

Political influence on news agency coverage of Ukraine crisis

Quantitative analysis of news coverage of 2014 Ukraine crisis by ITAR-TASS and Interfax news agencies

Kohei Watanabe
May, 2014

Abstract

Russian official news agency ITAR-TASS's news framing of Ukraine crisis in 2014 is analyzed along with Interfax, AFP and AP in differences-in-differences design. The results of statistical analyses show that ITAR-TASS's news coverage of Russian leaders became 48% more positive immediately after the secession referendum indicating the presence of the influence of Russian authority on ITAR-TASS's news editorial policy. Further, a series of analysis demonstrated similarity between ITAR-TASS and Interfax in news framing as a result of its dependency on the official agency for political information. The indirect influence of the Russian government on Interfax's news reporting suggests vulnerability of today's news industry to political influence in major international crises.

The protests in Kiev started after the Ukrainian government's decision to suspend negotiation with the European Union and to strengthen economic ties with Russia in November in 2013 finally toppled Viktor Yanukovich's government on 22nd February next year. A week after the collapse of the pro-Russian government, Russian soldiers appeared in Sevastopol in Crimea and started effectively occupation of the region. On 16th March, the Russian government organized secession referendum in Crimea and the official result reportedly showed that 97% of the Crimean supported to join Russia. The leaders of the member states of European Union and the United States strongly condemned the Russian government for the referendum and annexation of Crimea, and the political situation was described as "the 'biggest crisis' facing Europe in the 21st Century" by British Foreign Secretary William Hague (Robinson, 2014).

To general public, the understanding of the crisis in Ukraine is totally dependent of news media such as newspapers, TV news, and online news. Those 'retail' news media are in turn known to be reliant on news agencies for foreign news gathering (Boyd-Barrett, 1980; Paterson, 2005, 2011). While Reuters, Associated Press (AP) and Agence France-Presse (AFP) are the main providers of international news stories in the United States and West European countries; ITAR-TASS (Information Telegraph Agency of Russia) and Interfax are the two leading news agencies in Russia. The predecessor of ITAR-TASS had been one of the largest news agencies during the Cold War period, and it maintains privilege status as the official news agency of Russia today. Interfax is an independent commercial news agencies established in the early 1990s and allied with Western partners including Reuters, Moody's, Experian, LexisNexis

(Vartanova & Frolova, 2010). Those Russian agencies are not only producing news stories in Russian language but also distributing them in English language for the overseas audiences.

Given the fact that the most of the people are totally dependent on news for the understanding of the crisis in Europe, objective and impartial coverage of the events in Ukraine is an important requirement to news media. This demand is even more critical to news agencies that have the broader impact on the public through the number of news outlets owned by their client news organizations. However, ITAR-TASS is a state owned news agency and its operation is directly supervised by the government, and thus its news coverage on Ukraine during the crisis might have been distorted in the way that favors the Russian government's decisions. In fact it is widely known that its predecessor had been a propaganda apparatus of the Soviet Union (Vartanova & Frolova, 2010), and the lack of press freedom in the country has been criticized to date.

The purpose of this paper is to examine the influence of Russian government on editorial policies of ITAR-TASS by a quantitative case study of Ukrainian crisis. Two key events, the fall of Victor Yanukovich's government in February 22nd and the secession referendum in Crimea on March 16th, are used as interventions to measure the influence of government on its news reporting. In the following analyses, news coverage on Ukraine by ITAR-TASS will be compared with Interfax as well as AFP and AP in terms of positive-negative framing using a dictionary-based text analysis.

Research Question

Since ITAR-TASS is controlled by the Russian government, and the country's limited press freedom (Freedom House, 2013), we can expect that the government try to influence Russian official agency's reporting on important political events, but no empirical evidence has been presented about the relationship between the government and the news agency. Thus the research question of this study is as following:

RQ: Whether the Russian government has influence on the editorial policy of ITAR-TASS or not?

Methodology

We are not able to observe the process through which Russian government officials influence the operation of ITAR-TASS; such a process is always hidden from the public as well as from researchers. Hence, the only way to measure the influence of the government on the editorial policy is analyzing its outputs during major international political events Russia is one of the major actors. The Ukraine crisis is such an event, and there seems to be no doubt that the government demand the news agency to support the government's view, so the influence of the government, if any, must appear in ITAR-TASS's news reporting.

The research design is based on differences-in-differences often used in Econometrics (e.g. Card & Krueger, 1994; Card, 1989), and ITAR-TASS's news coverage is compared with other news agencies' coverage during the Ukraine crisis. In the first stage of the analysis, Interfax is treated as control, because it is an independent commercial news agency allied with Western

news agencies and databases service providers (Vartanova & Frolova, 2010), and thus its editorial policy is assumed to be free from Russian government's interventions. Then, in the second stage, French and American news agencies, AP and AFP, are introduced as control for further discussion on the two Russian agencies.

