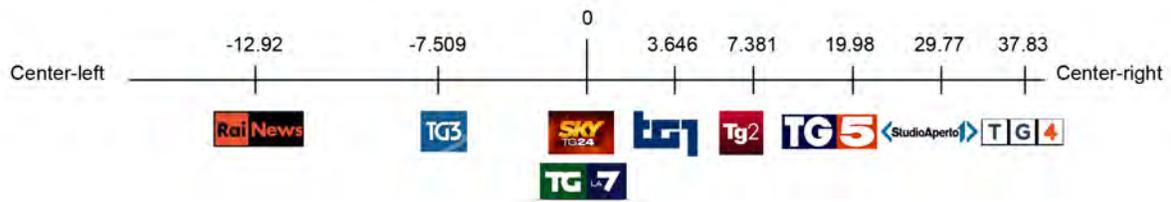


Figure 9(a). Media Bias spectrum from 2008 to 2016 (with Rainews24)

Moreover, the two kinds of Wald tests we performed in section 5.2 are rejected even if applied to the coefficients of Rainews24 (Table 6(b)).

$$(Rainews24) \text{ Berlusconi} + \text{Constant} = 66.6$$

$$F(1, 72) = 8.17 \text{ Prob } \chi^2 F = 0.0056$$

$$(Rainews24) \text{ Constant} = 66.6$$

$$F(1, 72) = 36.67 \text{ Prob } \chi^2 F = 0.0000$$

$$\begin{aligned} &(\text{Rainews24}) \text{ Berlusconi} + \text{Constant} = 50 \\ &F(1, 72) = 85.56 \text{ Prob } i, F = 0.0000 \end{aligned}$$

$$\begin{aligned} &(\text{Rainews24}) \text{ Constant} = 50 \\ &F(1, 72) = 296.51 \text{ Prob } i, F = 0.0000 \end{aligned}$$

Thus, by putting Rainews24 along the spectra which measure the distances between each programme and the optimal television policy, we can see that under the Renzi government Rainews24 ends up farther from both the three thirds rule and the 50% rule if compared to the period when Berlusconi was head of the government.

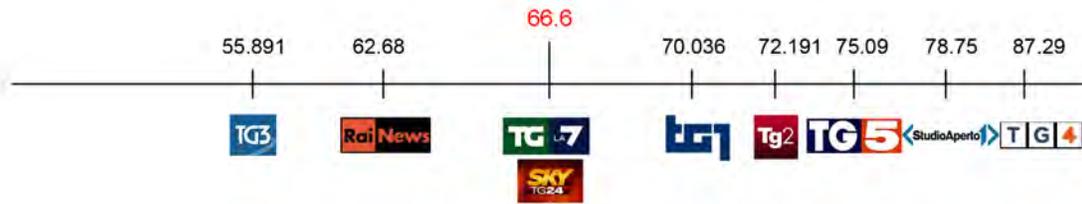


Figure 9(b). The three thirds rule under the Berlusconi government (with Rainews24)

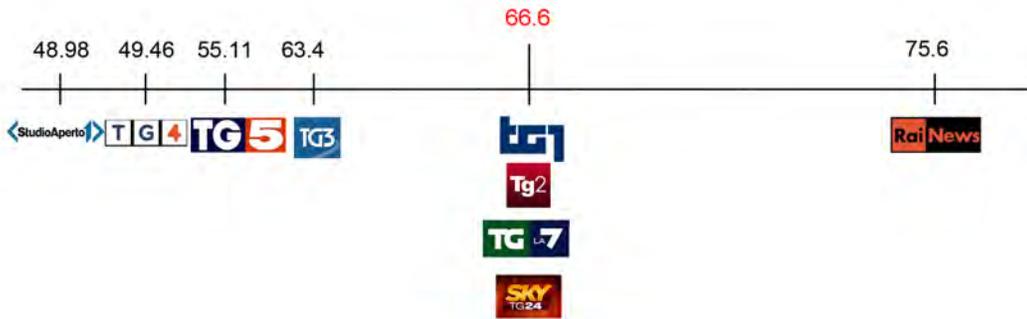


Figure 9(c). The three thirds rule under the Renzi government (with Rainews24)



Figure 9(d). The 50% rule under the Berlusconi government (with Rainews24)

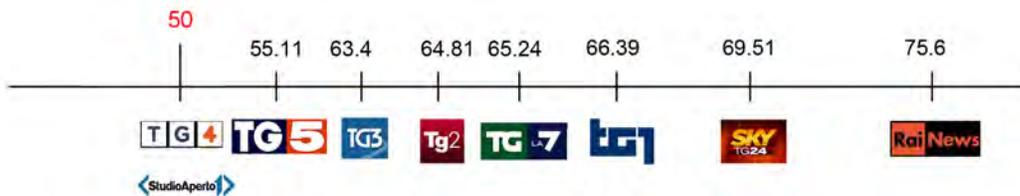


Figure 9(e). The 50% rule under the Renzi government (with Rainews24)

Instead, by adding Rainews24 to the aggregate measure of all the RAI stations, we obtain a different pattern if compared to the one of Figure 2(a), which is obtained in Section 5.1 without considering Rainews24. In particular we can observe that the fraction of speaking time devoted to Renzi by RAI on aggregate seems to be greater than the one devoted to Berlusconi.

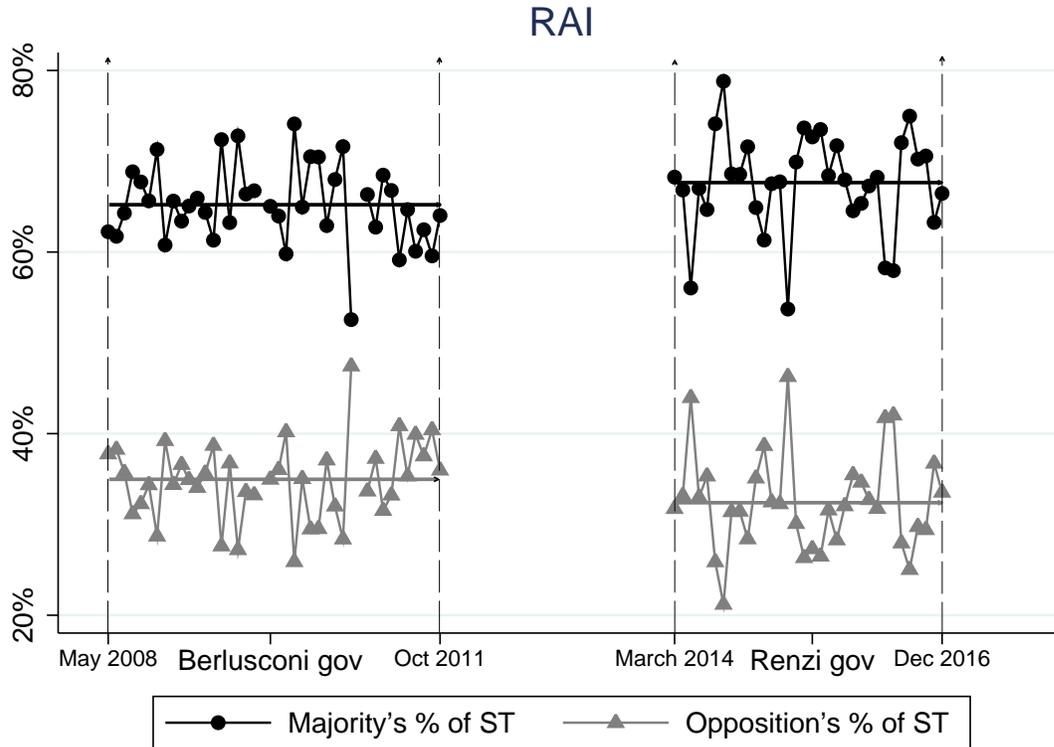


Figure 10. Majority versus opposition speaking time on RAI with Rainews24

Furthermore, by regressing the majority's speaking time devoted on aggregate by RAI (including Rainews24), we see that the coefficient of the dummy variable for the Berlusconi government turns out to be negative and significant at a 5% level. This shows that by adding Rainews24 to the aggregate measure for the public network more than compensates the RAI slight bias towards the center-right coalition which I found in Section 5.1, without considering Rainews24. As a result we get an overall public television which shows a small bias towards the center-left coalition.

Table 7: Distribution of total speaking time by group

VARIABLES	Majority time
Rai	67.55*** (0.831)
Berlusconi_RAI	-2.352** (1.131)
Mediaset	51.18*** (0.960)
Berlusconi_Mediaset	29.20*** (1.306)
Observations	518
R-squared	0.980

Standard errors in parentheses

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

At this point I am going to use the market shares argument presented in section 5.1 in order to investigate deeper the way Rainews24 may affect the overall bias and the optimal television policy of the entire RAI group. By considering Rainews24, its easy to see that this programme holds a limited market share in the Italian television market for news because it attracts a small number of viewers considering the broadcasting time.

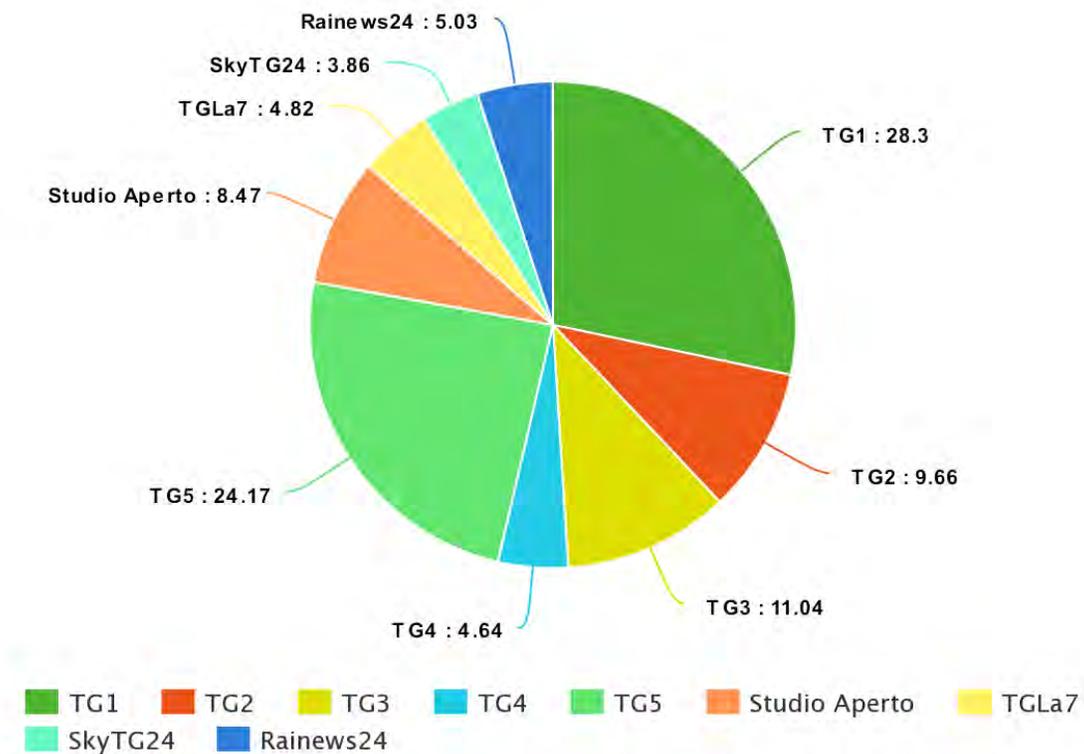


Diagram 2. Audience by channel from 2008 to 2016 (with Rainews24)

As a result, the Market Bias Indicator does not differ substantially from the one which was obtained before and the Italian television system remains clearly biased towards the center-right coalition.

$$TG1 = 0,283 \times 3,646 = 1,0318$$

$$TG2 = 0,0966 \times 7,381 = 0,713$$

$$TG3 = 0,1104 \times (-7,509) = - 0,8289$$

$$TG4 = 0,0464 \times 37,83 = 1,7553$$

$$TG5 = 0,2417 \times 19,98 = 4,8291$$

$$\text{Studio Aperto} = 0,0847 \times 29,77 = 2,5215$$

$$\text{TGLa7} = 0,0482 \times 0 = 0$$

$$\text{SkyTG24} = 0,0386 \times 0 = 0$$

$$\text{Rainews24} = 0,0503 \times (-12,92) = -0,649876$$

$$\text{MBI (Market Bias Indicator)} = 1,0318 + 0,713 - 0,8289 + 1,7553 + 4,8291 + 2,5215 + 0 + 0 - 0,649876 = \mathbf{9,37}$$

Similarly, the amount of speaking time devoted on average to the majority by the overall RAI group, including Rainews24, is close to the 66,6%, as it is shown by the following formulas.

$$\text{Total market (for news) shares of RAI (with Rai News 24)} = 28,3 + 9,66 + 11,04 + 5,03 = 54,03$$

$$\text{TG1 relative market share} = 28,3/54,03 = 0,5238$$

$$\text{TG2 relative market share} = 9,66/54,03 = 0,1788$$

$$\text{TG3 relative market share} = 11,04/54,03 = 0,2044$$

$$\text{Rainews24 relative market share} = 5,03/54,03 = 0,093$$

$$\text{TG1 (Berlusconi)} = 70,036 \times 0,5238 = 36,68$$

$$\text{TG1 (Renzi)} = 66,39 \times 0,5238 = 34,78$$

$$\text{TG2 (Berlusconi)} = 72,191 \times 0,1788 = 12,9$$

$$\text{TG2 (Renzi)} = 64,81 \times 0,1788 = 11,58$$

$$\text{TG3 (Berlusconi)} = 55,891 \times 0,2044 = 11,42$$

$$\text{TG3 (Renzi)} = 63,4 \times 0,2044 = 12,96$$

$$\text{Rainews24 (Berlusconi)} = 62,68 \times 0,093 = 5,83$$

$$\text{Rainews24 (Renzi)} = 75,6 \times 0,093 = 7,03$$

$$\text{RAI (Berlusconi)} = 36,68 + 12,9 + 11,42 + 5,83 = 66,83$$

$$\text{RAI (Renzi)} = 34,78 + 11,58 + 12,96 + 7,03 = 66,35$$

We can conclude that the inclusion of Rainews24 makes RAI an even more unbiased television group.

By shifting to the speaking time devoted to the head of the government by Rainews24, Figure 11 shows that Matteo Renzi received more airtime than all his predecessors.

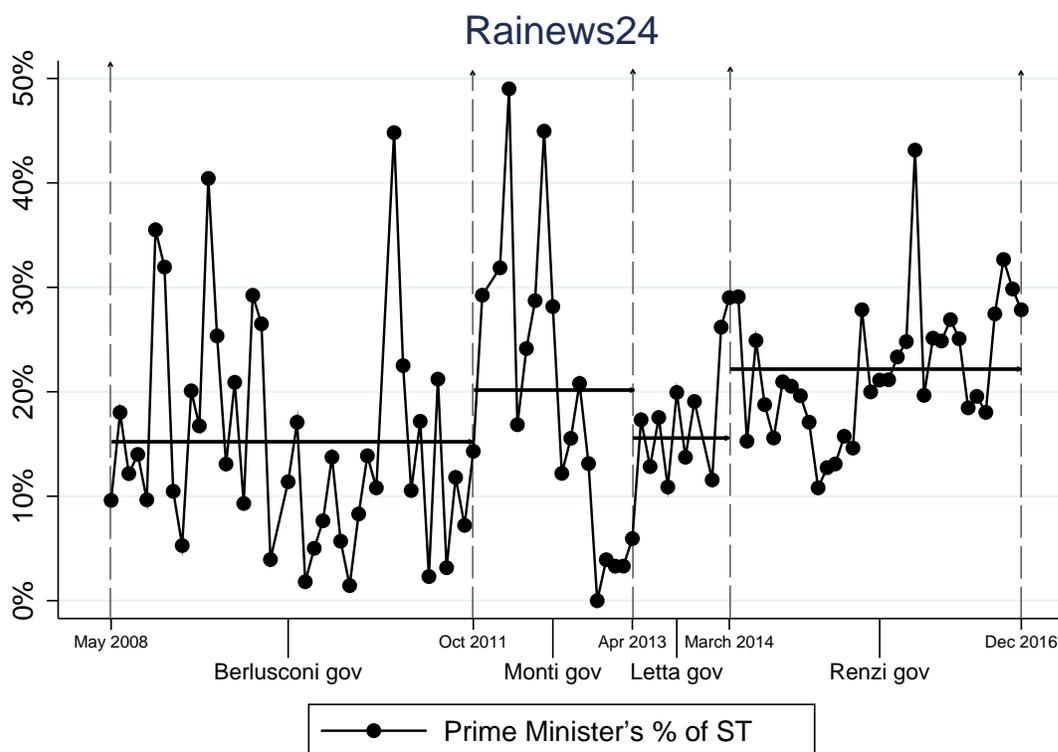


Figure 11. Prime Minister share of total time on Rainews24

In particular, by regressing the Prime Ministers speaking time on a constant and a dummy variable for the Renzi government (Table 8), we notice that Rainews24 devoted more airtime to Renzi than to Silvio Berlusconi as head of the government (the dummy variable is positive and significant in the first regression). Moreover the second regression of Table 8 demonstrates that this channel didnt show any significant difference between the speaking time devoted to the other members of the Renzi government if compared to those of the Berlusconi government.

Table 8: Distribution of total speaking time by Rainews24

VARIABLES	Prime Minister	Members of the government
Renzi	7.096*** (2.079)	1.656 (2.090)
Constant	15.10*** (1.409)	22.51*** (1.417)
Observations	74	74
R-squared	0.139	0.009

Standard errors in parentheses

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

Finally, Figure 12 shows the speaking time devoted by Rainews24 to the President of the Republic. We notice that Napolitano received more speaking time during his first office and that Mattarella received more speaking time than Napolitano considering both his offices.

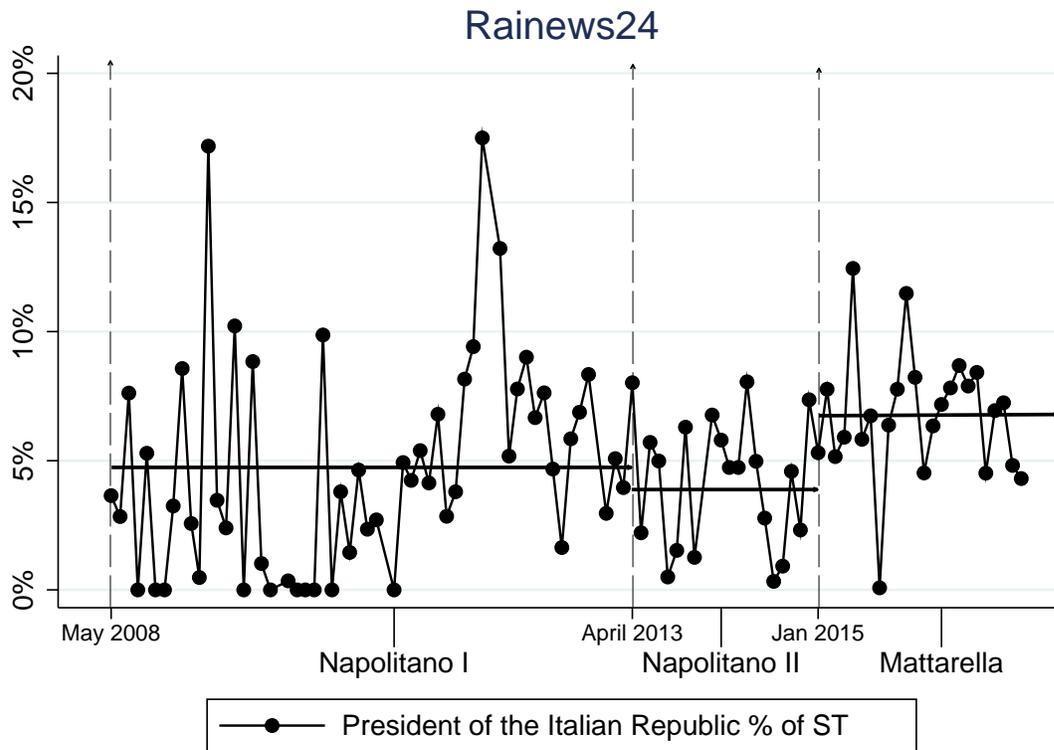


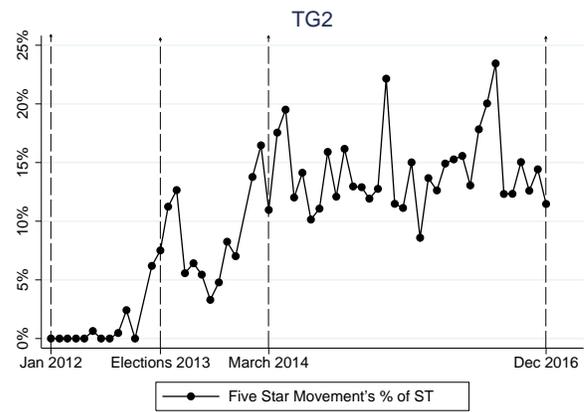
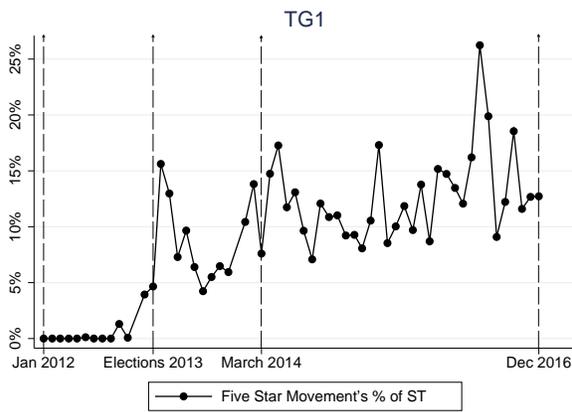
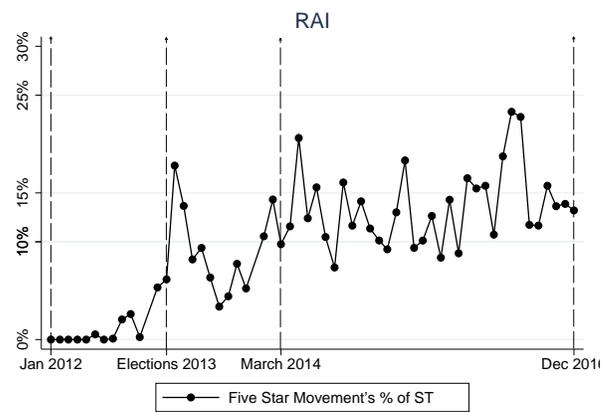
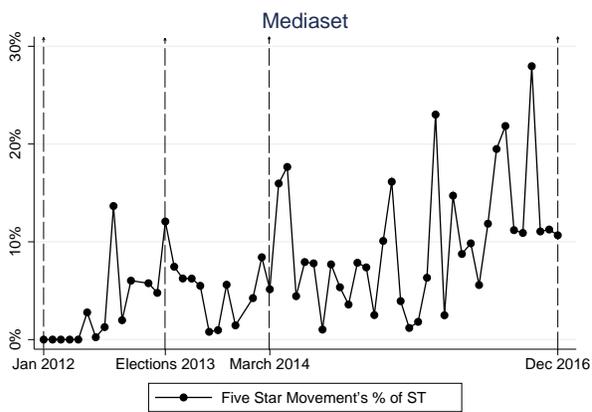
Figure 12 President of the Republic share of total time on Rainews24

We can conclude that it is important to pay attention to the single stations we insert into aggregate measures of television companies because this can affect our results. However the first approach (Section 5.1) used by this paper, which considered just the three main stations of each company, is the best way to investigate the supply-driven media bias of the Italian broadcasting system. Indeed such a station as Rainews24, which broadcasts 24 hours every day, has too a significant weight in terms of airtime if we consider the overall percentage of speaking time devoted by RAI without considering the audiences obtained by each station. Instead it is better to consider the three most important news programmes per company because of their approximate same amount of airtime transmitted.

