


Measuring Wave of Sectarianism in Iraqi Media: Based on Quantitative Text Analysis


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Introduction



Objective

- Aim
 - Measuring Socio-political impact of the IS (Islamic State)
 - By focusing on the tone of reporting of Iraqi newspapers
 - Literatures of sectarianism
 - Large number of literatures
 - ○ Reason for emergence
 - × What socio-political condition sectarianism spread or decrease
 - × IS's impact?
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- 


- Sectarianism
 - Conflict between Sunni and Shia
 - Impact of IS => tone of reporting on sectarianism

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Methodology

- Quantitative text analysis
 - Extract text data quantitatively, analyze statistically
- Tone of reporting sectarianism of major Arabic newspapers published in Iraq
 - *Zaman, Furat, Nun*
- Other index
 - Critical junctures (crucial events)
 - Intensity of conflict
- Zaman: oversea paper
 - Sa'd al-Bazzaz (former high ranking official of Ba'th party)
 - Close to those who in abroad
- Furat: domestic paper
 - Partisan (ISCI, Hakim)
 - Close to current government
- Nun: domestic paper
 - Independent
 - Close to Shi'ite religious establishment, Karbala

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Hypotheses


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Crucial Events


Event	Period	IS	Characteristics
E1	Till 20/4/2013	Pre-	Before the IS: From the Arab Spring till the local election
E2	Till 10/6/2014	Mid-	The influx of the IS: From the influx of the IS till the fall of Mosul
E3	Till 30/3/2015	Mid-	The IS clean-up operations by the PMU (Hashd al-Sha'bi)
E4	Till 25/6/2016	Mid-	Criticism: the spread of sectarianism
E5	Till 17/10/2016	Mid-	Expansion of criticism: Criticism against the PMU expands
E6	Till 10/7/2017	Mid-	The operation to liberate Mosul (17/10/2016-10/7/2017)
E7	Till 9/12/2017	Mid-	The decline of the IS: The liberation of Mosul till the declaration of complete victory over the IS
E8	Till 21/6/2019	Post-	After the IS: The fourth general election

Hypotheses

• H1: IS Impact

- IS = crisis of survival
 - Need to overcome sectarian conflict
- 
- *H1: Tone of reporting news becomes conciliatory after the rise of the IS in order to overcome the crisis of survival of the Iraqi state.*


• H2: Newspapers

- Difference in newspaper
 - *Zaman*: **oversea**, exiled elite,
 - *Furat*: **domestic**, party's paper, central government's view
 - *Nun*: **domestic**, close to the religious establishment
- 
- *H2: Tone of reporting on issues to do with the IS differs depending on the newspaper's character.*


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Hypotheses

• H3: Crucial Event by Papers

- Influence of decisive political events on each paper (oversea and domestic)
- 
- *H3: Impact of domestic political events on reporting differs between domestic and overseas papers.*

• H4: Intensity of Conflict

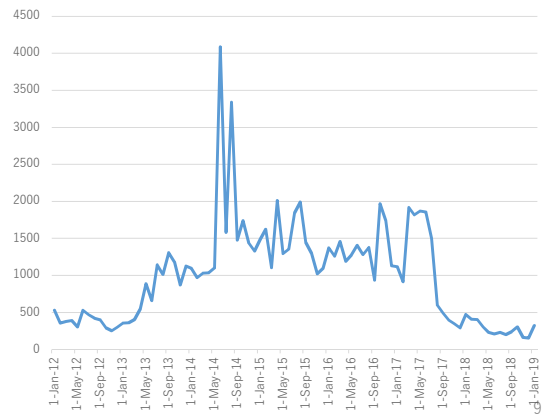
- Number of victim => intensity of conflict => impact of the IS
- 
- *H4: As the intensity of conflict goes up, overall reporting becomes negative, but influence exerted by the intensity of conflict differs from newspaper to newspaper.*

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Dataset

- Newspapers
- Zaman:
 - 24,845 articles
 - 7 Feb 2012 – 21 Jun 2019
- Furat:
 - 59,960 articles
 - 1 Nov 2011 – 18 Jun 2019
- Nun:
 - 47,937 articles
 - 1 Jan 2011 – 20 Jun 2019
- Total corpus
 - 132,742 articles

- Intensity of conflict (monthly)
- Iraqi Body Count (*IBC index*)



Statistical Analysis on Reporting Tone

Estimation of sentiment score by Latent Semantic Scaling (LSS)

- ✓ LSS (latent semantic scaling)
 - Semi-supervised model of machine learning
 - Assign **seed words**
 - Learn relation between seed words and other words among whole corpus
 - Categorize by Naive Bayes
 - Assign sentiment scores to every document
- For more detail and algorithm, please refer to [Watanabe 2017; 2018]

As reference...