For the analyses, news stories on Ukraine published by the four news agencies during a period between 1st of January and 31st of March 2014 were collected from Nexis database. The database search was limited to English language and search query of 'ukrain*', which matches words such as 'Ukraine', 'Ukrainian' and 'Ukrainians', was used. After removing non-general news stories (e.g. economic and sports), and news summaries and news schedules submitted by the agencies, the number of stories became 3,766 for ITAR-TASS, 8,939 for Interfax, 1,894 for AFP and 631 for AP. Given the small volume of stories, AFP and AP were aggregated. After the removal of numbers, marks and punctuations in the texts, average length of articles was 204.8 words.

In order to measure negative or positive news framing, the numbers of positive and negative words in each article were counted using a dictionary contains 4,400 negative words and 3,048 positive words. The dictionary was created based on the General Inquirer Dictionary (Stone, Dunphy, Smith, & Ogilvie, 1966) that contains list of English words tagged either as positive or negative. This list was extended to include inflected words using a list of lemmas compiled by Someya (1998). Since the text analysis is a simple but common bag-of-words approach, the words in the General Inquirer Dictionary whose negative-positive valence is dependent on part of speech were excluded from the dictionary.

Since the measuring of positive-negative framing of news is simple keyword matching, there might be an external validity concern especially about differences from human interpretations, but there are three indispensable advantages: First, the dictionary-based text analysis allows content analysis of a large dataset that is necessary for this type of research. Second, the large number of keywords allows capturing the subtle differences in positive-negative valence that human coders can overlook. Third, since exactly the same set of words is used for all news sources across time, the coding becomes highly consistent.

The positive-negative valence of each news story was calculated by log-odds ratio between the numbers of positive and negative words with add-one smoothing. Overall, positive-negative valence scores of the 15,230 items distributed approximately normally around mean 0.35 with standard deviation 0.95.

The data set was divided into weeks start from Sundays and only the period between week 3 (start from 19th of January) and week 13 (start from 30th of March) was used for analysis, because the number of news stories was very few before week 3. The period between week 3 and week 6 were relatively quiet and stories were mostly about the street protests in Kiev, but violence in the capital escalated after week 6 and two key events took place: on the last day of week 7 (22nd of February), Victor Yanukovich's government collapsed and he fled to Russia; on the first day of week 11 (16th of March) the secession referendum was held in Crimea and it paved the way to Russia's annexation the region. Therefore, the week 3 to week 6 were treated as pre-intervention period, and week 8 and 11 were as post-intervention period for the respective events in the differences-in-differences design.

Hypothesis

We can expect that the framing of events in Ukraine by ITAR-TASS reflects their desirability to Russian government, if the agency's editorial policy is under the influence of the Russian authority. In the course of the political crisis, Russia emerged as a main actor by hosting exiled President of Ukraine and by organizing the secession referendum in Crimea. The collapse of the Victor Yanukovych's pro-Russian government and take over by its opposition party is a negative event to Russia, but the result of the referendum in Crimea supporting annexation is very positive to Russian government. Therefore, hypotheses are:

H1: News framing on the Ukraine crisis by ITAR-TASS became more negative than that by Interfax in week 8.

H2: News framing on the Ukraine crisis by ITAR-TASS became more positive than that by Interfax in week 11.

Results

There is a large difference in volume of news stories published by the news agencies: the Interfax reaches as high as 1,200 in week 8, while ITAR-TASS and AFP and AP combined are about a half of Interfax. Yet, the patterns of the changes in the number of items are very similar: stories increase in the week 7, when violence in Kiev intensified and the high level maintains until week 12 (Figure 1). The volume is particularly low in week 0 (from 1st to 4th of January) and week 13 (from 30th to 31st of March), but it is mainly due to the short length of periods. The patterns of changes in positive-negative valence of the stories are very similar to each other, especially between ITAR-TASS and Interfax. During the period before week 3, there is no parallel trend between the news agencies due to the small size of sample (Figure 2). However, all the mean scores changed approximately parallel between week 3 and week 6, and thus this period allows us to estimate the differences in positive-negative valence between the news agencies before the key events indicated by the two vertical lines.