# 6 Demand-driven factors in Italy

## 6.1 Five Star Movement

The following section is going to investigate the way demand-driven factors may still intervene in a supply-side biased market such as the Italian television system. Let me take Figures 13 as examples of the way demand-side factors may influence news content. They show the dynamics of the speaking time devoted to the Five Star Movement (the opposition party which entered parliament after the last general election) over the last eight years by each station and each company.



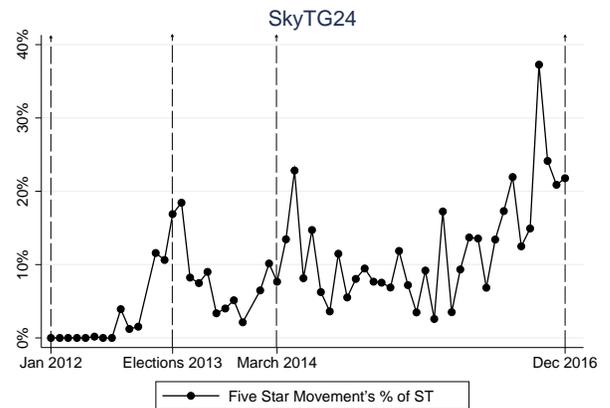
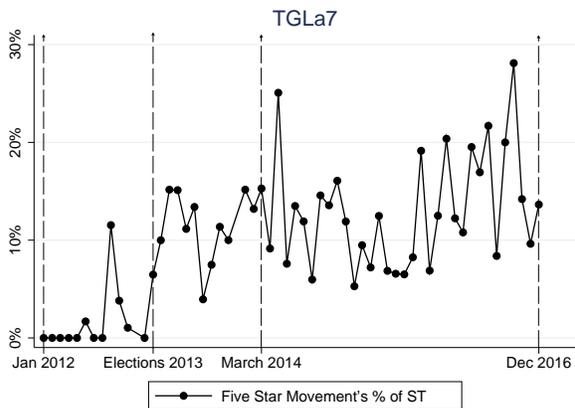
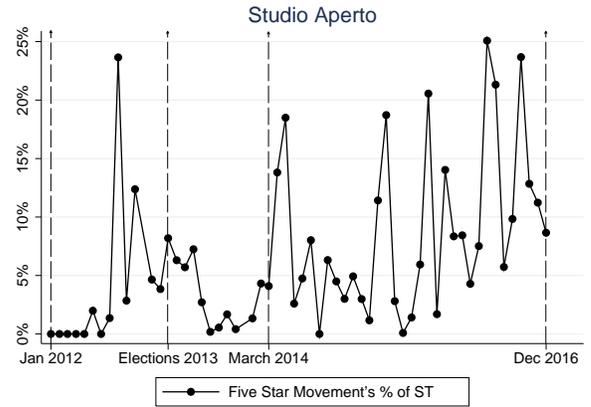
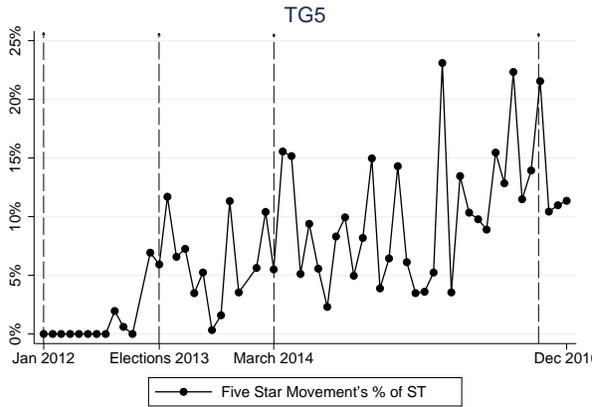
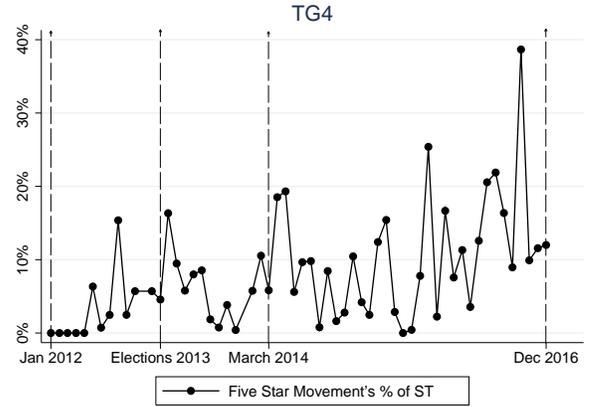
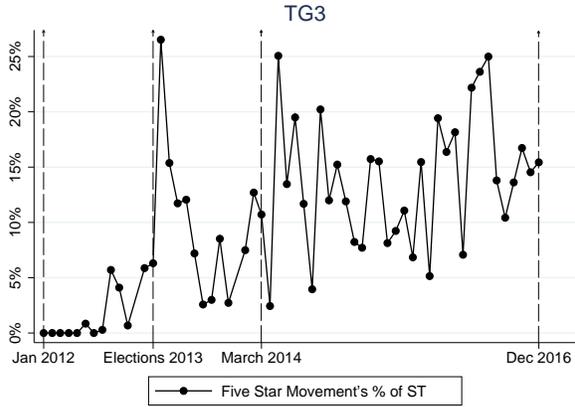


Figure 13(b) Five Star Movement share of total time by channel

We can easily notice that the speaking time which was devoted to this party has increased over the last years. This is not due to any sort of supply-driven reason since this party has never been part of a coalition government and its leaders, Beppe Grillo and Gianroberto Casaleggio, have never owned any television stations<sup>19</sup>. The reason is that this movement has attracted an increasing number of followers to the extent that polls show nowadays the Five Star Movement as the first national party. In order to verify these intuitions with a more econometric approach, I regressed the speaking devoted to the Five Star Movement by each news programme on interaction terms between the group dummies and a time variable. By observing the sign and the significancy of these coefficients we can derive whether and to what extent the speaking time devoted to the Five Star Movement has increased over the last eight years in each news programme.

Table . Distribution of total speaking time by channel

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<sup>19</sup>However, Beppe Grillo and Gianroberto Casaleggio own an online blog used as a tool with which to gather and organize the political participation of their followers.

VARIABLES	Five Star Movement time
TG1_trend	0.114*** (0.00788)
TG2_trend	0.127*** (0.00790)
TG3_trend	0.129*** (0.00790)
TG4_trend	0.100*** (0.00790)
TG5_trend	0.0929*** (0.00790)
Studio Aperto_trend	0.0815*** (0.00790)
TGLa7_trend	0.124*** (0.00790)
SkyTG24_trend	0.116*** (0.00791)
Observations	785
R-squared	0.673

Standard errors in parentheses

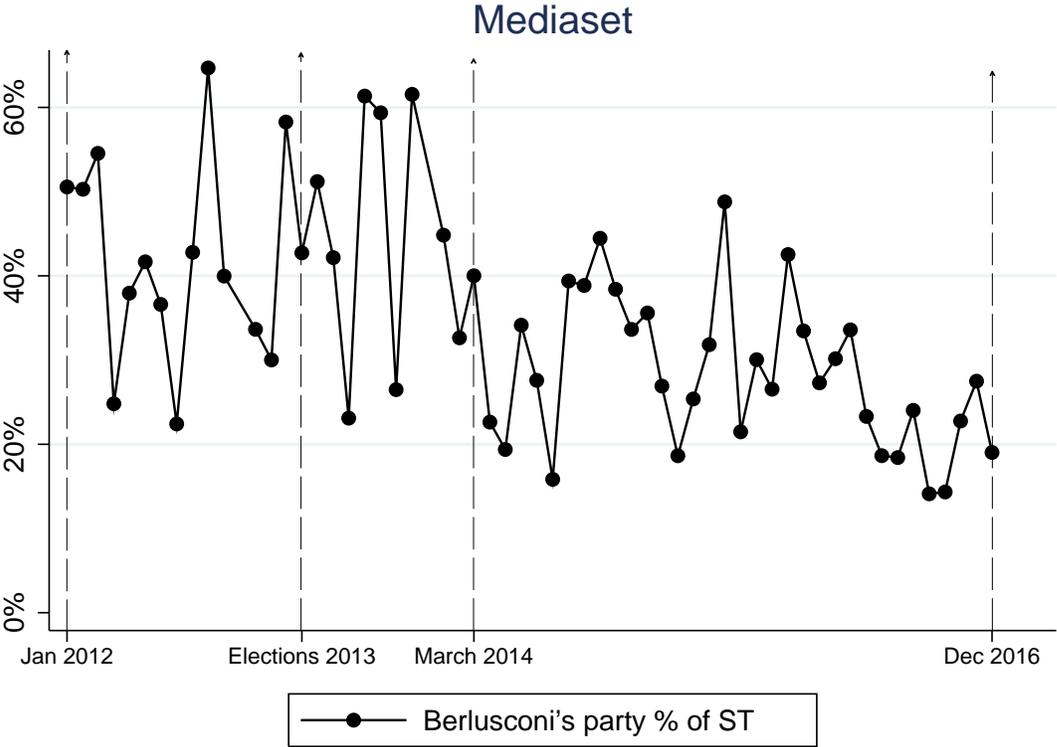
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

We can observe that all the interaction terms are positive and highly significant, meaning that all the news programmes has increased their coverage of the Five Star Movement in the last decade. Moreover we can state that the public network has increased the speaking time devoted to the Five Star Movement more than the Mediaset stations, while the latter, as it is intuitively clear, devoted their speaking time unfairly to the non-government parties, if compared to RAI, favouring their controlling shareholder, Silvio Berlusconi, when he was one of the opposition leaders.

## 6.2 Berlusconi's party

On the other hand Figures 14 show that, together with the rise of the Five Star Movement and with the arrival of Matteo Renzi, the speaking time which was devoted to Forza Italia has

decreased over the last years in each news programme. This pattern derives from Berlusconi political decline as leader of the center-right coalition, which reflects the voting defection from his party, at least judging by recent polling. Indeed, Silvio Berlusconi was convicted of tax fraud and banned from political office <sup>20</sup>.



<sup>20</sup>He appealed to the European Court of Human Rights based in Strasbourg, arguing that Italy violated European legislation by applying the 2012 law retroactively, thus imposing a harsher penalty than was applicable at the time of the crime for which he was convicted.

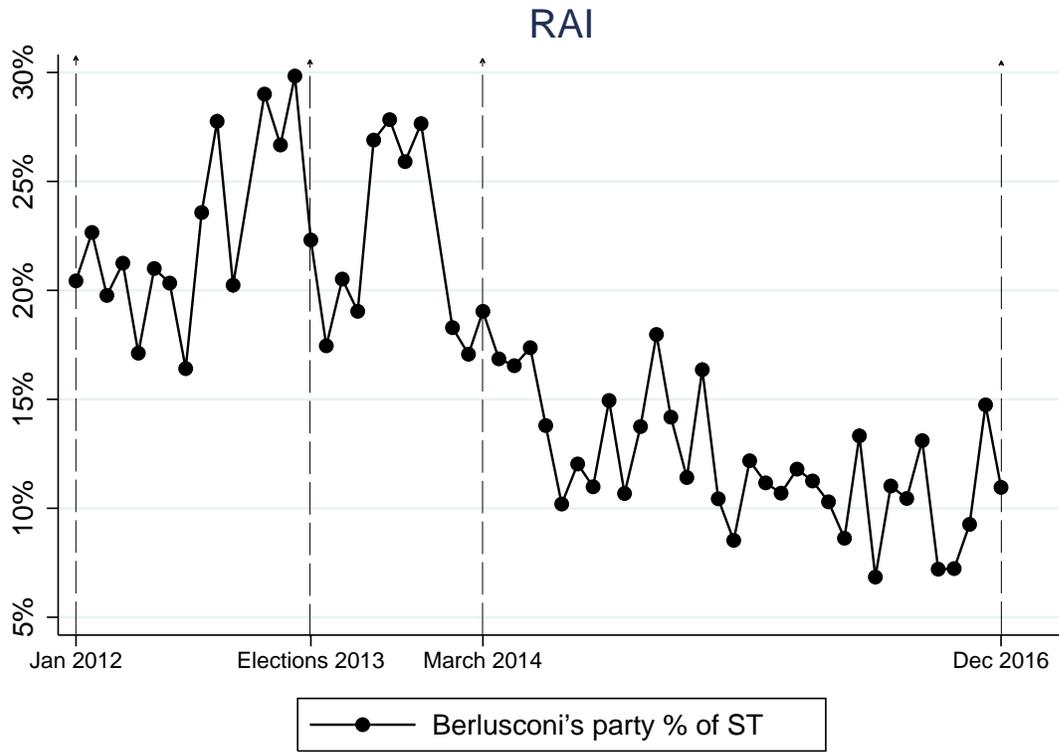
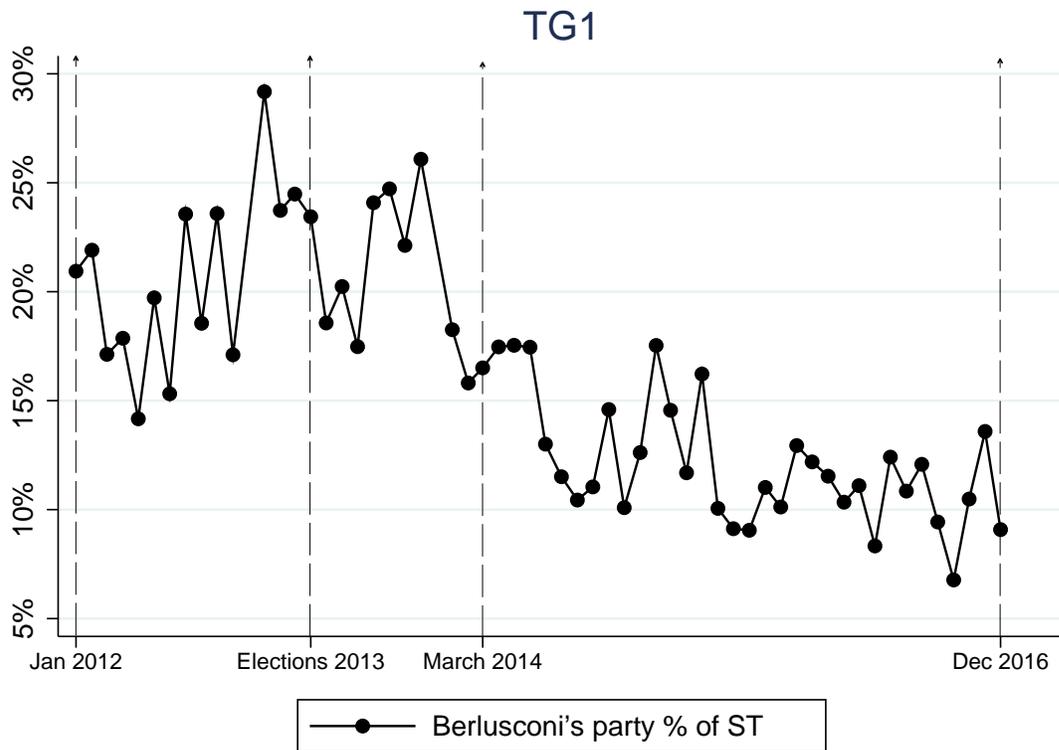
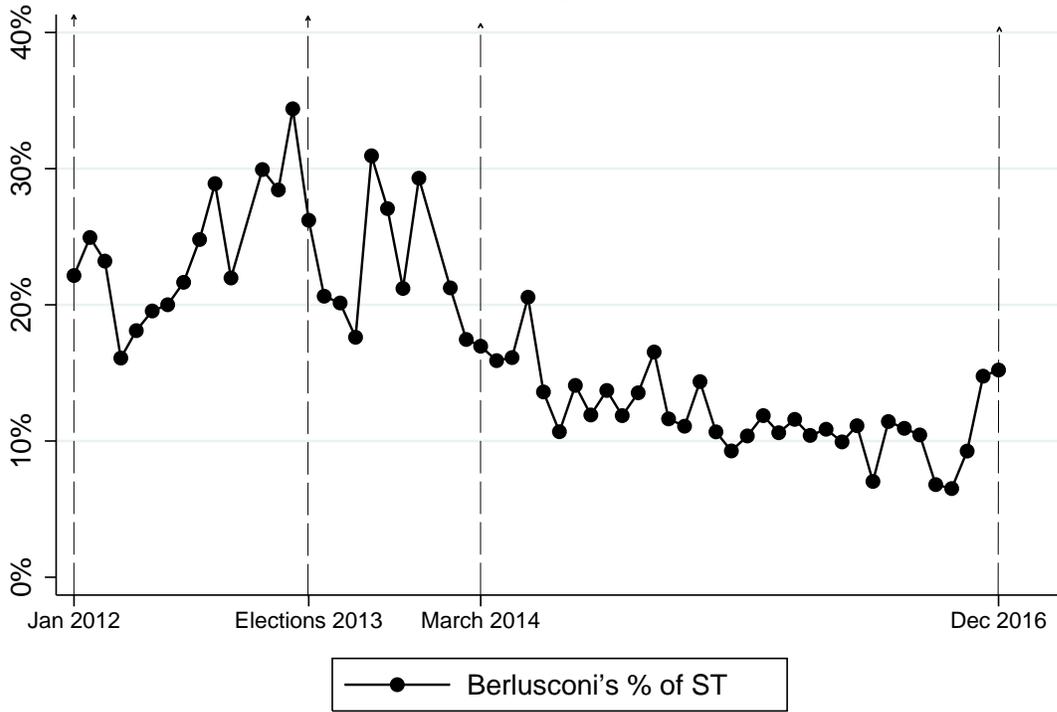


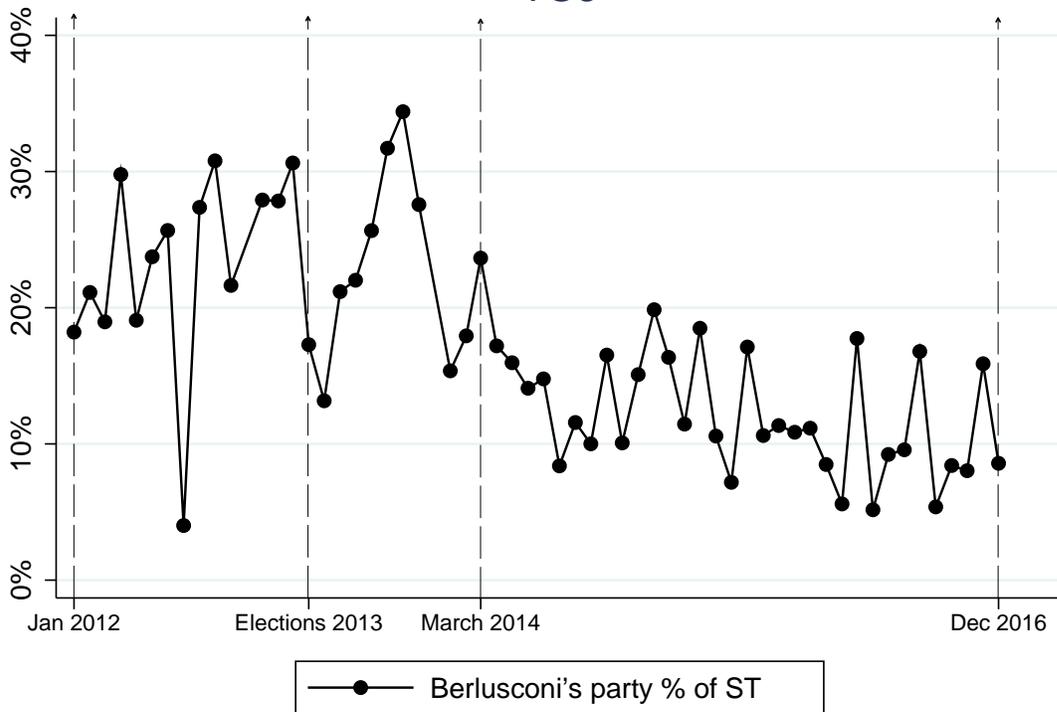
Figure 14(a) Berlusconi's party share of total time by group

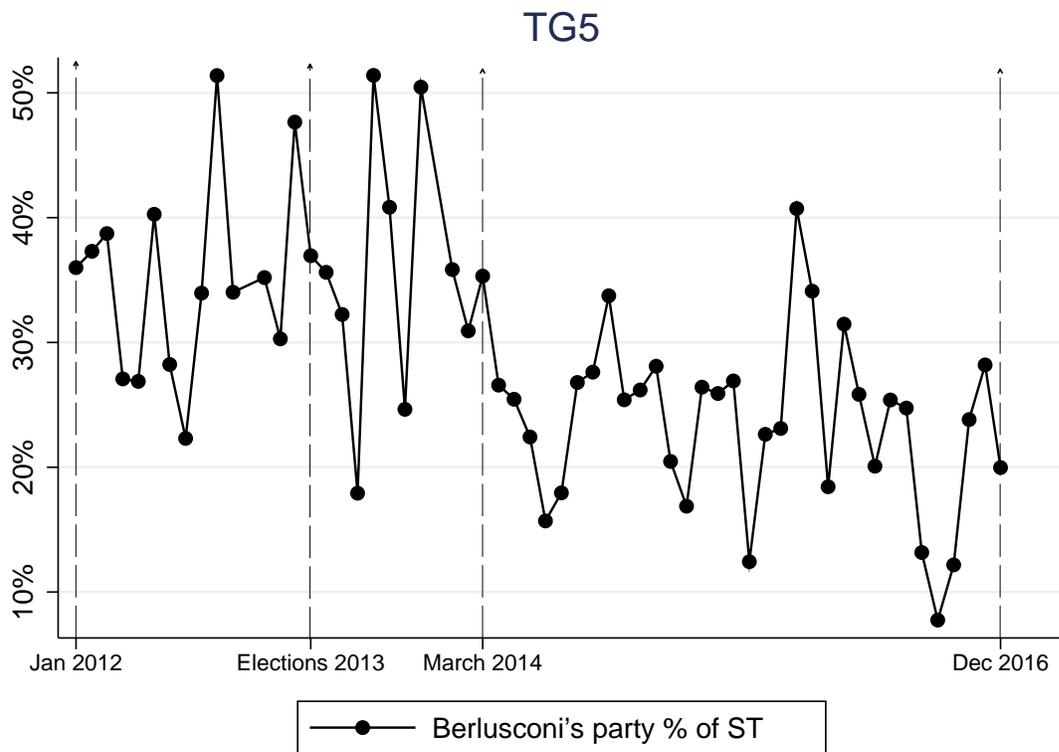
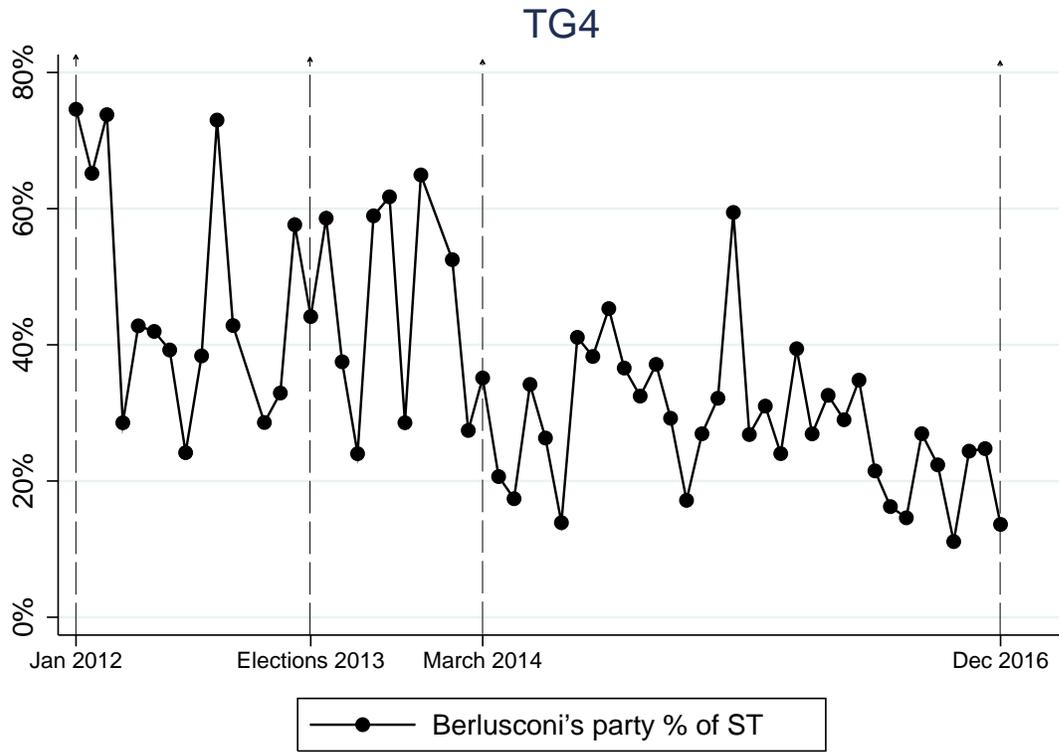


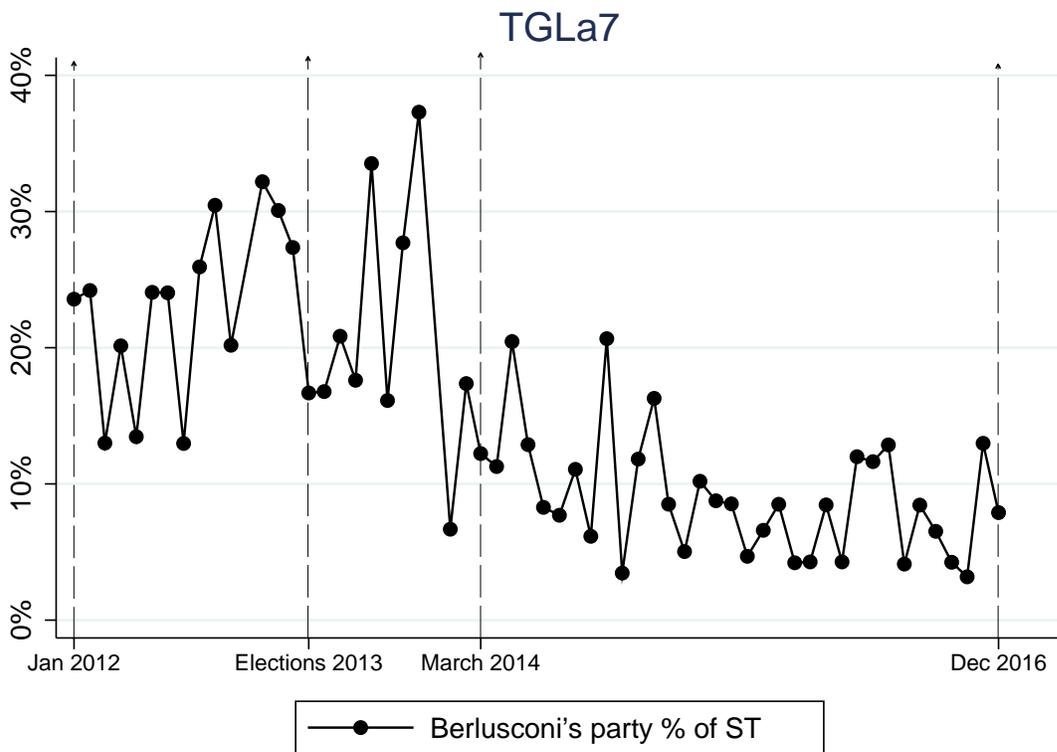
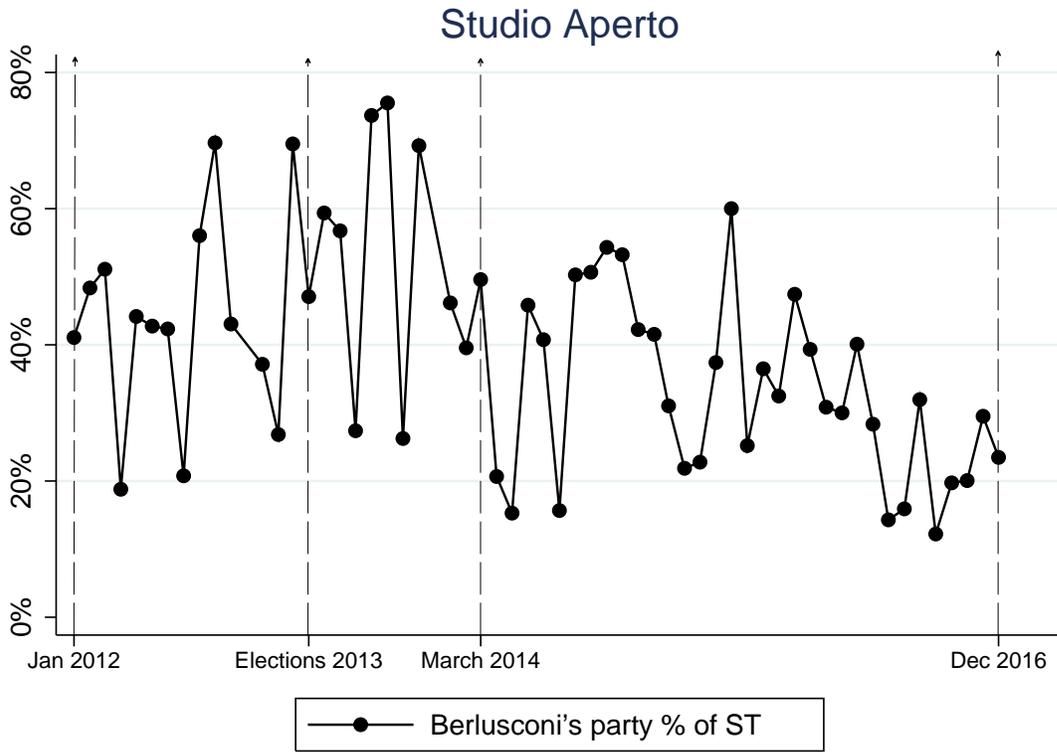
### TG2



### TG3







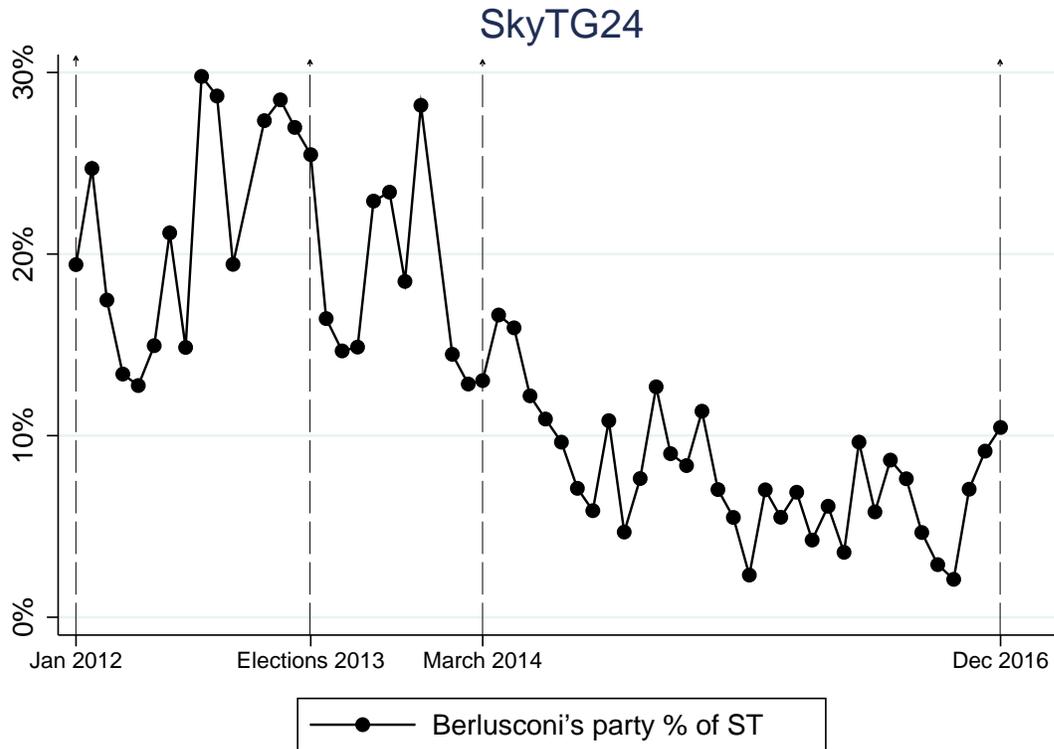


Figure 14(b) Berlusconi's party share of total time by channel

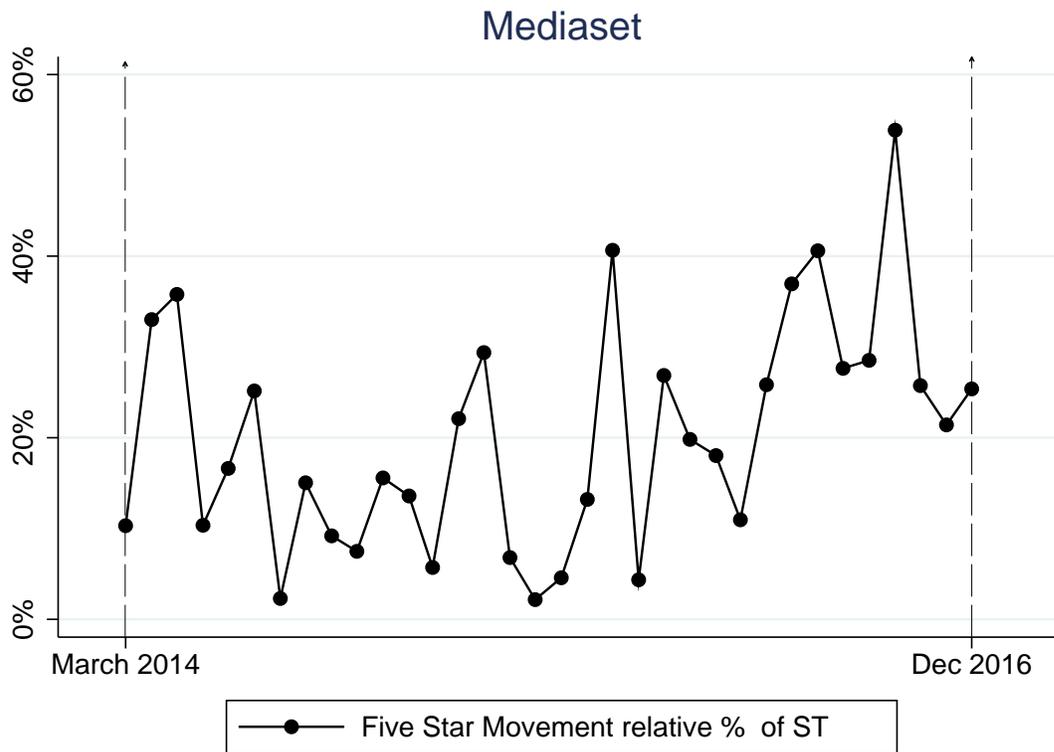
## 7 Constitutional Referendum

From the previous section, it is also clear that Forza Italia received an increase of speaking time by each station during the months prior to the constitutional referendum, held on December 2016. Voters were asked whether they approve a constitutional law that amends the Italian Constitution to reform the composition and powers of the Parliament as well as the division of powers between the State, the regions, and administrative entities. Following the clear victory of the "No" vote<sup>21</sup>, Renzi tendered his resignation as head of government.

There is no doubt that Renzi was the victim of his own plot. He decided to politicise the referendum, transforming it into an unnecessary political vote on himself despite clear signals warning against such choice. This explains Berlusconi recovery in the period immediately before the constitutional referendum after several months of steady decline. Indeed Silvio Berlusconi benefited from the constitutional referendum, relaunching a fresh start for himself by withdrawing his support to the campaign after being a long-time supporter of the constitutional reform.

<sup>21</sup>Results: "Yes" 40,9%, "No" 59,1%

In order to investigate deeper this issue, I am going to construct a relative measure of the speaking time which was devoted, respectively, to the Five Star Movement and to Forza Italia, dividing their respective speaking time by the total speaking time devoted to the opposition by each media station. By using this method, the paper is going to show the way the opposition speaking time was arranged and affected by the last constitutional referendum. Figures 15 display this new relative measure, taking into account each station and each company.