The positive-negative valence is lower in AFP and AP than in ITAR-TASS and Interfax throughout the period. In order to investigate the difference in valence, the actors mentioned in news stories were identified using keyword matching. The actors include the governments and leaders of Russian and the United States, European Union and its powerful member states, and the North Atlantic Treaty Organization¹. Mentions of Russian actors were recorded in a dummy variable named 'russia' and others were in a variable called 'west'. The differences in valence according to the actors are presented in Table 1 with AFP and AP combined as a reference category. As we can see in the first model, there is only a small overall difference in valence scores between Interfax and ITAR-TASS. In the Second model, the average valence scores are very different between stories mentioning the Russian and Western actors: stories about Russian actors are 0.29 points higher than other stories, while it is only 0.08 in stories about the Western actors. However, when interaction terms are included (Model 3), the difference between the Russian and Western stories disappears, and ITAR-TASS appears to be strongly positive about

¹ For russia 'russia*', 'moscow*', 'putin*', 'lavrov*', 'medvedev*'; for the US, 'united states*', 'washington*', 'obama*', 'kerry*'; for European Union, 'european union*', 'european commission*', 'french*', 'france*', 'german*', 'germany*', 'britain*', 'british*'; for the NATO, 'nato*'.

Russian actors (0.27) and negative about Western actors (-0.21). Those differences are strongly statistically significant ($p < 0.001$) and indicates that the difference in positive-negative valence between stories about Russian actors and those about Western actors are as much as 0.48 (about 50% of the standard deviation) in ITAR-TASS. Interfax's coverage of Western actors is not significantly different from that by AFP and AP and only 0.13 points positive ($p < 0.05$) in referring to Russian actors than the Western agencies. In AFP and AP, the average valence scores are 0.15 for Russian actors and 0.13 for Western actors, so there is not difference in framing of two parties of actors by AFP and AP.

The above analysis, however, only describes general tendency of news framing by the Russian news agencies, and there is no implication about causal effect of the Russian authority's intervention on their editorial policies. Figure 3 shows the difference in positive-negative valence between ITAR-TASS and Interfax between week 3 and week 13. The average difference during the pre-intervention period (from week 3 to week 6) is -0.03 is indicated by the dotted line. The differences separately calculated for each week are -0.06 (SE=0.07) in week 3, -0.04 (SE=0.06) in week 4, -0.05 (SE=0.08) in week 5 and -0.06 (SE=0.12) in week 6), and the small variability in the differences in pre-intervention period confirms that the parallel trend assumption of differences-in-differences design is fulfilled. However, the differences between the pre-intervention average and week 8 and week 11 averages are not very large; the 95% confidence interval estimate of valence in week 8 is slightly below the pre-intervention average, and it is even within the interval estimate in week 11. In fact, statistical test showed indicated that the interaction term is only marginally significant in week 8 and not significant in week 11 (Table 2). The result only weakly supports the first hypothesis (H1) and rejects the second hypothesis (H2). This is unexpected in that the Crimean referendum seems to have greater strategic importance to Russia and the influence of the government is expected to be greater in week 11 than week 8 if it exists.

The lack of support for the hypotheses is due to the very similar patterns in ITAR-TASS and Interfax throughout the period. We assumed the lack of Russian government's influence on Interfax and the agency was used as a control unit, but its suitability as the control is now in question. Figure 4 shows the differences in valence between the Russian agencies and AFP and AP combined, but the problem here is the slightly large deviation of the valence score in week 3 and that violates parallel trend assumption. The solution to this is adjusting for actors in the stories by regression: after a several trial, it is found that the differences between ITAR-TASS and AFP and AP during the pre-intervention period become most constant when mentions to key actors of the crisis are controlled for (Table 3); they are the ousted president Victor Yanukovich, the English-speaking opposition leader Arseniy Yatsenyuk, the imprisoned former prime minister Yulia Tymoshenko, and the Russian President Vladimir Putin². During the pre-intervention period, the adjusted differences in ITAR-TASS are almost completely constant, although a small deviation is still remaining in week 6 in Interfax (Figure 5).

Table 4 shows both unadjusted and adjusted differences in positive-negative valence between Russian agencies and AFP and AP. When the mentions of key actors are adjusted for, R^2 slightly increases but none of the interaction terms is indicating statistically significant effect in week 8. In contrast, the interaction terms in week 11 are more than marginally significant even without the adjustment; differences from the pre-intervention period are 0.22 ($p < 0.01$) in TASS

² Dummy variables were created using the following keywords: 'yanukovich*' or 'yanukovich*' for Victor Yanukovich, 'yatsenyuk*' for Arseniy Yatsenyuk, 'tymoshenko*' for Yulia Tymoshenko, 'putin' for Vladimir Putin.

and 0.14 ($p < 0.1$) in Interfax without adjustment, and they increase to 0.28 ($p < 0.001$) in ITAR-TASS and to 0.21 ($p < 0.01$) in Interfax when actors in stories are adjusted for. The lack of statistically significant effect in week 8 and the presence of strongly significant effects in week 11 are the more convincing than other way around considering the importance of the Crimean referendum to Russia.