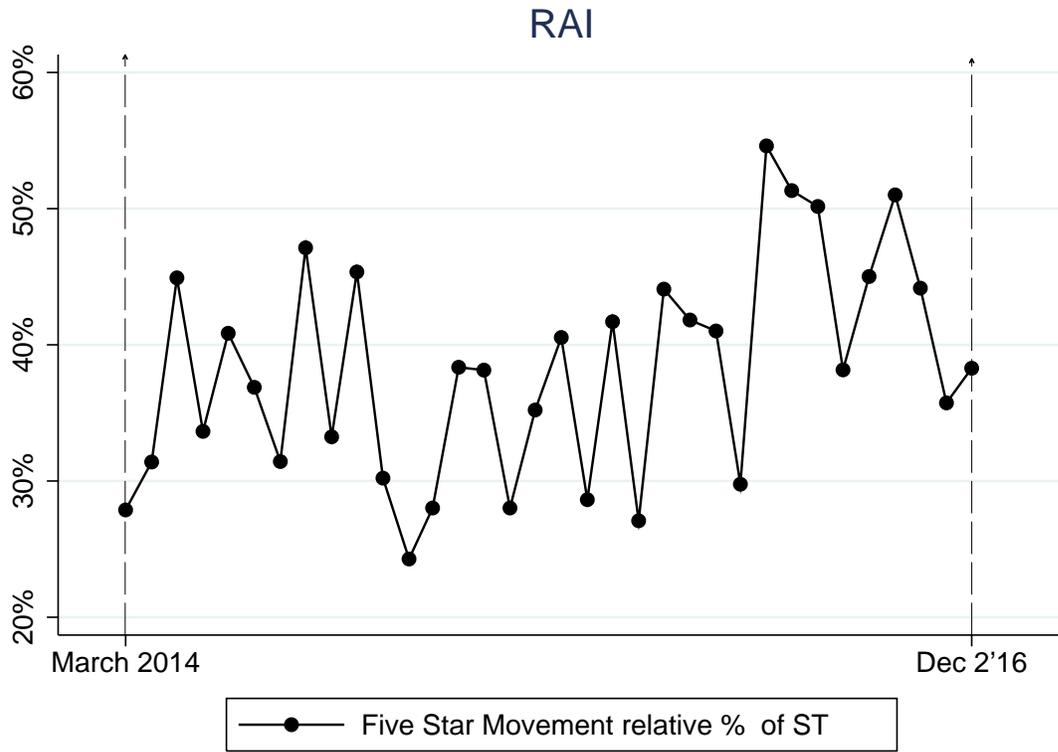
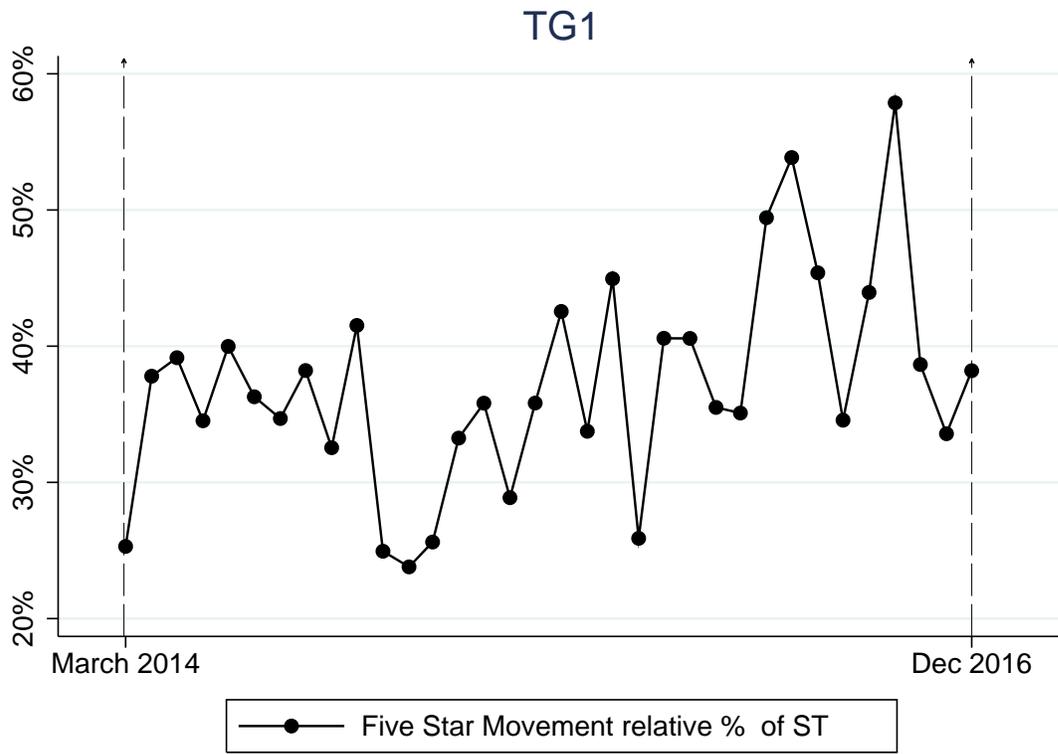
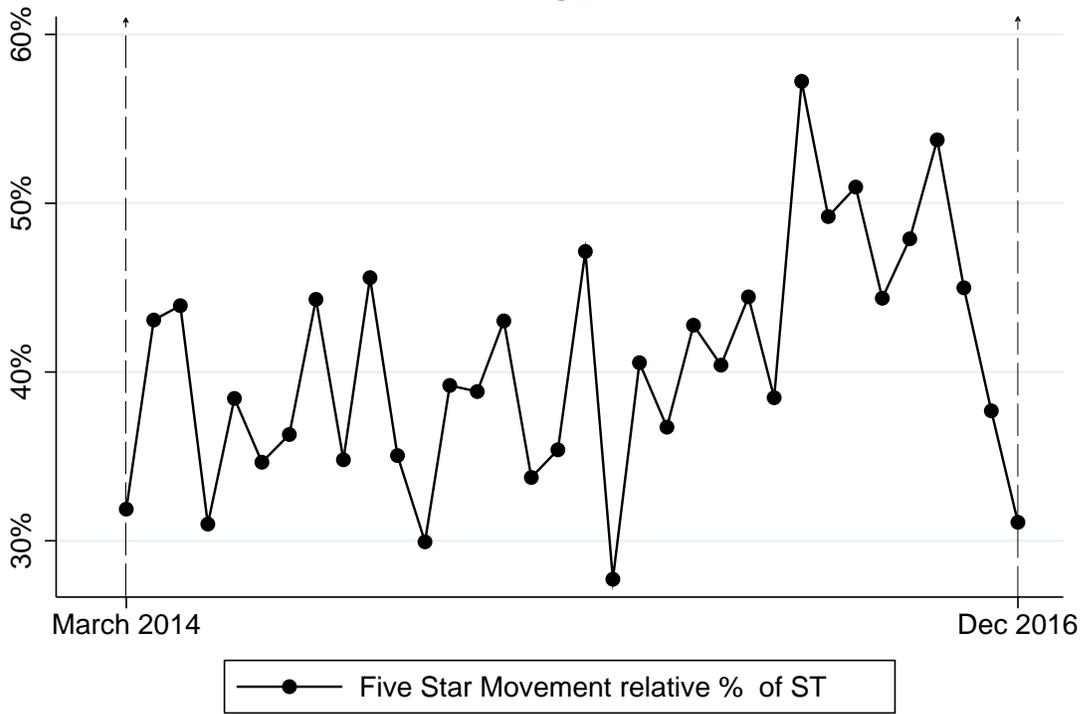


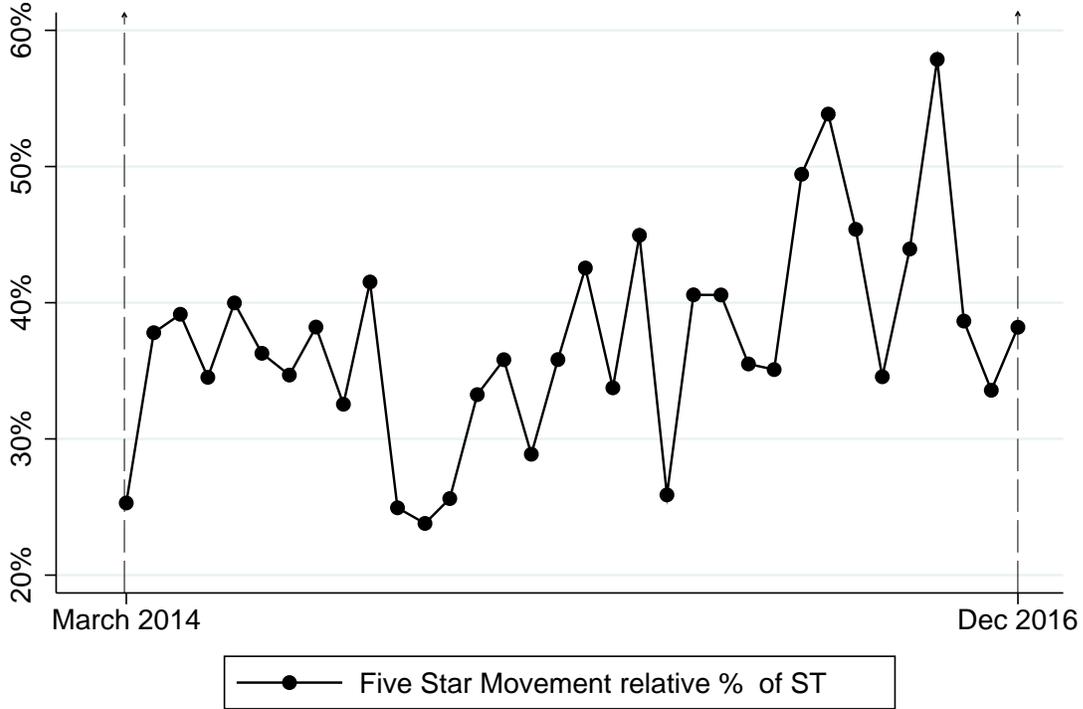
Figure 15(a) Five Star Movement relative share of total time by group



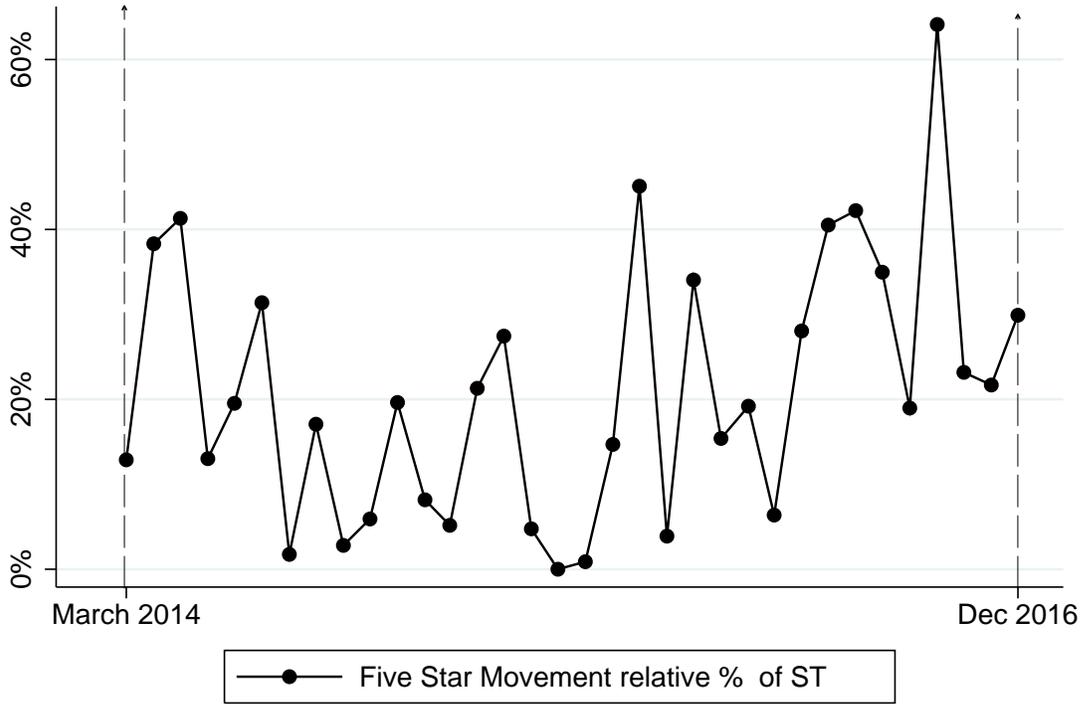
### TG2



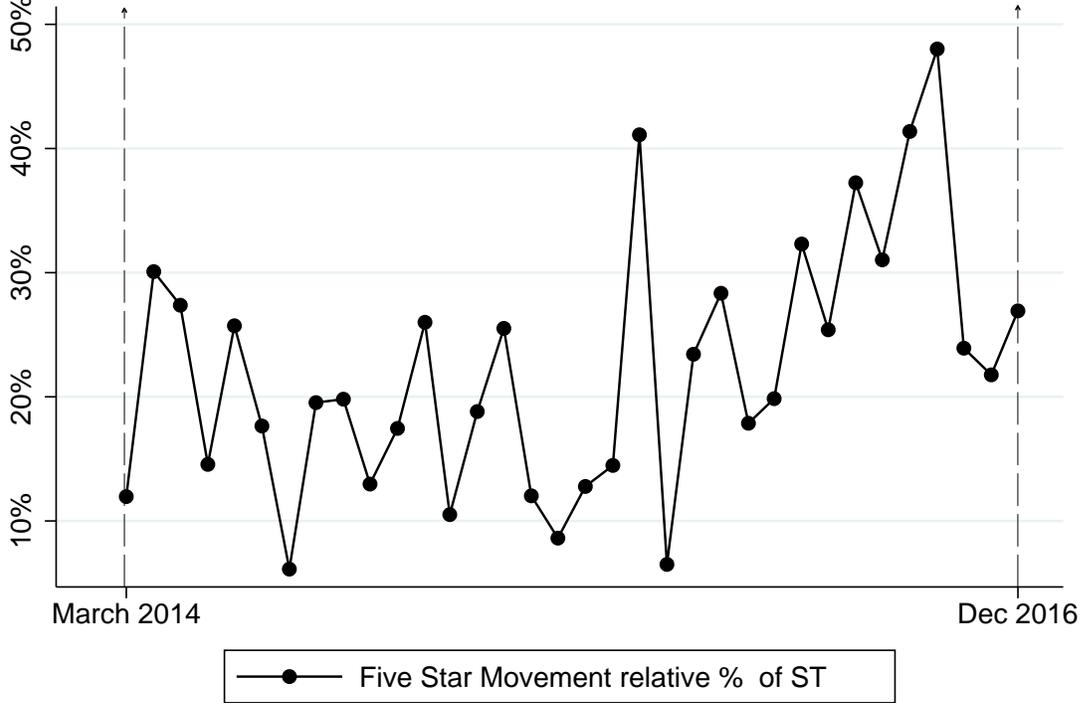
### TG3

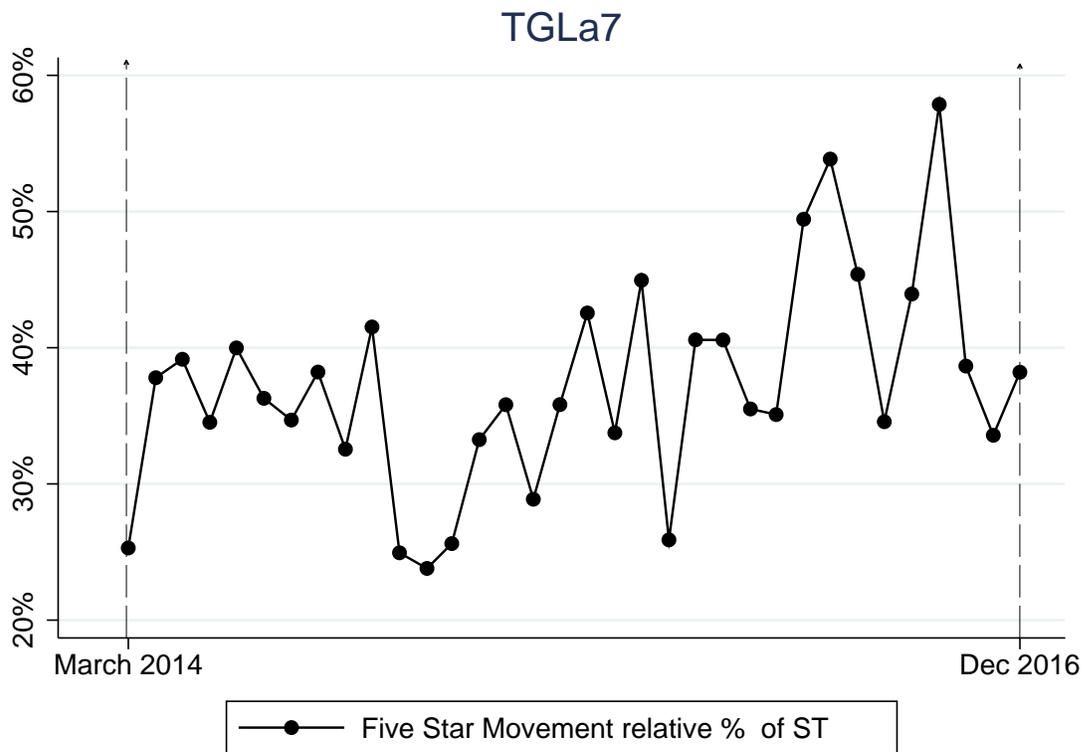
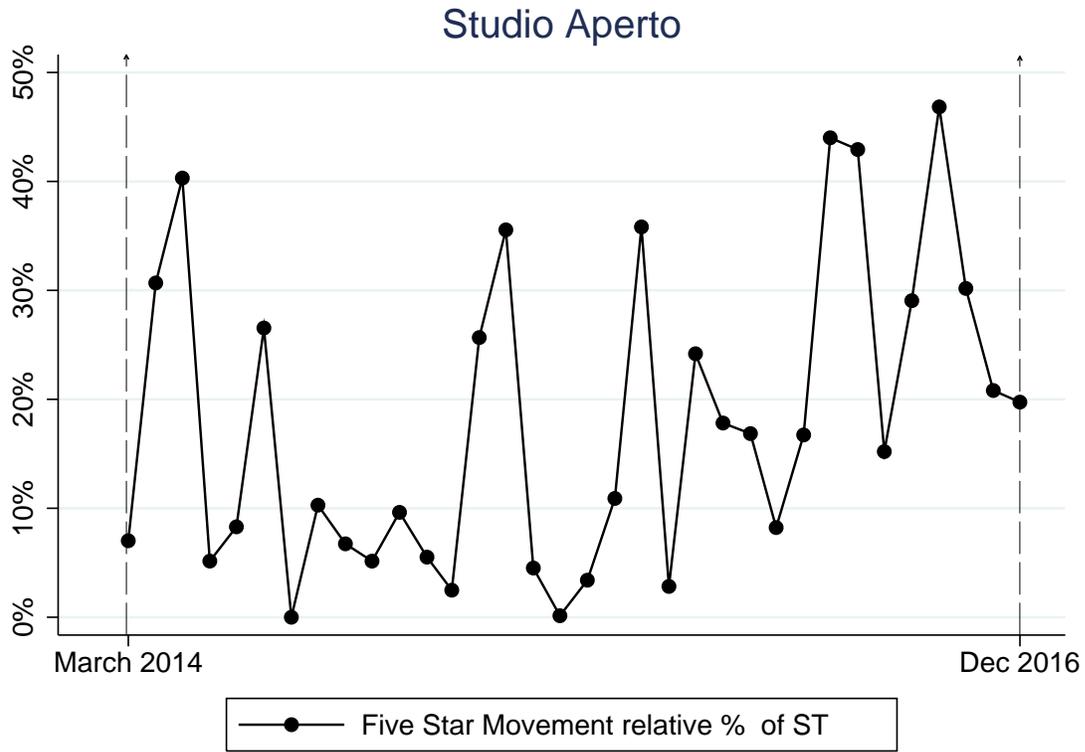


### TG4



### TG5





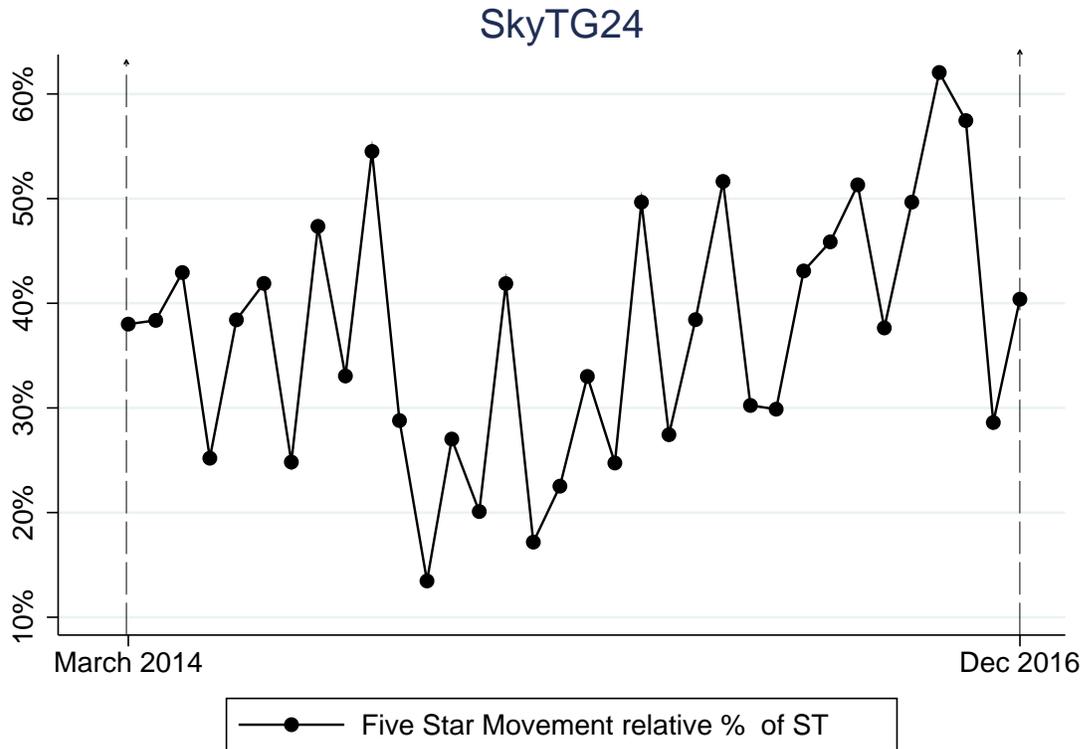


Figure 15(b) Five Star Movement relative share of total time by channel

It seems evident that in 2016, over the last trimester, taking into account the entire opposition speaking time, the speaking time of the Five Star Movement has diminished, while the speaking time of Forza Italia has increased (Figures 16 below). This shows how political events and factors may affect news content. However the Five Star Movement still remains the main opposition party.

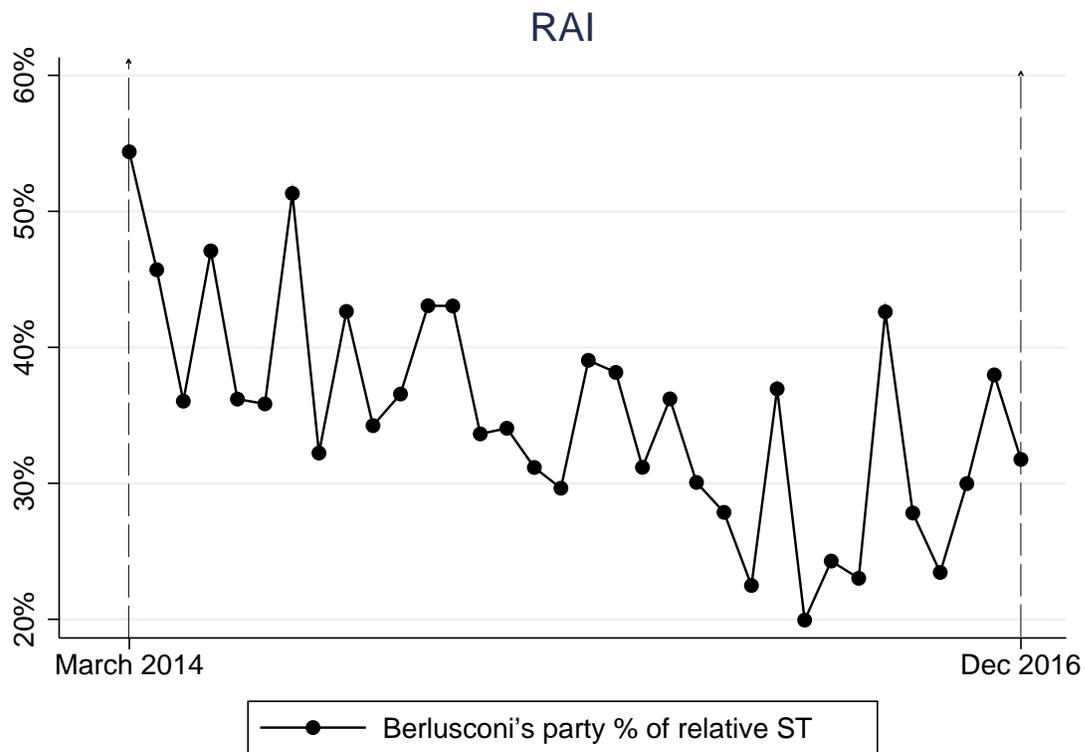
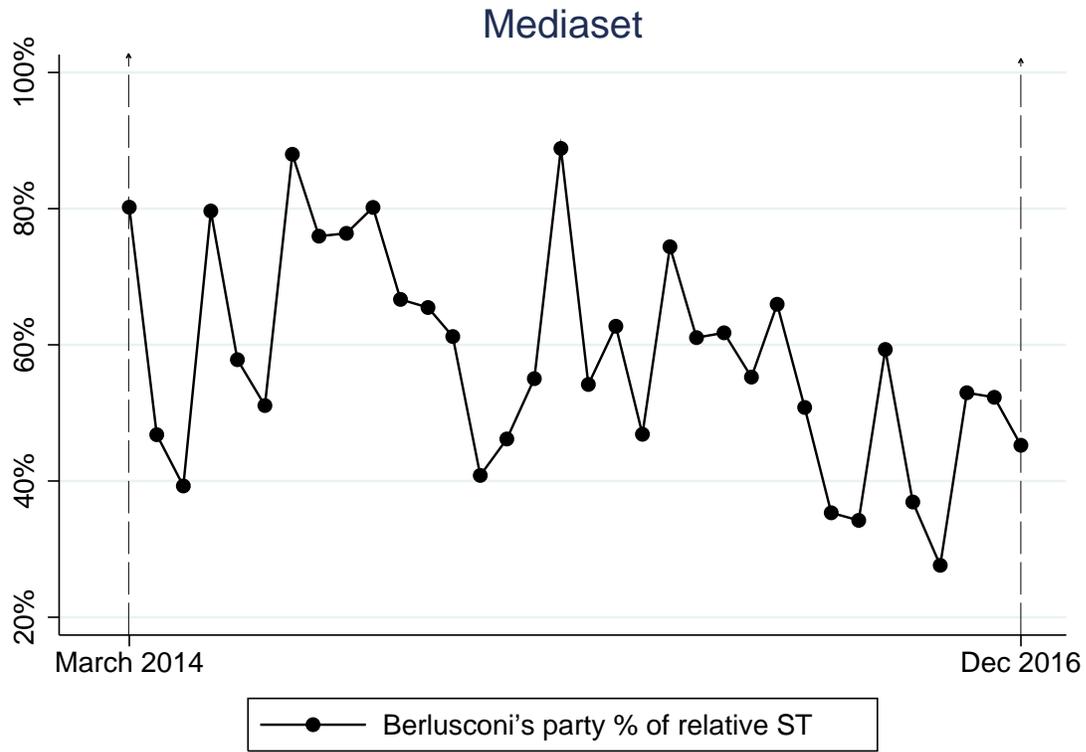
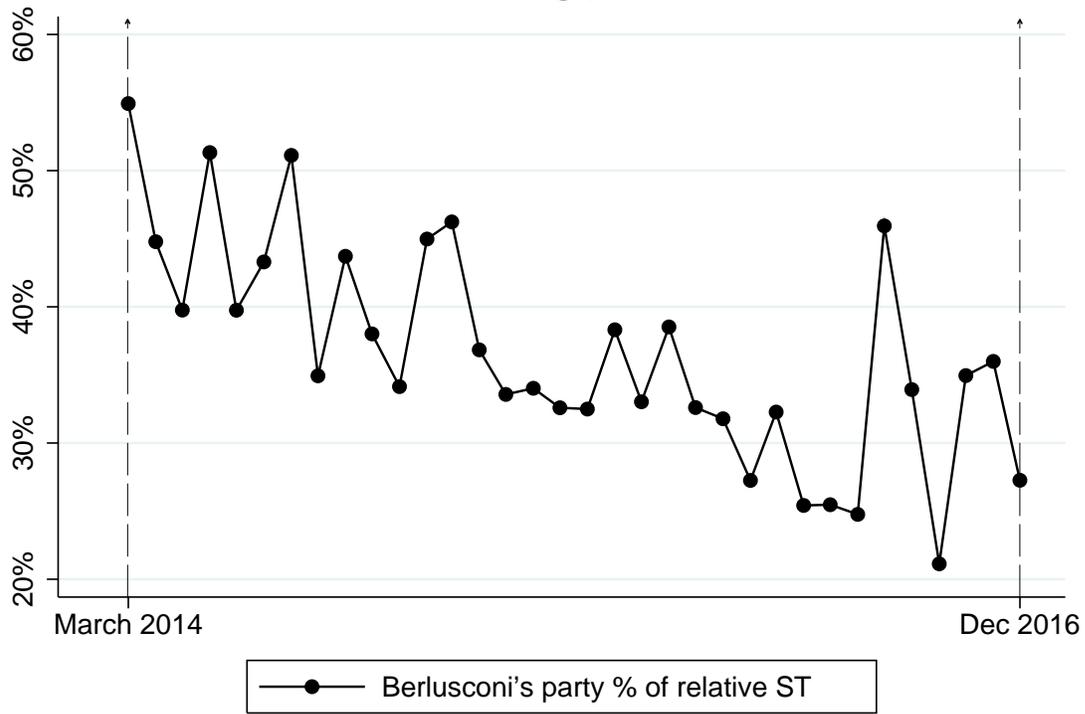
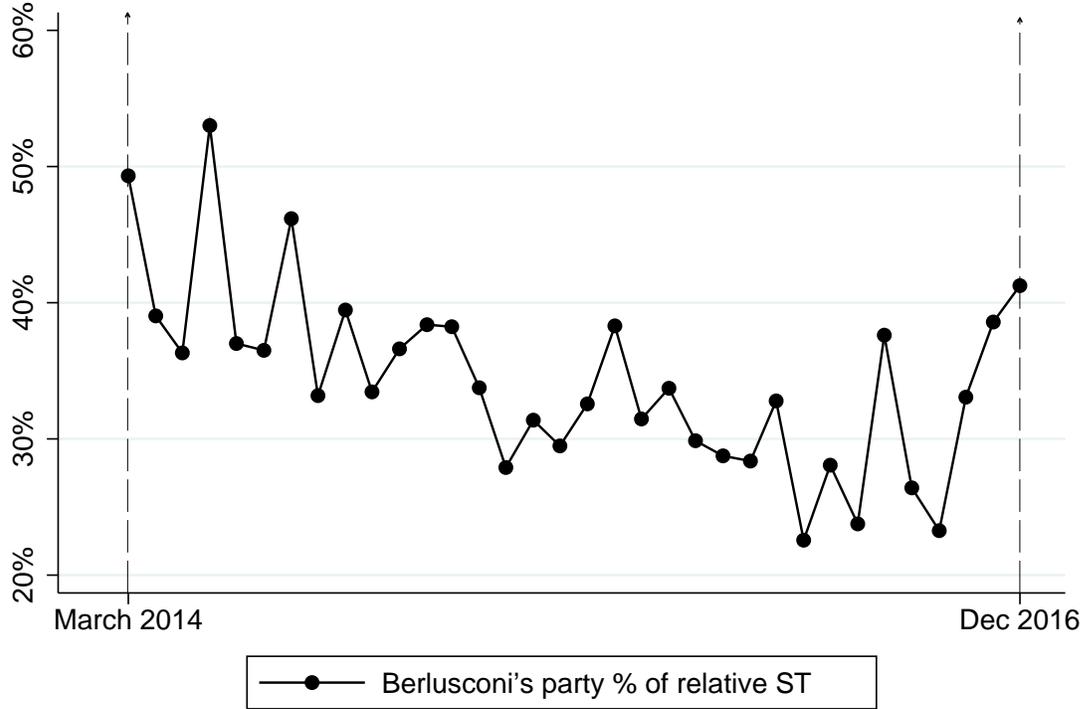


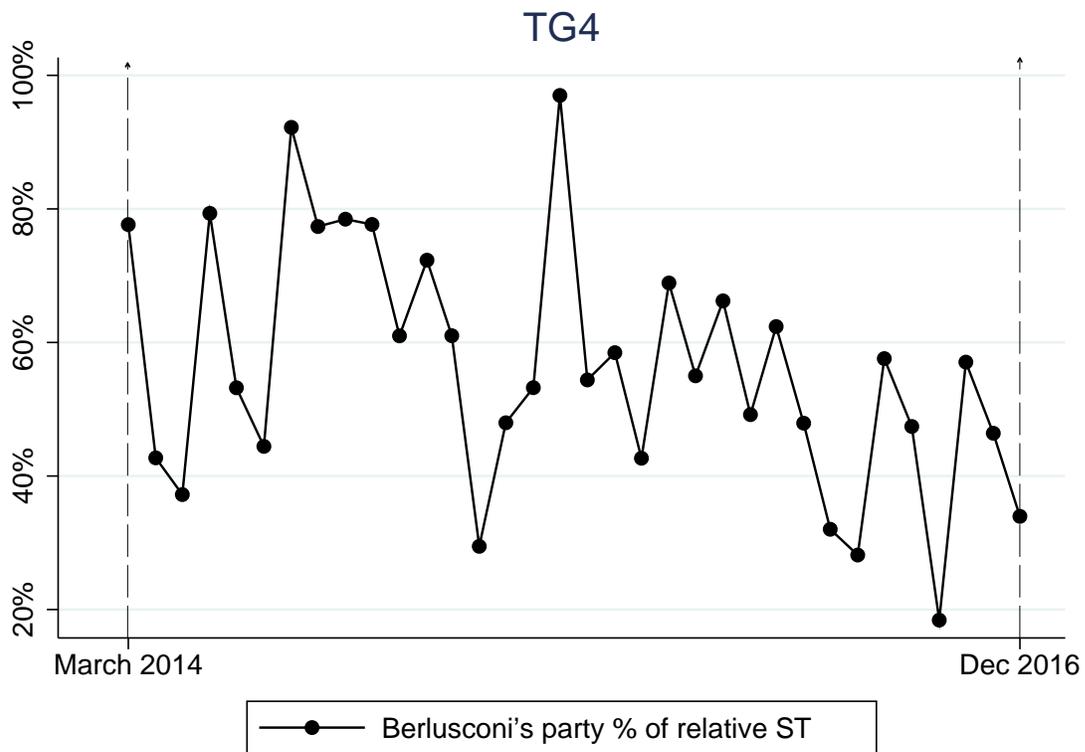
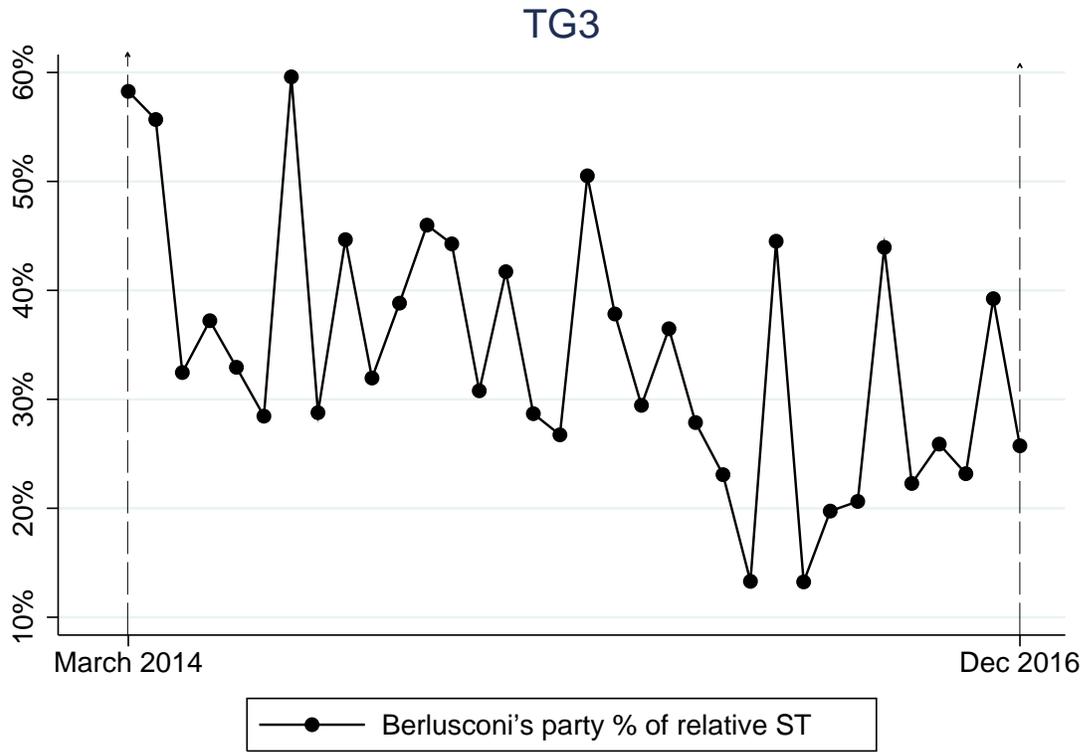
Figure 16(a) Berlusconi's party share of total time by group

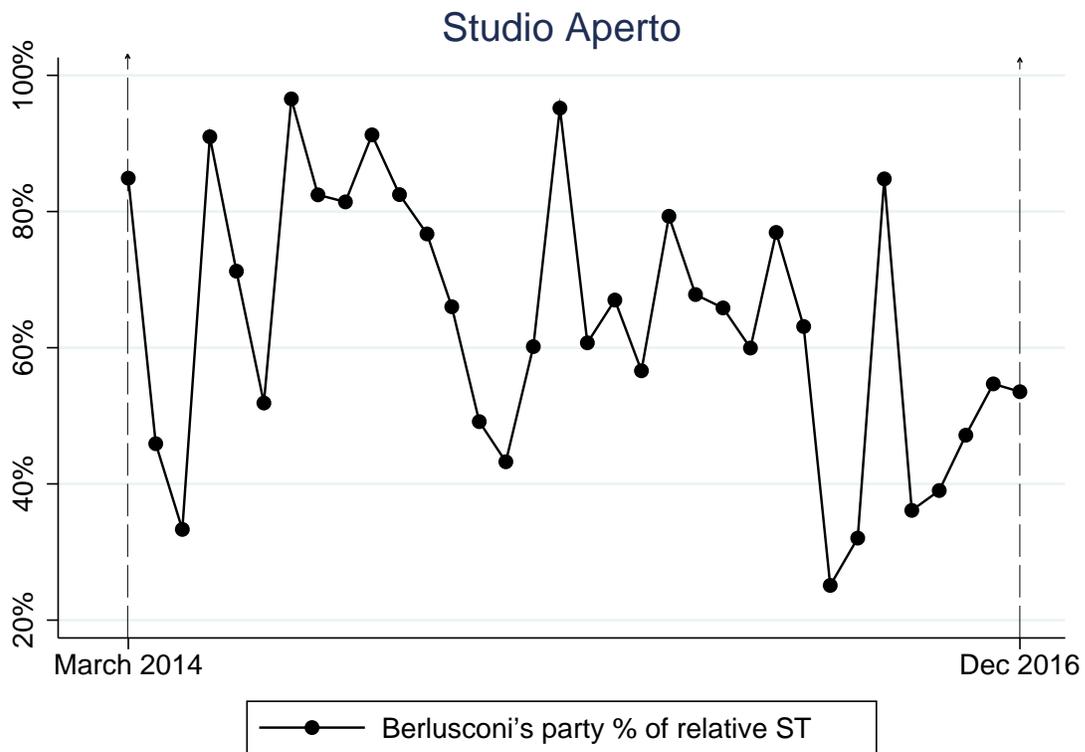
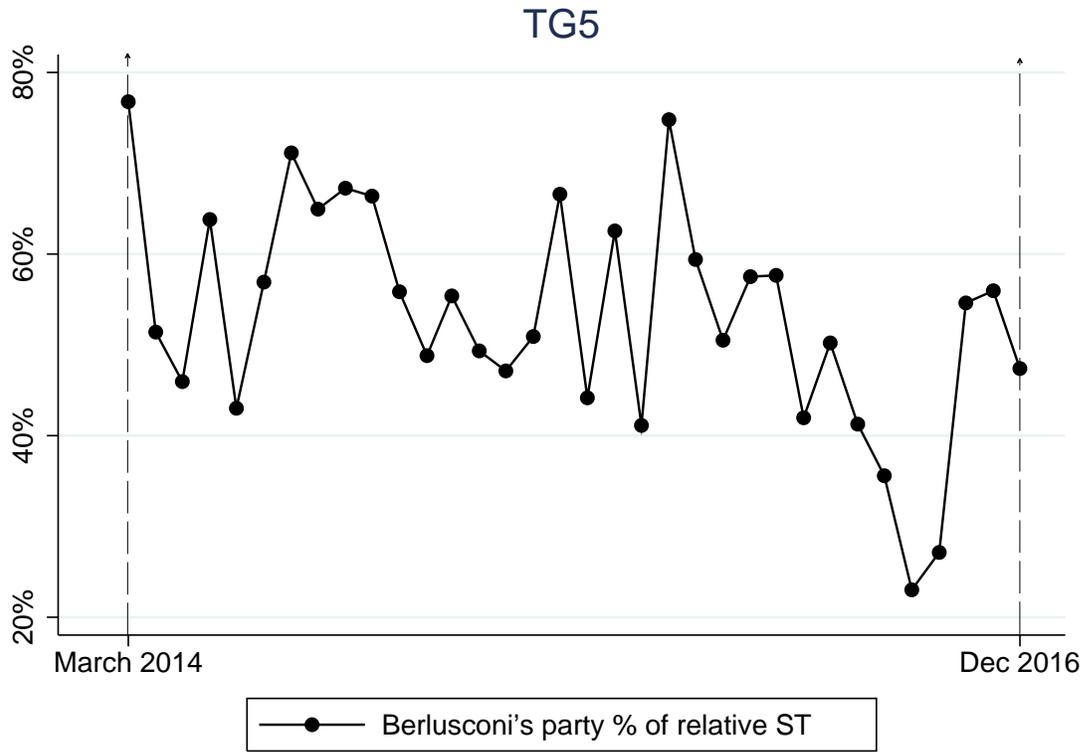
### TG1