It is clear that the coverage of the Ukraine becomes more positive after the referendum in ITAR-TASS and Interfax, but our next question is how the positive shift happened? The simple answer is that it is because of the increase in stories about Russia. The referendum in Crimea put Russia in the center of the crisis, and news stories became more about Russia than Ukraine alone. As we have seen in Table 1, Russian agencies, ITAR-TASS particular, has a strong tendency to cover Russian, and thus an increase in proportions of stories about Russia shifts average valence scores positively.

Nevertheless, we cannot exclude a possibility that the coverage of the Russia itself changed in quality after the week 11. Table 5 presents the differences in positive-negative valence of stories about Russia between the pre-intervention period and week 11. Among the news stories about Ukraine, all stories that mention Russian leaders, officials, people and state are included in the dataset for the first analysis, but only stories about Russian leaders and officials are used in the second, and those leaders and officials are excluded from data use in the third analysis³. The result of the first analysis shows that 0.36 point more positive coverage by AFP and AP in week 11 than pre-intervention period, but the tendency is not statistically different in ITAR-TASS and Interfax as we can see in the insignificant interaction terms. However, when only stories about Russian leaders and officials are included, ITAR-TASS demonstrates a strongly significant positive shift: its coverage on Russia is 0.35 points more positive ($p < 0.01$) than AFP and AP, while it is not significantly different from zero in Interfax. The insignificant interaction terms in the third analysis confirms that the increase in the scores in week 11 is due to the positive coverage of Russian leaders and officials and not to positive reporting of other Russian actors.

Discussion

The very clear adjusted differences between ITAR-TASS and AFP and AP presented in Figure 5 seem to be indicating the contrasting editorial policies of the Russian official news agency and of the France and American agencies: the adjusted differences reach the lowest point in week 8 and then consistently increase toward week 11 in ITAR-TASS. On the other hand, the differences between Interfax are much obscure: the valence score is lower in week 7 than in week 8 and it increase less consistently until week 11. It is arguably because Interfax has more complex editorial policy based on professional journalism standards and commercial considerations.

The positive shifts in week 11 in the coverage by the Russian agencies are primary due to the increase in volume of stories involving Russia and to the Russian agencies' tendency to produce more positive stories on Russia than on other countries (Table 1). This tendency is particularly strong in ITAR-TASS, but Interfax also has this partisan tendency. Yet, the analysis that only include stories that mention Russian leaders and officials reveals a positive shift by 0.35 points in

³ The keyword for Russian state and people are 'russia'; for Russian leaders and officials, 'moscow*' and 'putin*', 'lavrov*' and 'medvedev*'.

coverage of Russia by ITAR-TASS in week 11 (Table 5), which is a 48% increase in difference from AFP and AP, and 0.28 points greater than the shift by in Interfax. This result only supports the second hypothesis (H2), but it is understandable considering the greater strategic importance of the Crimean secession referendum than the collapse of the Victor Yanukovich's government

The sharp increase in valence score found only in ITAR-TASS is explained by changes in news production process in the agency. Considering its contrasting tendencies of ITAR-TASS vis-à-vis the Western counterparts, it is likely that the agency is under tight control of Russian authority and influence of government on its editorial policy can explain the sudden change in its news production after the Crimean secession referendum. We do not know whether the influence was a form of decree by the government official or self-censorship by the staff of the agency, but the difference is not very important.

In the beginning of the study, Interfax was seen as a non-partisan commercial news agency, but the series of analyses indicated that its news framing resembles to that of ITAR-TASS. The similarity between Interfax and ITAR-TASS is graphically obvious in Figure 2: their lines are almost overlapping with each other throughout the period. Due to this similarity, our analysis in the first stage failed to find statistically significant changes in differences between them, and this similarity raise questions about Interfax's impartiality in news reporting, although we are not able to claim existence of Russian government's direct influence on Interfax.

The possible reason for which Interfax's coverage resembles to ITAR-TASS is the privileged position of the official news agency in Russia. According to Vartanova and Frolova (2010, p. 266), ITAR-TASS holds exclusive access to official information and "shaping contours of information flow". When access to official political information is restricted, Interfax needs rely on ITAR-TASS for gathering statements made by government officials, and its news on the government inevitably becomes similar to that of the official agency. This explanation is supported by an additional analysis presented in Figure 6, which shows correlations of daily valence scores between ITAR-TASS and Interfax after week 8. The correlation of the valence scores is strongest ($r=0.62$, $p<0.001$) in coverage of Russian leaders and officials, but it is not statistically significant in coverage of other Russian actors; the correlation between the two Russian agencies only exists ($r=0.53$, $p<0.001$) in coverage of events involving Russia and is absent in reporting of other events.