### TG2







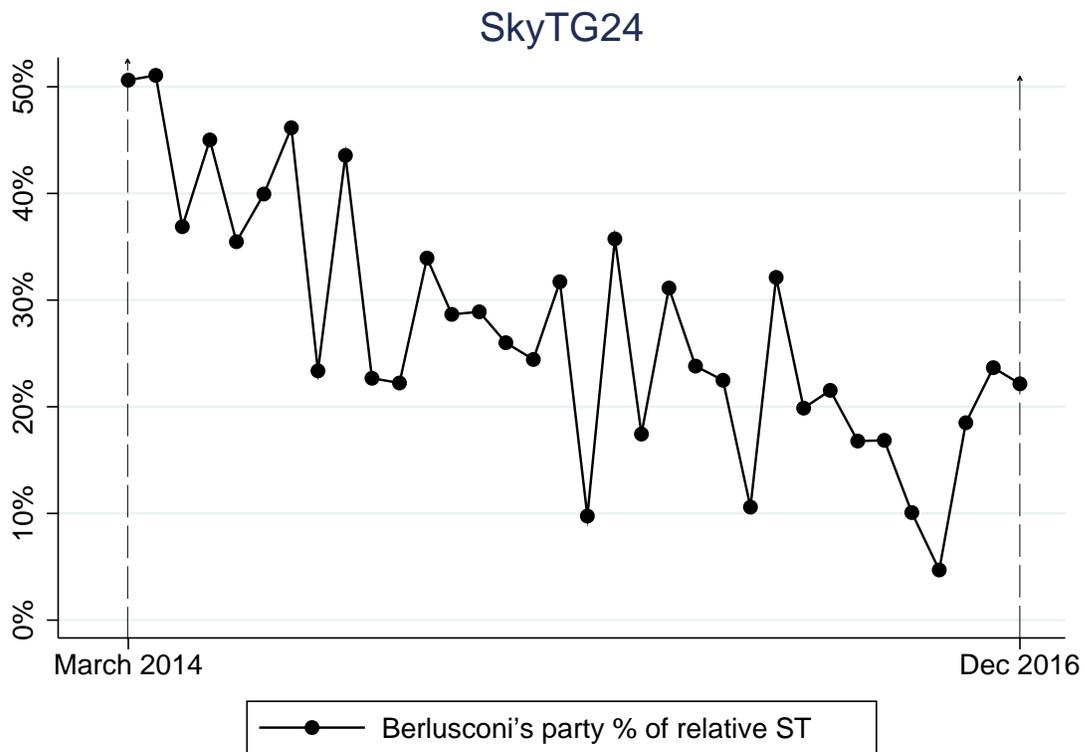
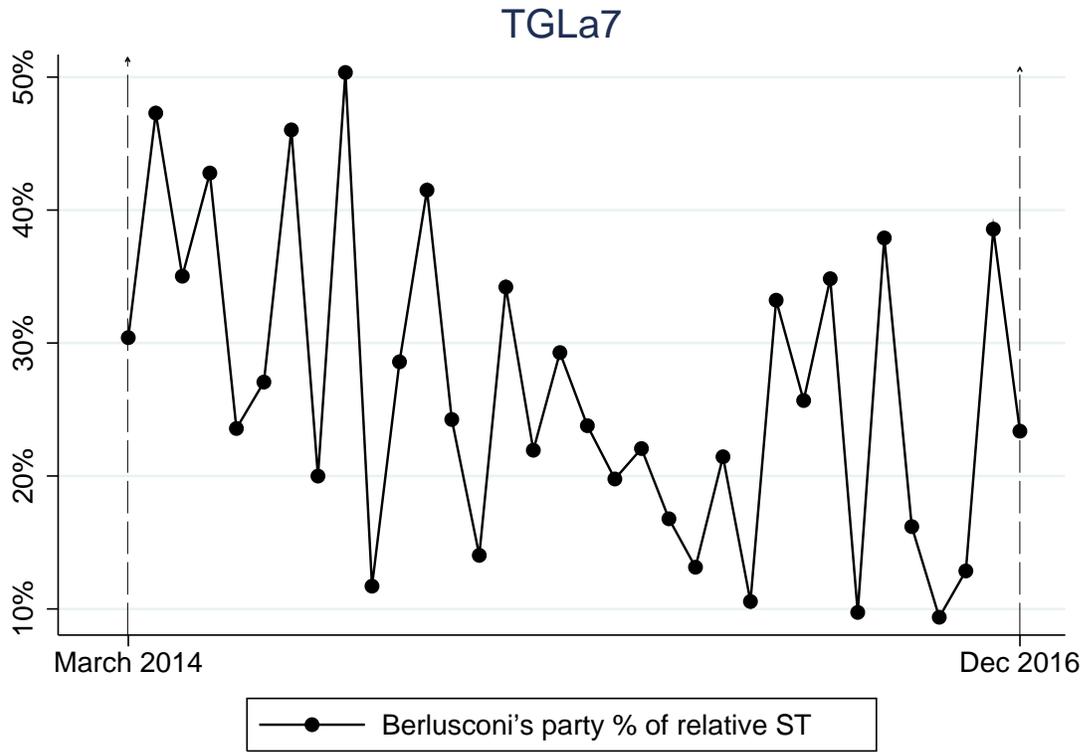
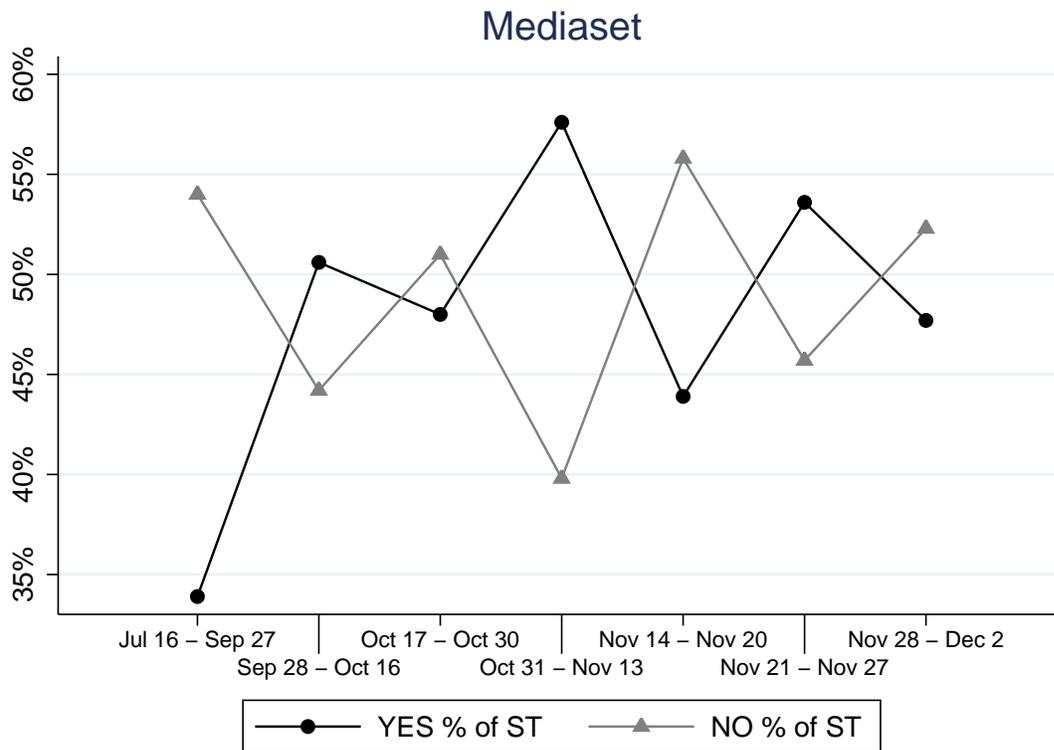


Figure 16(b) Berlusconi's party relative share of total time by channel

In this final section this paper is going to study the way Italian television stations distributed their airtime between the supporters of the No campaign and the Yes campaign. To this purpose, as a first step, this paper is going to compare the speaking time devoted to political actors supporting each side by each station and each company. Then it is going to compare the news coverage<sup>22</sup> that all the stations devoted to each constitutional alliance. The coverage which each station devoted to the two constitutional alliances is easily measurable. This paper is going to use again the data provided by AGCOM, which collected these two measures at different time intervals during the constitutional campaign. Figures 17 show the way each station distributed the total speaking time between the supporters of the No campaign and the Yes campaign.



<sup>22</sup>In this case there are no problems with the use of news coverage as a measure for bias towards one or the other referendum coalition because news coverage cannot take on a double meaning, which instead is the case when the speaking time is devoted to political actors.

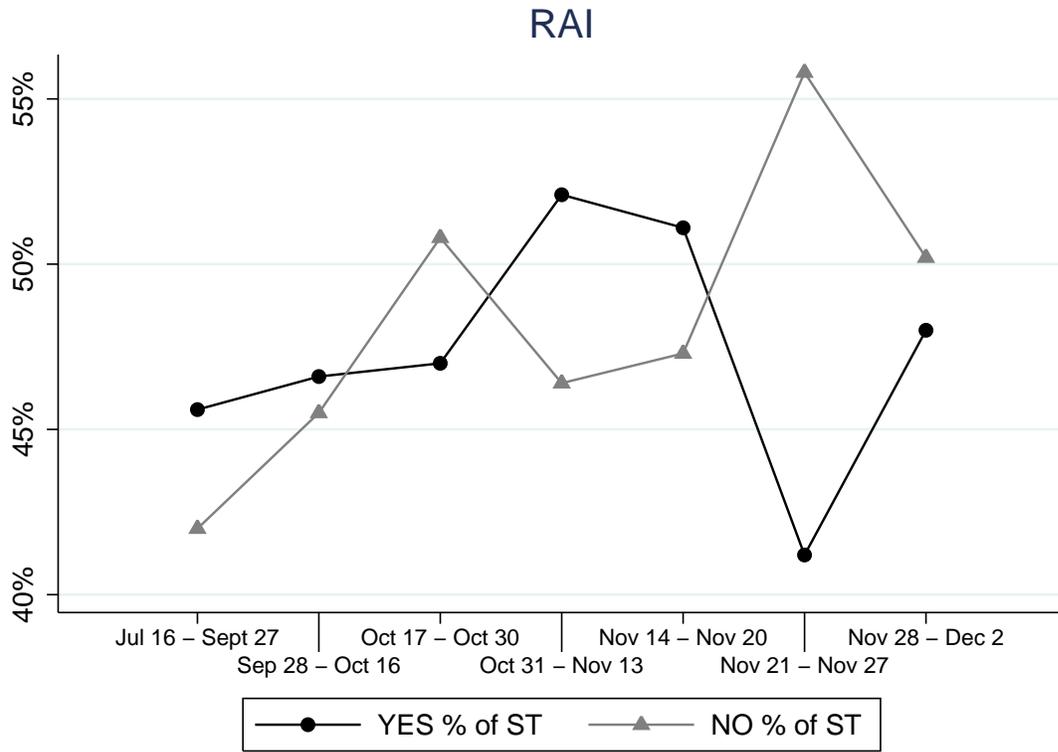
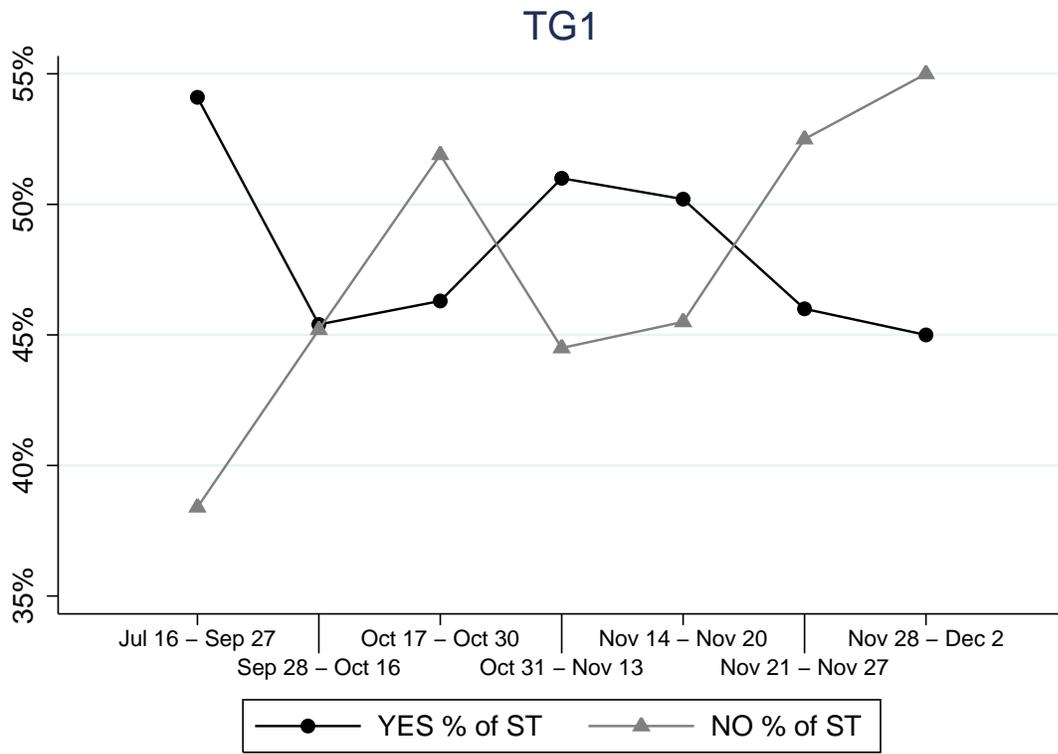
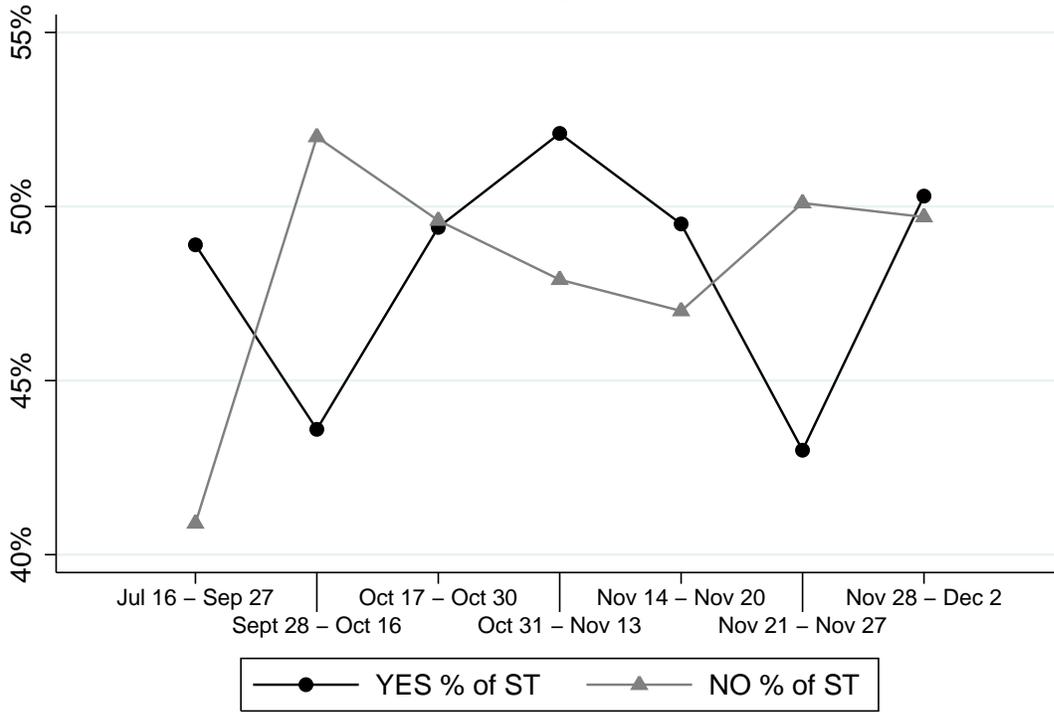


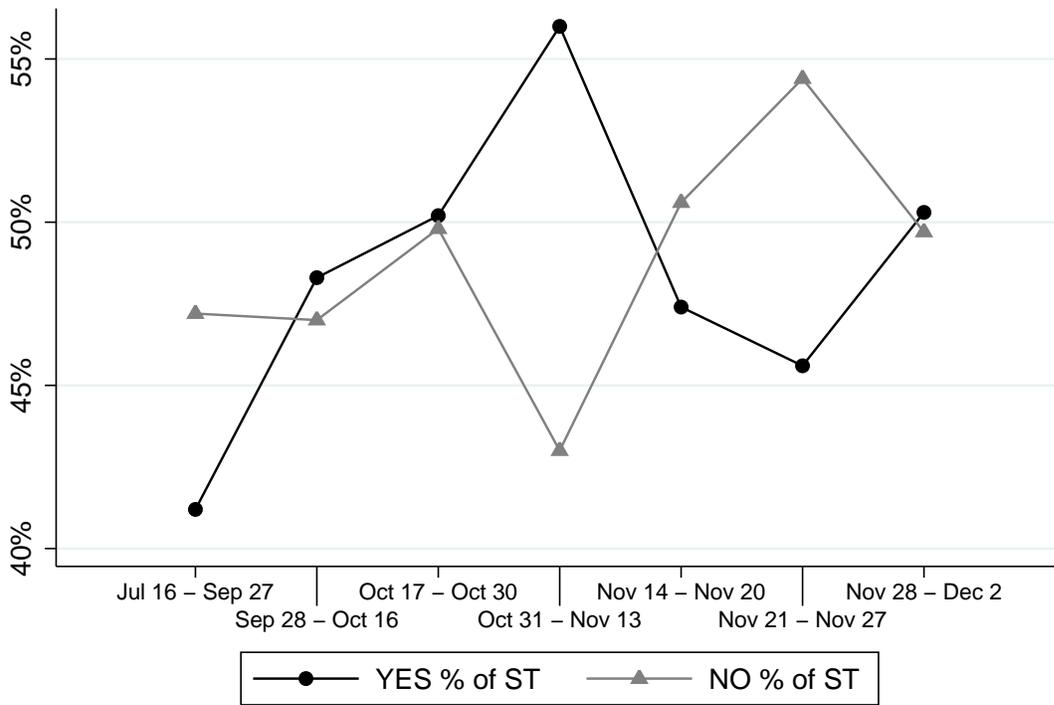
Figure 17(a) "YES" versus "NO" share of total speaking time by group



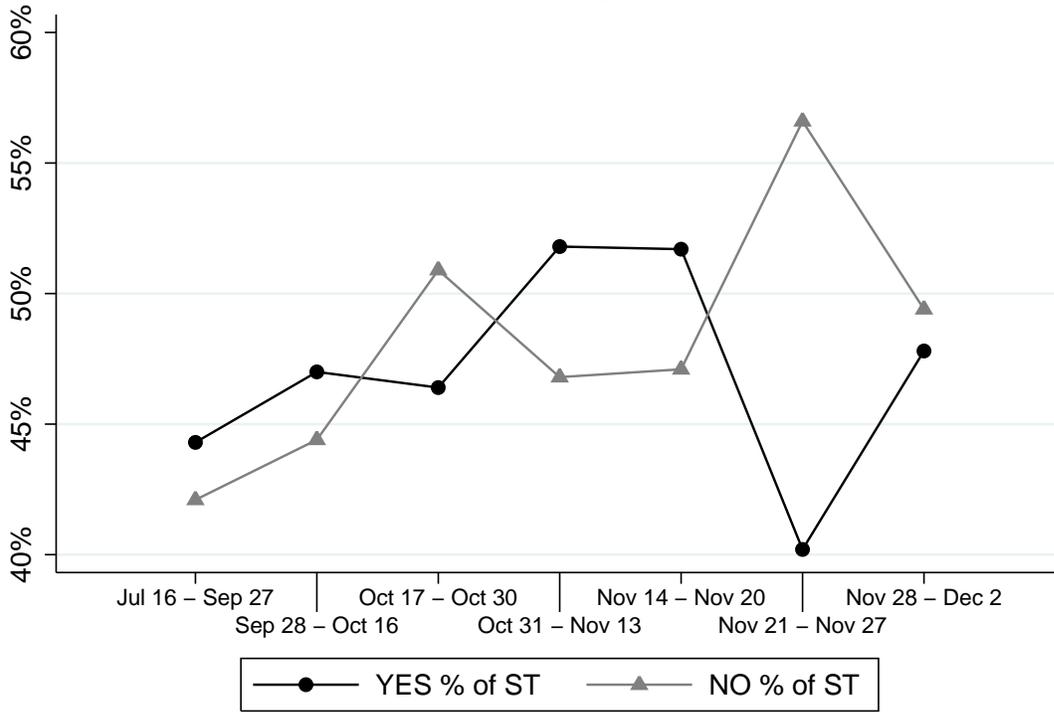
### TG2



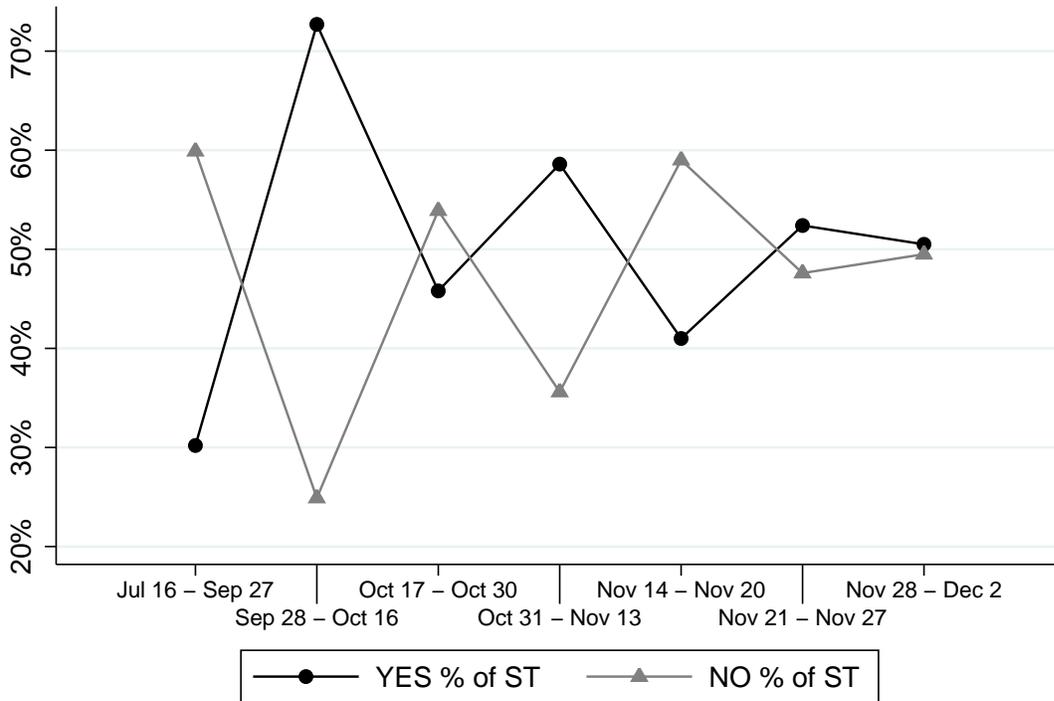
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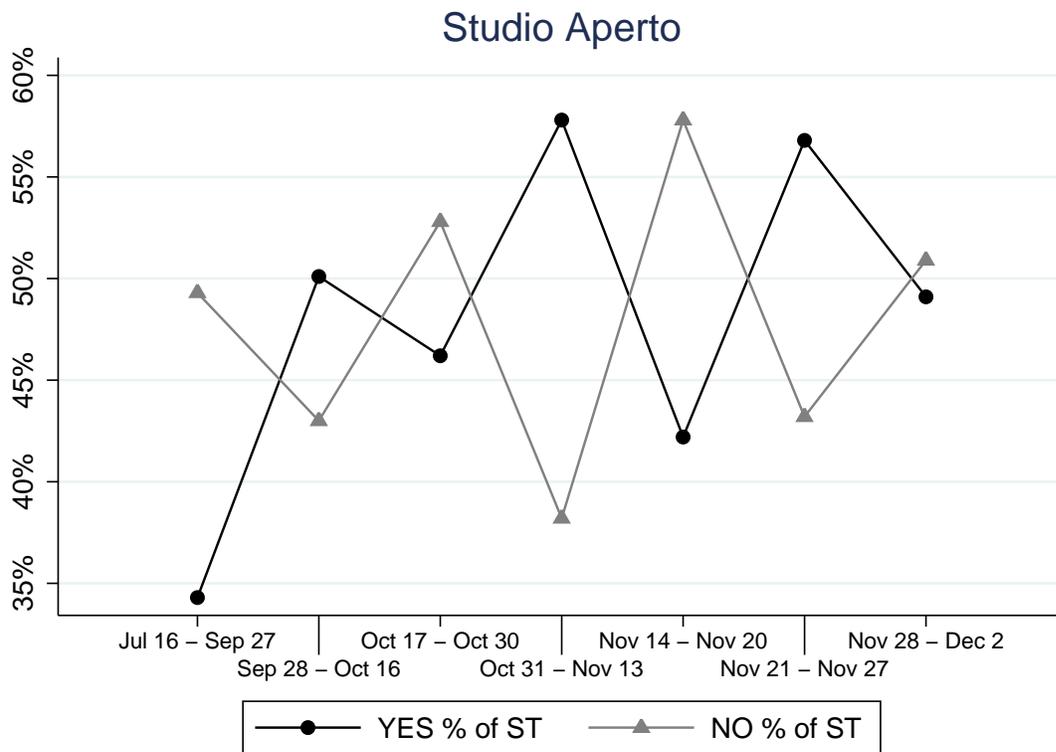
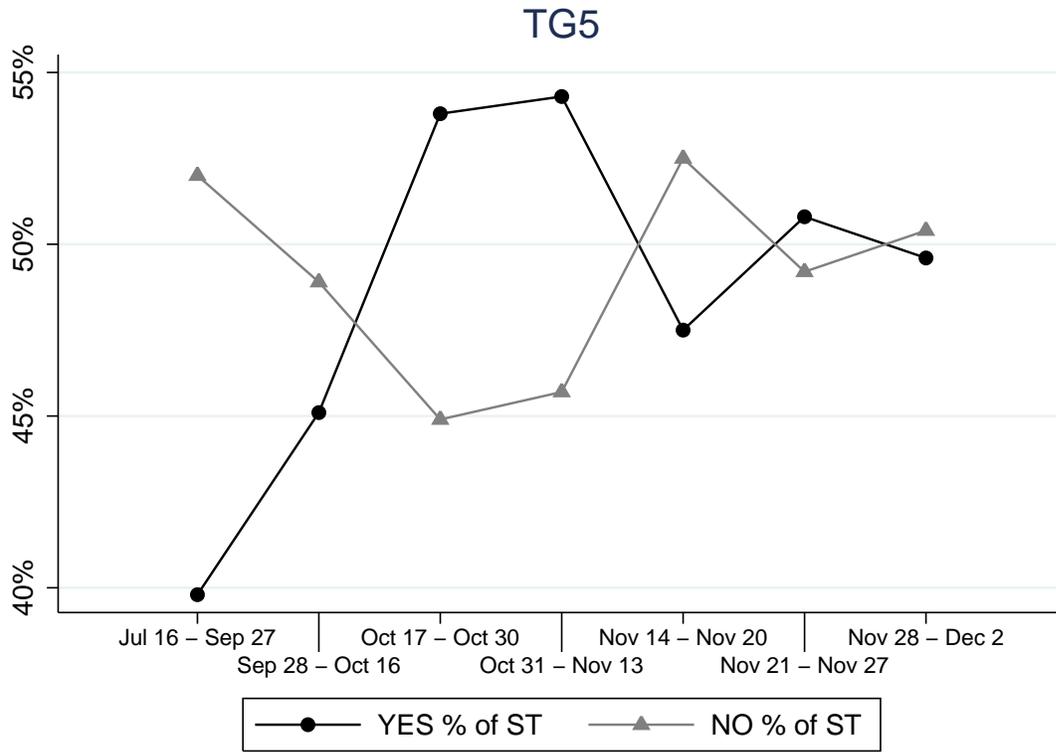


### Rainews24



### TG4





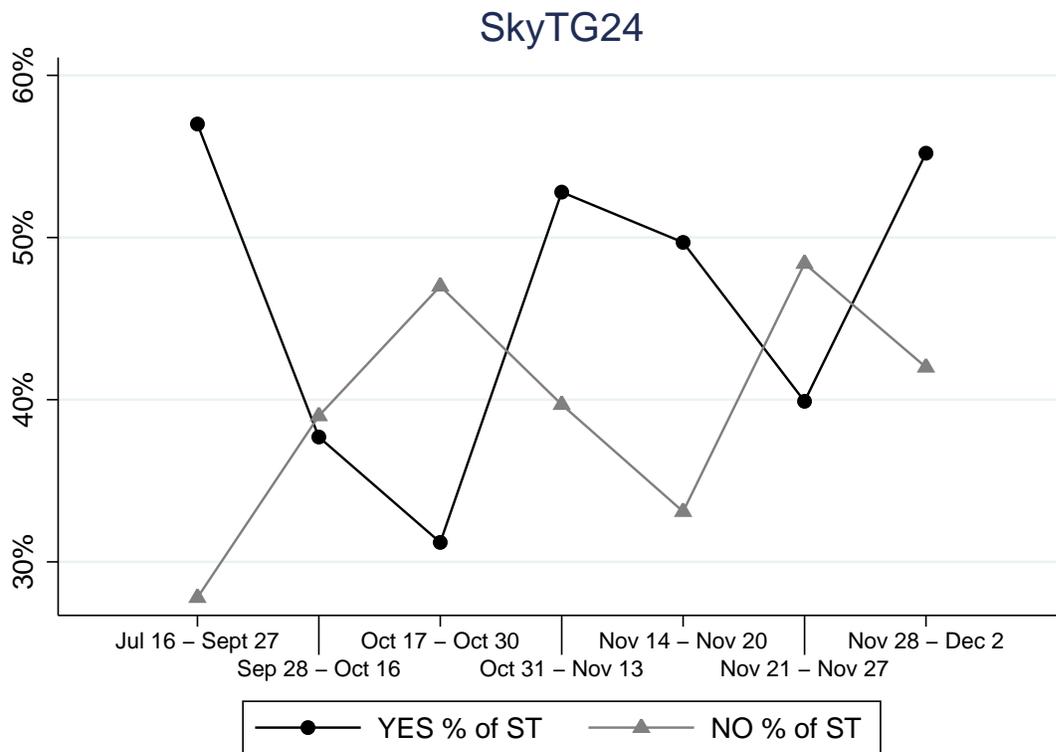
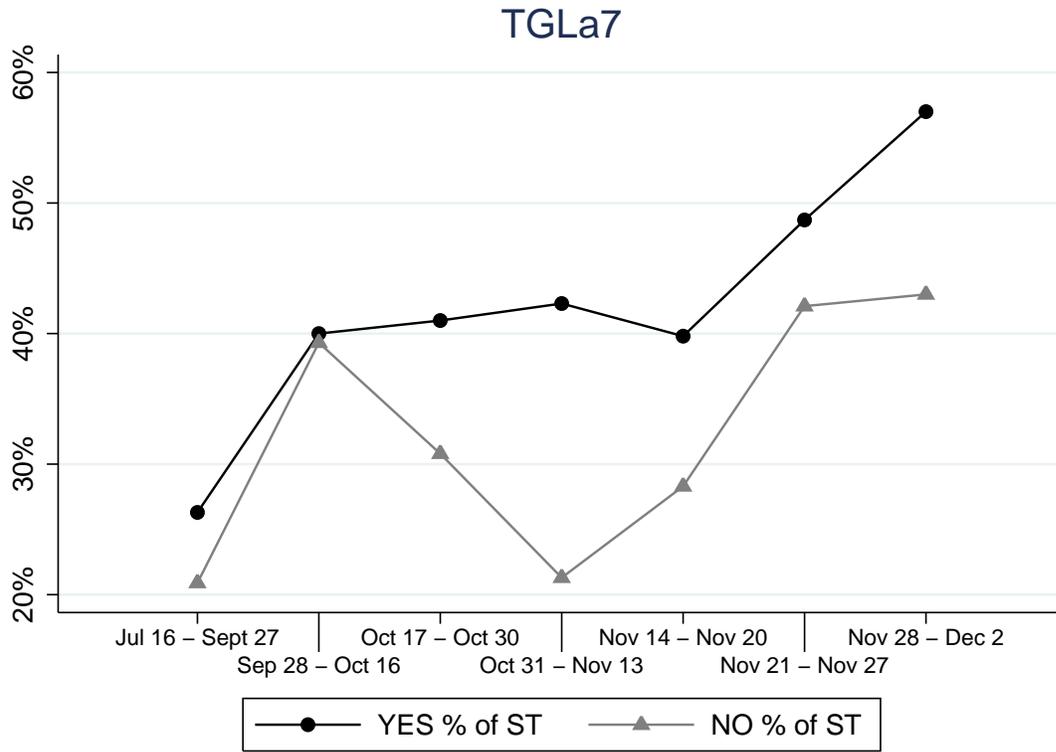
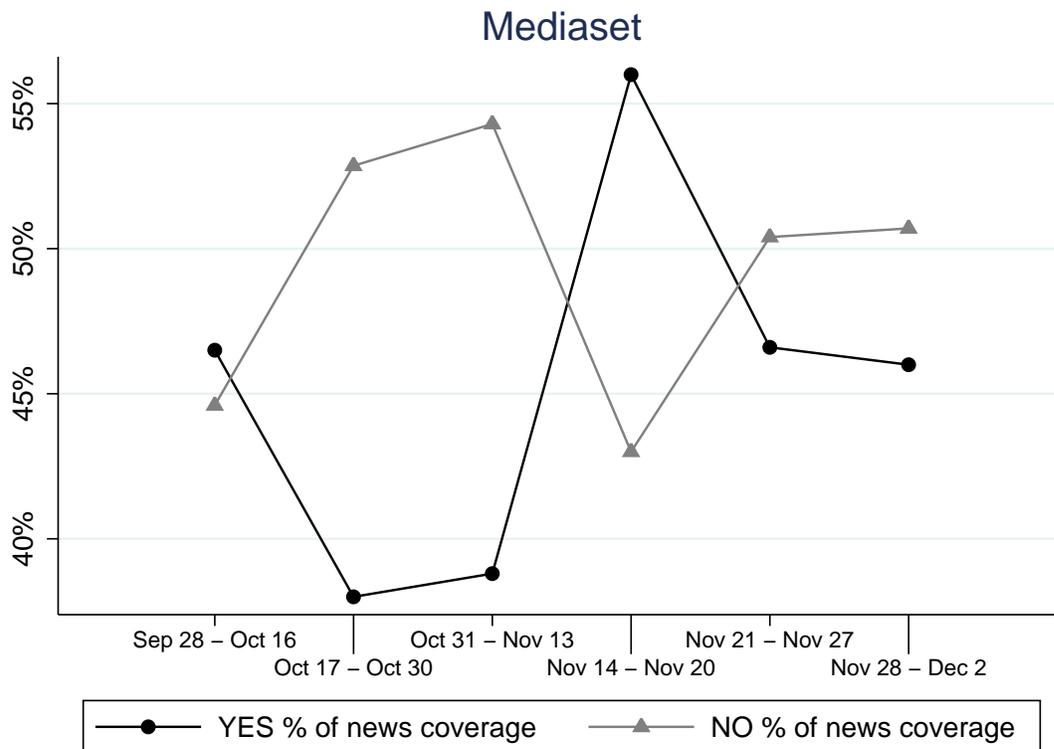


Figure 17(b) "YES" versus "NO" share of total speaking time by channel

We observe that there is hardly any programme which constantly devoted more speaking time to one alliance than the other, except for TGLa7, which devoted regularly more speaking time to the YES supporters. On the other hand Figures 18 show the way each station divided its news coverage between the two different alliances. Once again we may observe that there are no partial coverage patterns, except for TG2, which devoted regularly more coverage to the YES content. We can conclude that, as far as the constitutional referendum campaign is concerned, the Par Condicio rules have been respected by the Italian stations.



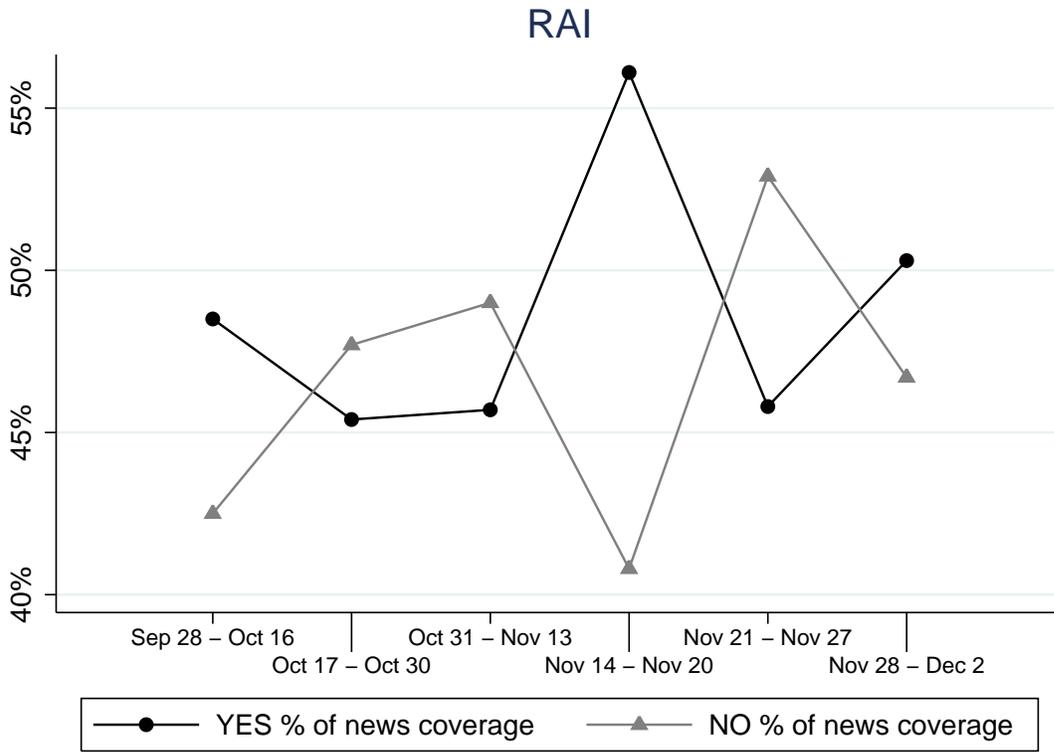
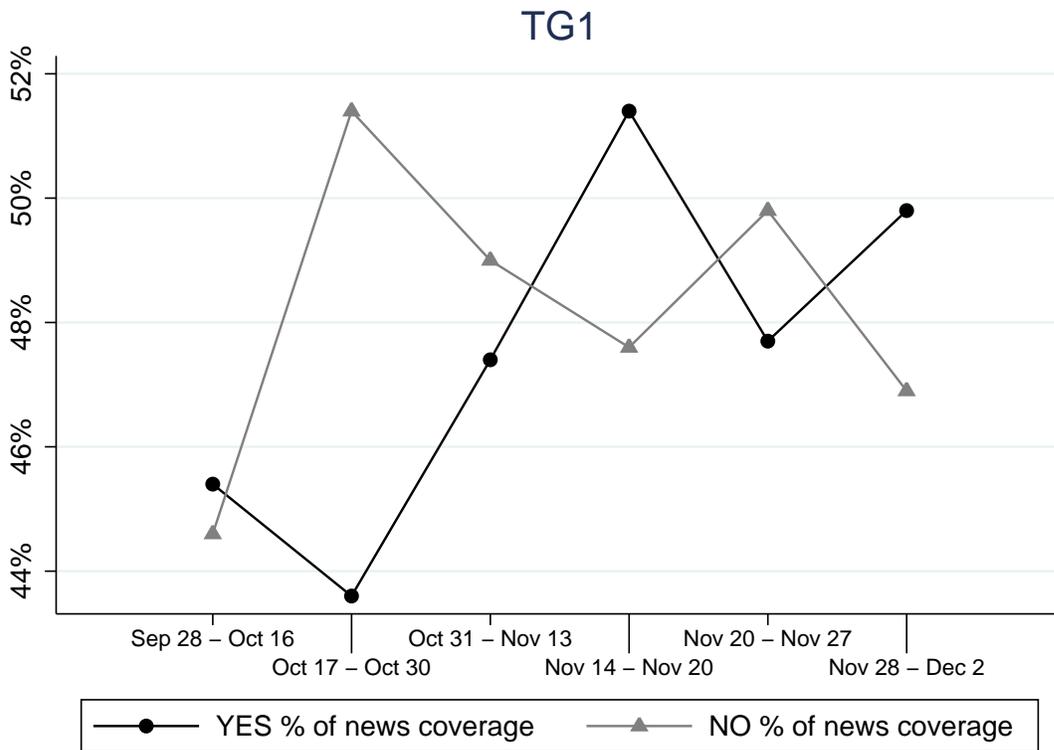
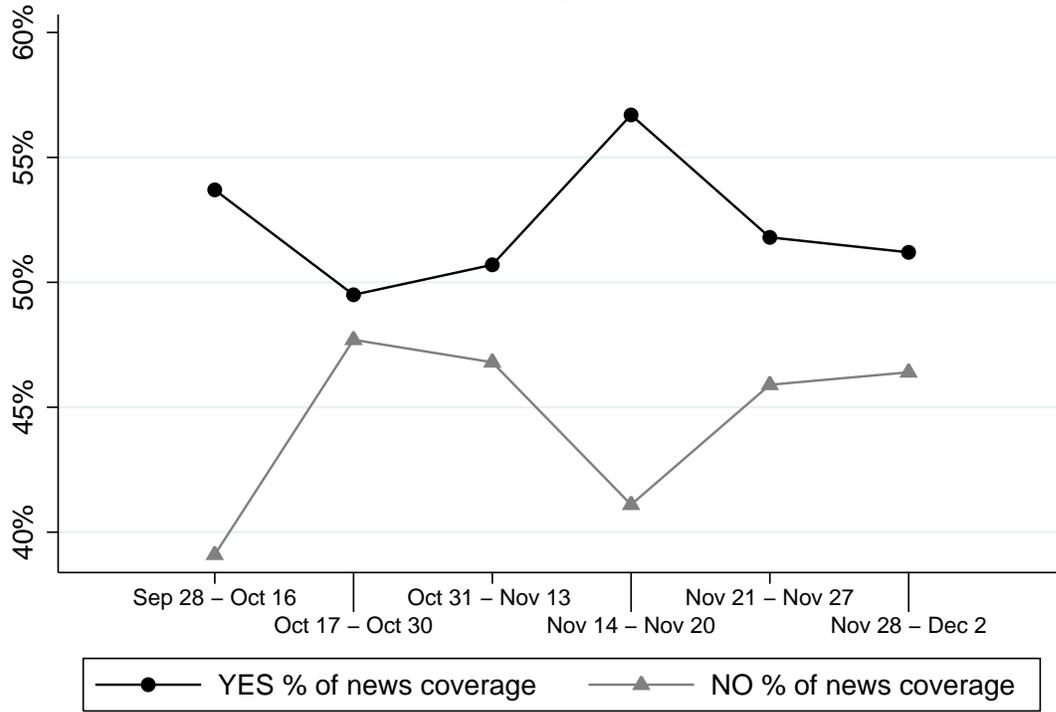