The positive shift of valence in ITAR-TASS's coverage of Russian leaders and officials in week 11 is an indication of the influence of the government on its editorial policy, but it does not mean that the news reporting by ITAR-TASS is any way 'biased'. As we have seen in the statistical analyses, the difference in valence scores between the news agencies are very small, and it is in fact very difficult to find apparently negative or positive coverage of certain actors in their news stories. Most of the stories are about statements made by key figures and made up of quotations of the statement, and, as far as the persons have really made the statements, the news stories are objective in that they are not fabrications. Therefore, the problem regarding ITAR-TASS is impartiality rather than objectivity.

The most important finding of this study is not the presence of the influence of Russian government on ITAR-TASS but the similarity in the patterns of news coverage between Interfax and the official agency which is under the influence of the government. If the above explanation is true, the way commercial agency is influenced by the official news agency has broader implication for today's news industry. The role played by ITAR-TASS is the classic gatekeeping (White, 1950) of political information, and news media's dependency on official news sources are widely recognized (Gans, 1979; Shoemaker & Reese, 1996; Tuchman, 1978a, 1978b), but

underlying factor that makes Interfax resembles to ITAR-TASS is the quantity of the news stories it produces. As we can see in Figure 1, Interfax covered the Ukraine crisis most extensively, and the number of stories in week 11 is 1,215, while it is only 645 in ITAR-TASS and 448 in AFP and AP combined. Among those, stories about Russian leaders and officials are 398 in Interfax, 271 in ITAR-TASS, and 300 in AFP and AP, and the volume of stories produced by Interfax easily exceeds that by ITAR-TASS. When the amount of news stories to be produced by Interfax is more than the amount provided by the official news agency, news editors at Interfax are not able to choose whether to use the information provided by ITAR-TASS, and its dispatches contain most of the information from the official agency.

In recent years, a relevant concerning tendency of journalists has been reported outside of Russia. According journalism scholars, American and European journalists tend to rely on readily accessible materials such as press releases and news agency wires, and perform minimal editing of the material in news production, because they are facing strong time pressure and demand for more news content by digital media (Arant & Anderson, 2001; Garcia, 2008; Paterson, 2005; Quandt, 2008; Tameling & Broersma, 2013). This tendency of journalism reduces news media's ability to produce original news stories and to perform the gatekeeper function, and consequently put itself in a very similar position as Interfax in a sense that it unintentionally benefits some powerful sources in mass production of news content.

Given the tendency of the Russian commercial news agency and the American and European journalists, we can think of a possible scenario in which ITAR-TASS successfully influences the view of audience worldwide on the Ukraine crisis: Interfax produces news stories about Russian leaders and officials using information provided by ITAR-TASS, then the stories produced by ITAR-TASS are submitted to the leading international news agency Reuters as its Western business partner; those news stories are distributed worldwide by highly trusted Reuters' network, and published almost directly on retail news media's websites without appropriate selection and editing across the world. In this scenario only functioning gatekeeper is Reuters' and its failure to produce impartial set of news stories affects a great number of people's understanding of the crisis. This scenario is hypothetical but still realistic given that the state of today's news industry, which put excessive responsibility for gatekeeping on a small number of news organizations.

Conclusion

Despite the initial rejecting of the hypotheses, additional analyses showed a statistically significant positive shift in news coverage of Russian leaders and officials by ITAR-TASS. The shift was significantly greater than that in Interfax, and thus this can be seen as evidence that conditionally support the second hypothesis (H1). Therefore, our conclusion is that there was an intervention by Russian government in editorial policy of ITAR-TASS on Ukraine immediately before 16th March in 2014, when the secession referendum in Crimea was organized by the Russian government, and it resulted in a 48% positive framing of Russian leaders and officials in news produced by ITAR-TASS.

ITAR-TASS is a relatively smaller organization and it produces much smaller amount of news than Interfax, but it seems that the official news agency is effectively influencing news coverage of Interfax capitalizing on its proximity to official news sources. As a result of this, news framing in Interfax's news framing resembles to ITAR-TASS, especially in the coverage of

Russian leaders and officials. This finding raises our concern about impartiality in Interfax's news reporting.

Considering the general weakening of the gatekeeping function of American and European news media, the case of Interfax reveals the vulnerability of international news industry to political manipulation by a government due to the excessive responsibility given to a few major international news agencies as gatekeeper. Therefore, there is a possibility that political influence of a government on an official news agency is channeled through regional commercial news agency and reaches the audience across the world by occasional failure in gatekeeping by an international news agency during major international political crises.