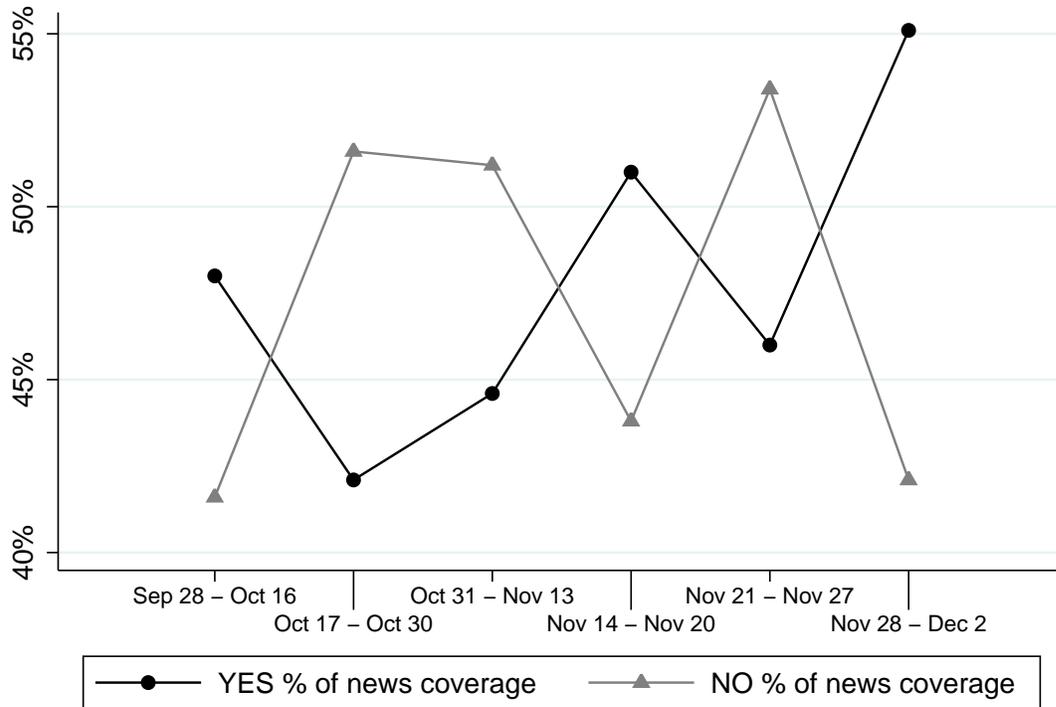
Figure 18(a) "YES" versus "NO" share of total news coverage by group



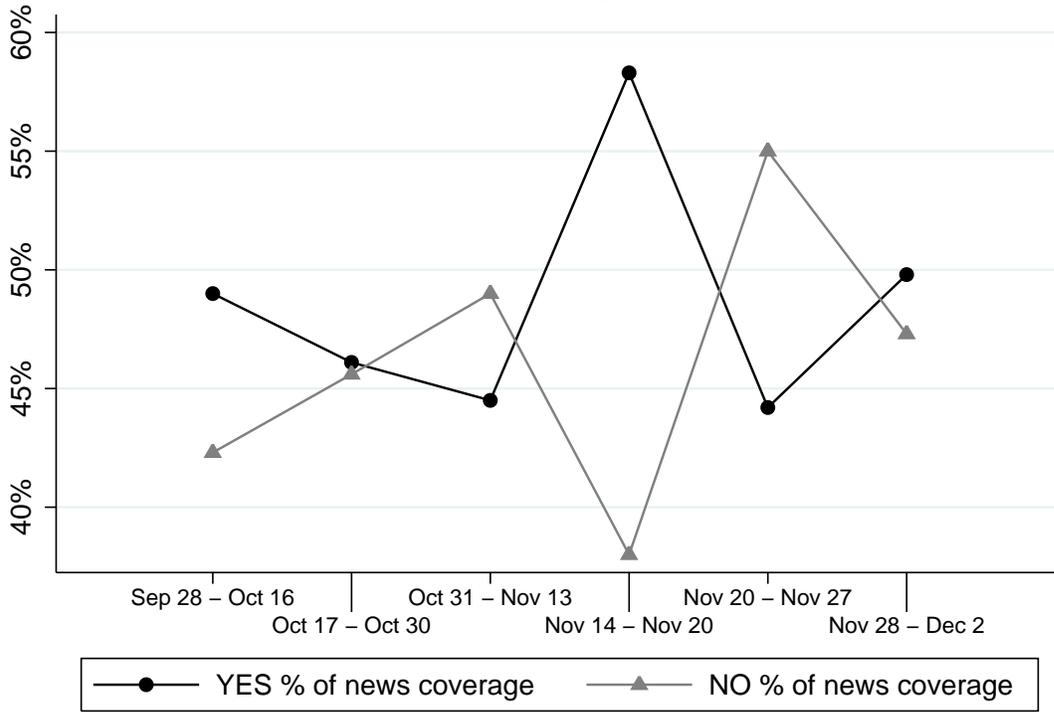
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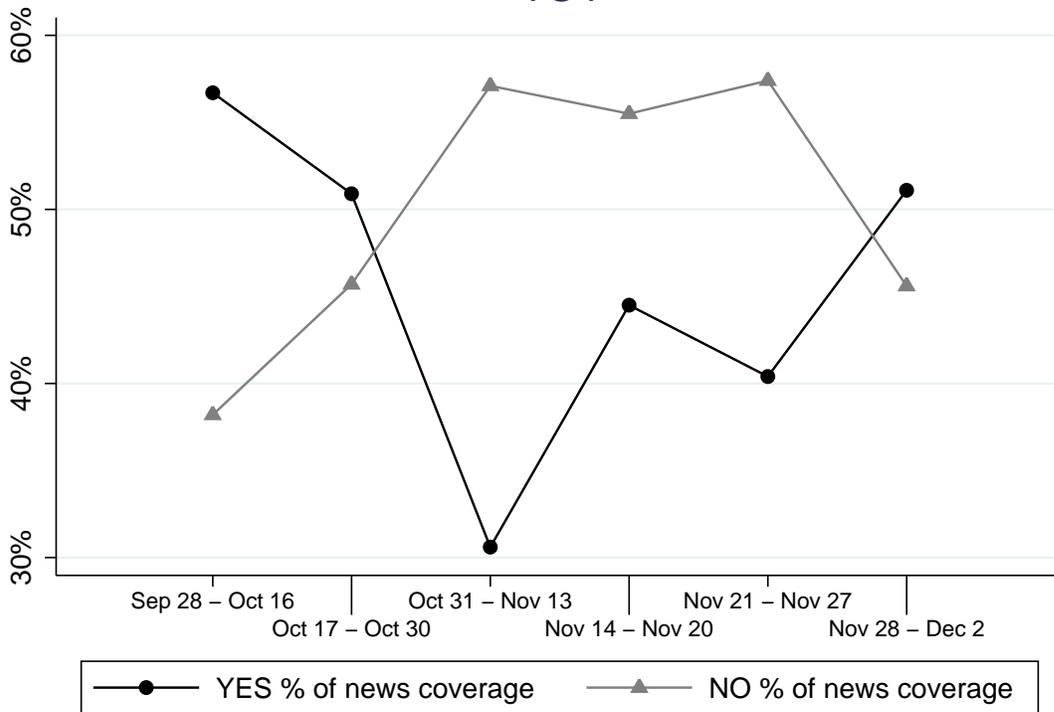
### TG3

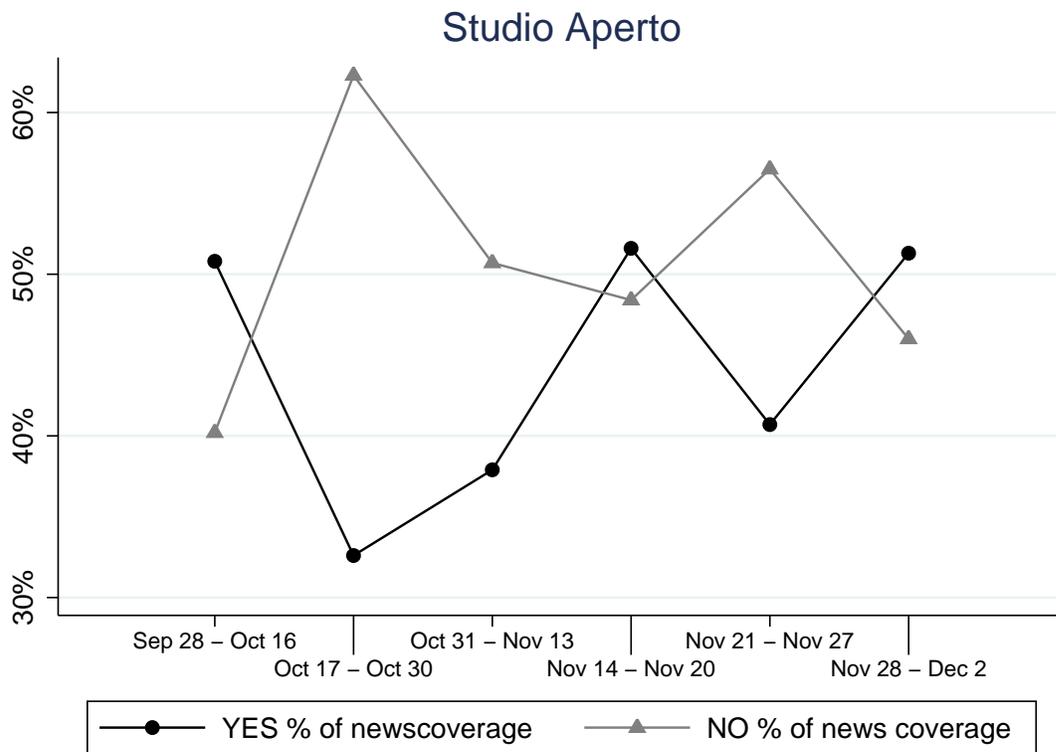
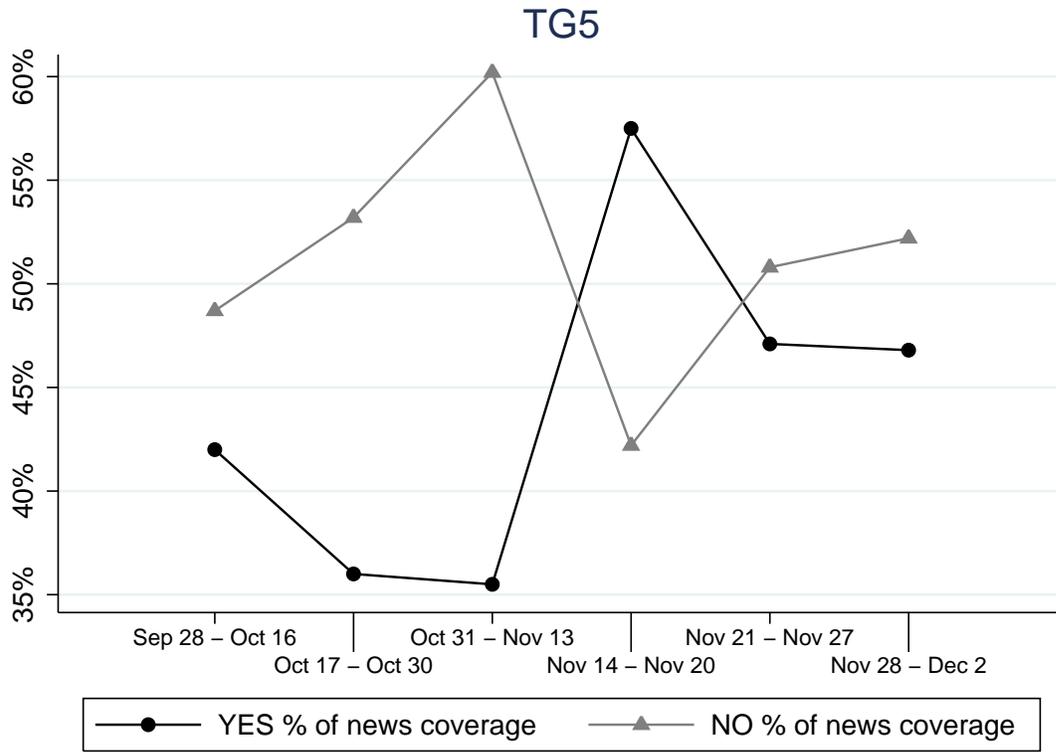


### Rainews24



### TG4





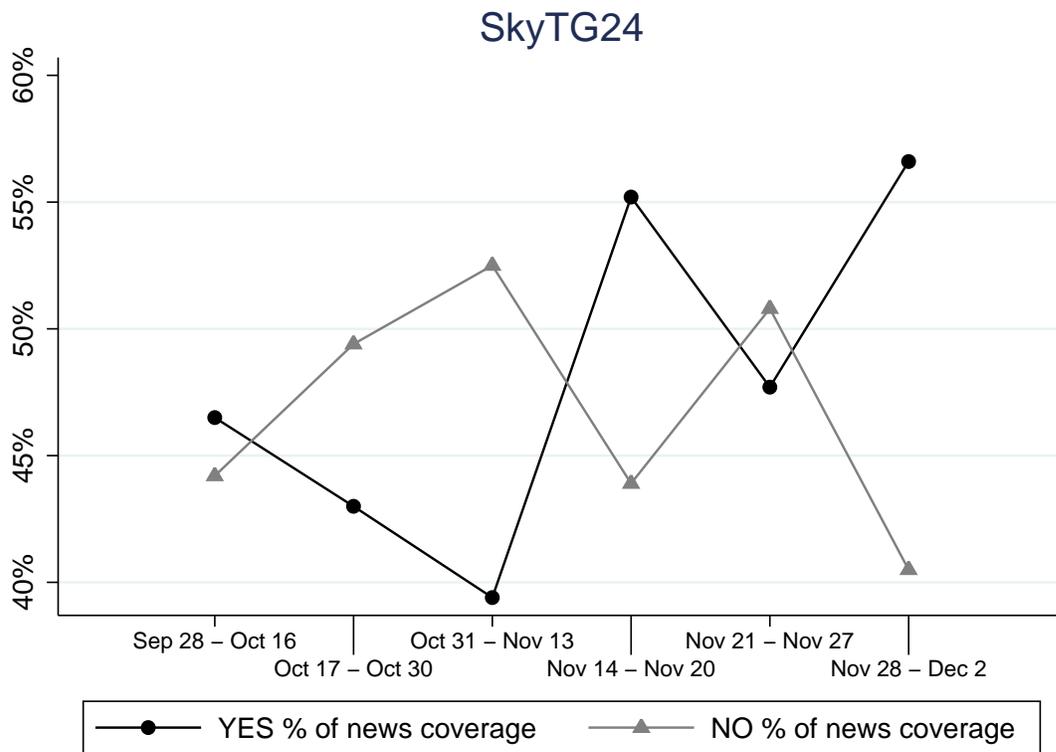
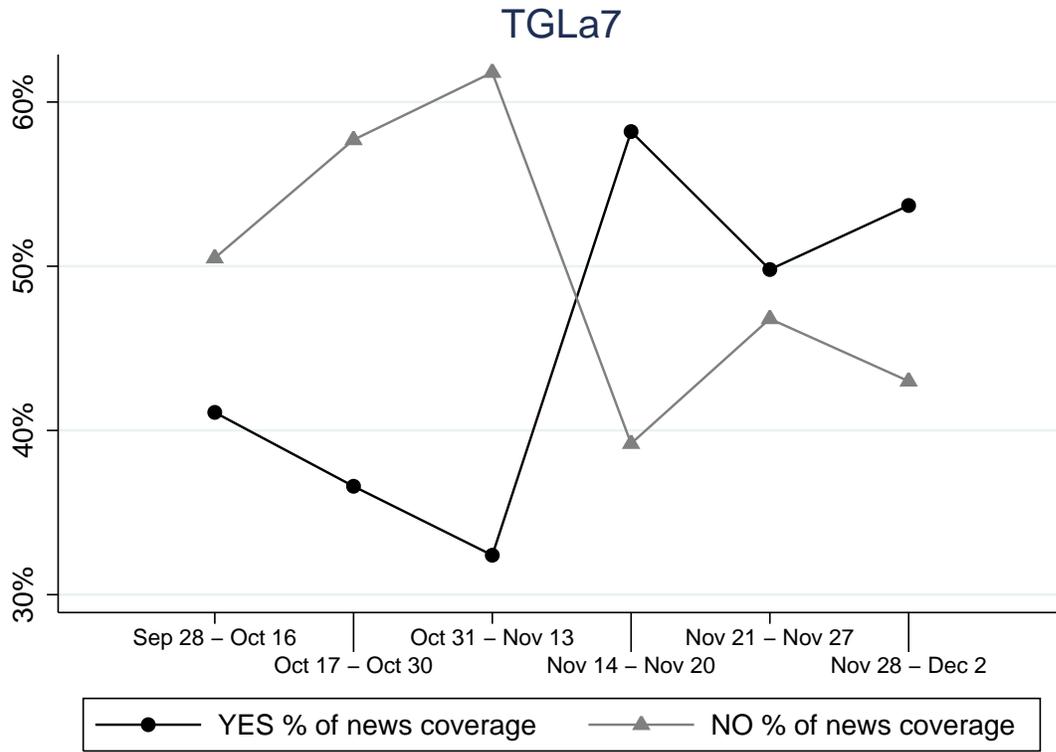


Figure 18(b) "YES" versus "NO" share of total news coverage by channel

## 8 Conclusions

By investigating the issue of supply-driven bias in the Italian television market, this paper shows that over the last eight years Mediaset on aggregate was biased towards the center-right coalition and RAI on aggregate favoured indifferently the two ruling coalitions, regardless of which governed the country. On the other hand, by analyzing each station separately, this paper shows that: all the Mediaset news programmes were biased towards the center-right coalition; TG2 was biased towards the center-right coalition; TG3 and Rainews24 were biased towards the center-left coalition; TGLa7 and SkyTG24 (the main news programmes of their respective groups, La7 and Sky Television) were not biased towards any political coalition. Moreover, this paper provides a Market Bias Indicator (MBI) which shows the way the overall Italian television system is biased towards the center-right coalition.

However after the arrival of Matteo Renzi, the new center-left leader, this paper shows that Mediaset on aggregate reduced its bias towards the center-right coalition if compared with the sample of Durante and Knight (from 2001 to 2007). Moreover TG4, Studio Aperto and TG2 reduced their biases towards the center-right coalition, while TG3 reduced its bias towards the center-left coalition. On the other hand TG5 increased its bias towards the center-right coalition.

We must add that Mediaset on aggregate increased its coverage of the center-left coalition if compared with the public network. Furthermore it was the Mediaset programme TG4 and the public programme TG2 which mostly increased their coverage of the center-left coalition if compared with all the other stations, despite the fact that the TG1 news content varied according to the changes of the coalitions which governed the country.

Furthermore its clear that the unbiased programmes La7 and SkyTG24 significantly devoted more airtime to Matteo Renzi if compared to Silvio Berlusconi when the two leaders were heads of the government, while devoting more airtime to the members of the Berlusconi government if compared with the members of the Renzi government.

This paper also describes the way demand-driven factors may affect news content, focussing on the increasing amount of speaking time received by the Five Star Movement and on the decreasing amount of speaking time received by Forza Italia over the last eight years. These patterns reflect the respective electoral appeal that these two parties are enjoying according to several recent polls.

Finally, this paper proves that specific political events may affect the national provision of news. More precisely, the analysis shows that the last Italian constitutional referendum changed the distribution of speaking time among the opposition parties. Indeed, Forza Italia recovered some opposition speaking time during the referendum campaign at the expense of

the Five Star Movement, which still remains the first opposition party in Italy. Moreover it is clear that all the Italian televisions did not evidently favour either the supporters of the No referendum campaign or the supporters of the Yes referendum campaign, both in terms of speaking time and news coverage.

These results show the way partisan control may lead to media bias and how the political scenery may affect news coverage. Given this context of government interference and politicization of the whole Italian television system, it is easy to see that political outcomes might be heavily influenced if consumers did not have access to a full spectrum of information, for instance the information provided via websites and social media, despite the problem of fake news which circulate on the Internet.

# Tables

# Figures

## Appendix A. Placeholder