Chats and Tables

Figure 1: Number of news stories on Ukraine

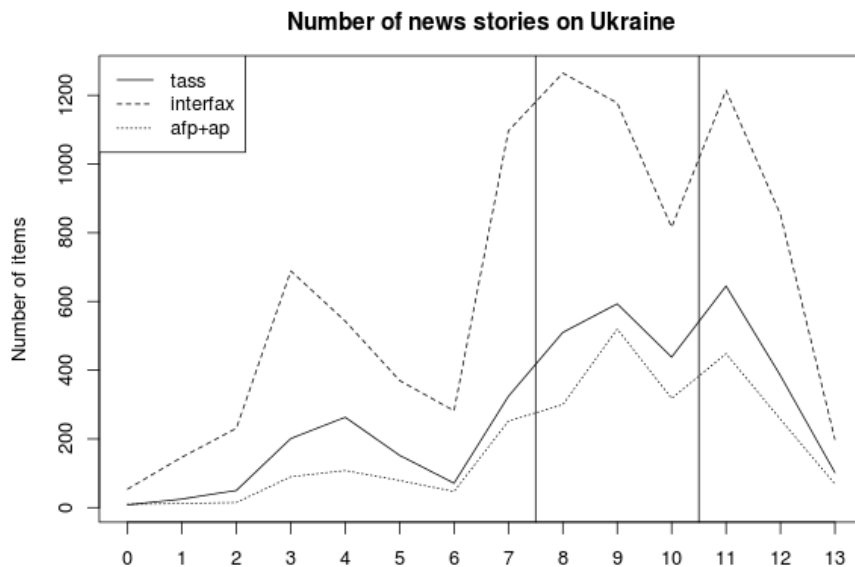


Figure 2: Positive-negative valence of news stories on Ukraine

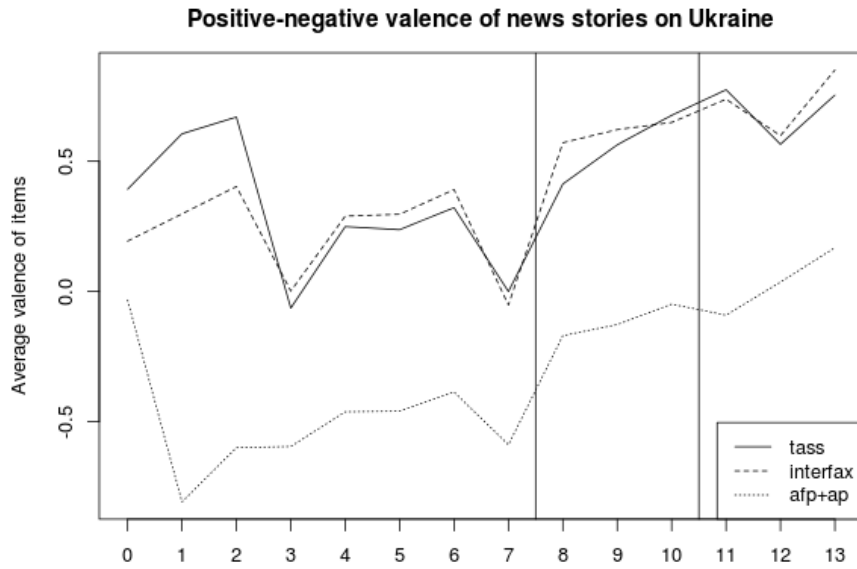


Figure 3: Differences between ITAR-TASS and Interfax

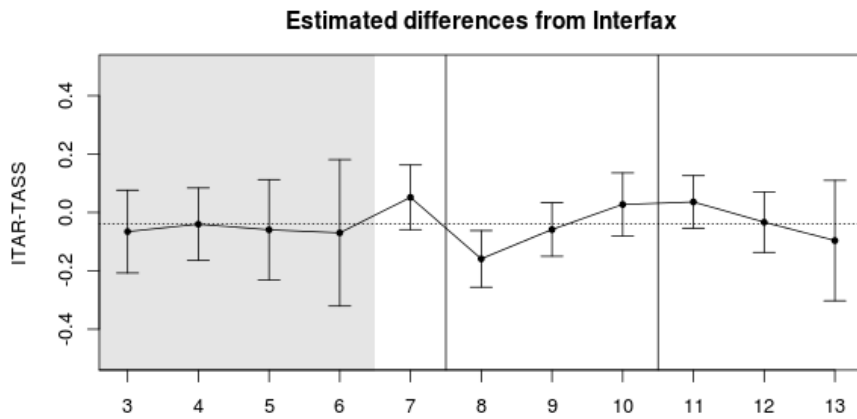


Figure 4: Unadjusted differences between Russian agency and AFP+AP

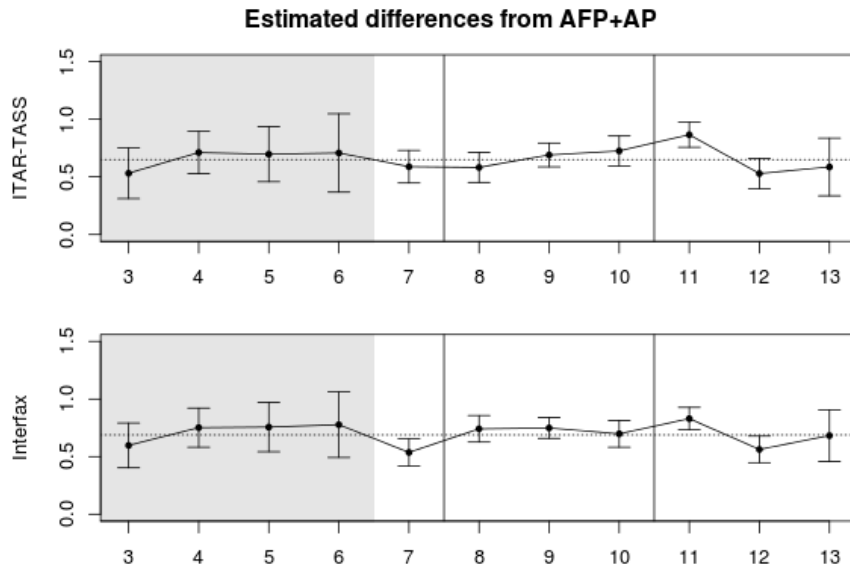


Figure 5: Adjusted differences between Russian agencies and AFP+AP

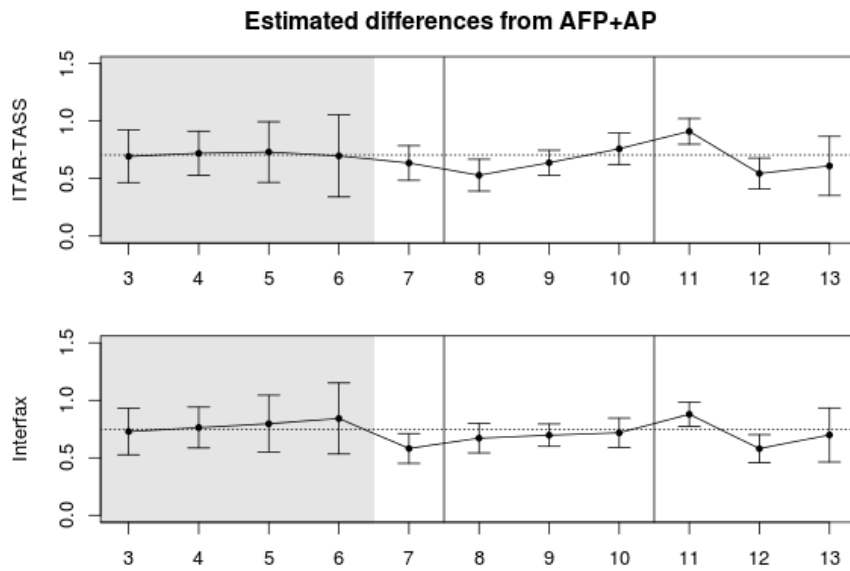
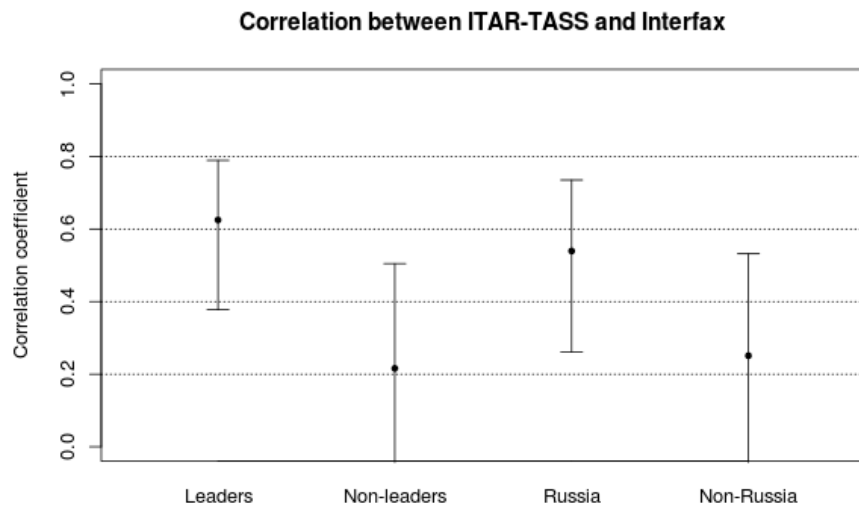


Figure 6: Correlation of positive-negative valence between ITAR-TASS and Interfax



Bars indicate 95% confidence interval estimates.

Table 1: Positive-negative valence according to mentioned actors

	Model 1	Model 2	Model 3
Intercept	-0.19 (0.02) ***	-0.48 (0.02) ***	-0.39 (0.05) ***
interfax	0.64 (0.02) ***	0.77 (0.02) ***	0.68 (0.04) ***
tass	0.67 (0.02) ***	0.75 (0.02) ***	0.60 (0.05) ***
russia		0.29 (0.02) ***	0.15 (0.05) **
west		0.08 (0.02) ***	0.13 (0.04) ***
Interaction:			
russia & interfax			0.13 (0.05) *
russia & tass			0.27 (0.06) ***
west & interfax			0.03 (0.05)
west & tass			-0.21 (0.05) ***
Degree of freedom	15,227	15,225	15,221
R ²	0.063	0.083	0.086
Adjusted R ²	0.063	0.083	0.085

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Table 2: Differences in differences between ITAR-TASS and Interfax

	Week 8	Week 11
Intercept	0.20(0.02) ***	0.20(0.02) ***
tass	-0.04(0.04)	-0.04(0.04)
treatment	0.37(0.03) ***	0.54(0.03) ***
Interaction:		

treatment & tass	-0.12(0.06) .	0.07(0.06)
Degree of freedom	4,427	4,342
R ²	0.083	0.033
Adjusted R ²	0.082	0.032

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Table 3: Unadjusted and adjusted differences between Russian agencies and AFP+AP

	Unadjusted		Adjusted	
	ITAR-TASS	Interfax	ITAR-TASS	Interfax
2014-03	0.53(0.11)	0.60(0.10)	0.69(0.12)	0.73(0.10)
2014-04	0.71(0.09)	0.75(0.09)	0.72(0.10)	0.76(0.09)
2014-05	0.70(0.12)	0.76(0.11)	0.73(0.13)	0.80(0.13)
2014-06	0.71(0.17)	0.78(0.15)	0.70(0.18)	0.84(0.16)
2014-07	0.59(0.07)	0.54(0.06)	0.64(0.08)	0.58(0.07)
2014-08	0.58(0.07)	0.74(0.06)	0.53(0.07)	0.67(0.07)
2014-09	0.69(0.05)	0.75(0.05)	0.64(0.06)	0.70(0.05)
2014-10	0.73(0.07)	0.70(0.06)	0.76(0.07)	0.72(0.06)
2014-11	0.87(0.06)	0.83(0.05)	0.91(0.06)	0.88(0.05)
2014-12	0.53(0.07)	0.56(0.06)	0.54(0.07)	0.58(0.06)
2014-13	0.59(0.13)	0.68(0.11)	0.61(0.13)	0.70(0.12)

Table 4: Differences in differences between Russian agencies and AFP+AP

	Week 8		Week 11	
	Unadjusted	Adjusted	Unadjusted	Adjusted
Intercept	-0.49(0.05) ***	-0.44(0.05) ***	-0.49(0.05) ***	-0.51(0.05) ***
tass	0.65(0.06) ***	0.62(0.06) ***	0.65(0.06) ***	0.66(0.06) ***
interfax	0.69(0.05) ***	0.67(0.06) ***	0.69(0.05) ***	0.71(0.06) ***
yanukovych		-0.17(0.03) ***		-0.02(0.04)
yatsenyuk		0.11(0.06) .		0.03(0.06)
putin		0.39(0.05) ***		0.28(0.04) ***
tymoshenko		-0.01(0.08)		-0.13(0.10)
treatment	0.32(0.07) ***	0.24(0.07) **	0.40(0.06) ***	0.29(0.07) ***
Interaction:				
treatment & tass	-0.07(0.09)	0.01(0.09)	0.22(0.08) **	0.28(0.08) ***
treatment & interfax	0.05(0.08)	0.13(0.08)	0.14(0.07) .	0.21(0.07) **

Degree of freedom	4,964	4,960	5,197	5,193
R ²	0.08	0.10	0.14	0.15
Adjusted R ²	0.08	0.10	0.14	0.15

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Table 5: Differences in differences between Russian agencies and AFP+AP on Russia

	All	Leaders	Non-leaders
Intercept	-0.45(0.06) ***	-0.39(0.09) ***	-0.52(0.10) ***
interfax	0.87(0.08) ***	0.93(0.10) ***	0.87(0.11) ***
tass	0.82(0.08) ***	0.73(0.11) ***	0.91(0.12) ***
treatment	0.36(0.08) ***	0.28(0.10) **	0.47(0.12) ***
Interaction:			
treatment & interfax	-0.03(0.09)	0.06(0.12)	-0.16(0.14)
treatment & tass	0.08(0.10)	0.35(0.13) **	-0.20(0.15)
Degree of freedom	2818	1370	1430
R ²	0.17	0.24	0.12
Adjusted R ²	0.17	0.24	0.12

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

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