- ✓ Supervised model
 - Dictionary analysis (which is shown previously)
- ✓ No-supervised model
 - Topic model
 - Word fish, word score
- ✓ Semi-supervised model
 - Combine above 2 model

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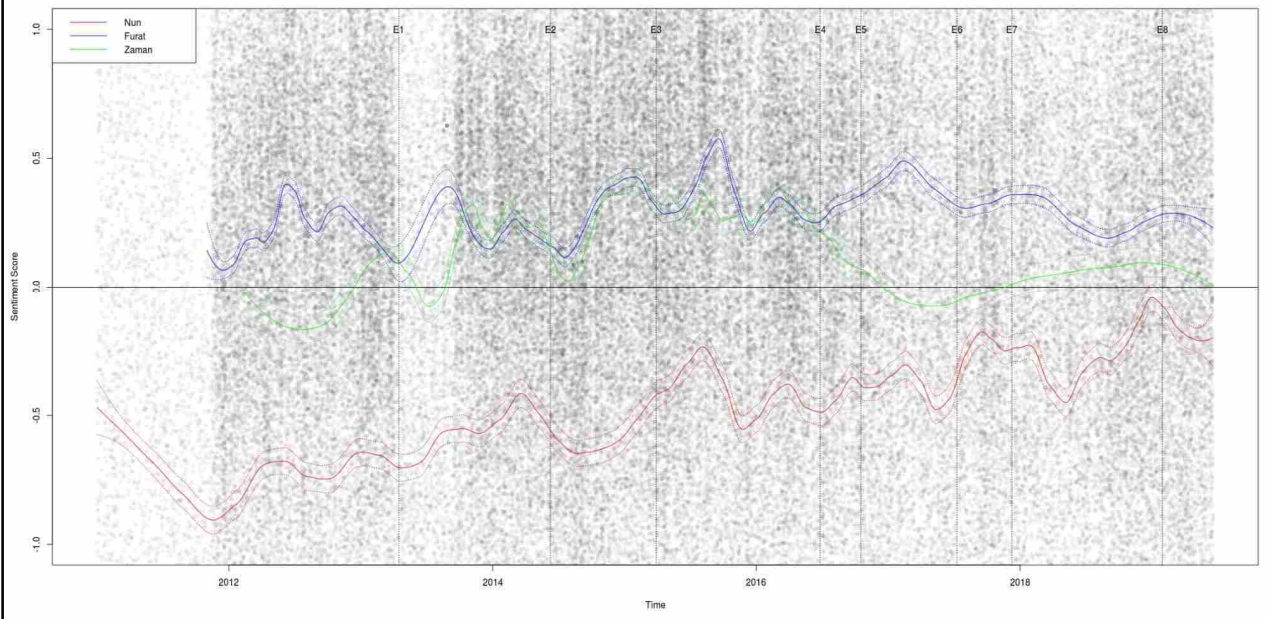
Seed Words

Sectarian

- | | |
|---|--|
| <ul style="list-style-type: none"> • Overcome sectarianism • + 1 <ul style="list-style-type: none"> • وحدة وطنية • وحدة اسلامية • لا للطائفية | <ul style="list-style-type: none"> • Fuel sectarianism • - 1 <ul style="list-style-type: none"> • الأموي, تكفيريون, تكفيري, تكفيريين, وهابي, نواصب, ناصبي • مجوس, حزب الشيطان, حزب اللات, الرافضة, صفوي, نصيرية • الفتنة |
|---|--|

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Tone of Reporting Sectarianism



Regression

Model OLS

Dependent variable

LSS scores of every documents

Independent variable

M1 : Dummy of each paper
(Base category=Furat),
Dummy of event (BC=E1)=>H1+H2

M2 : M1, IBC(Intensity of conflict),
paper*event (BC:paper*E1)=>H3

M3: M1, IBC, paper*IBC =>H4

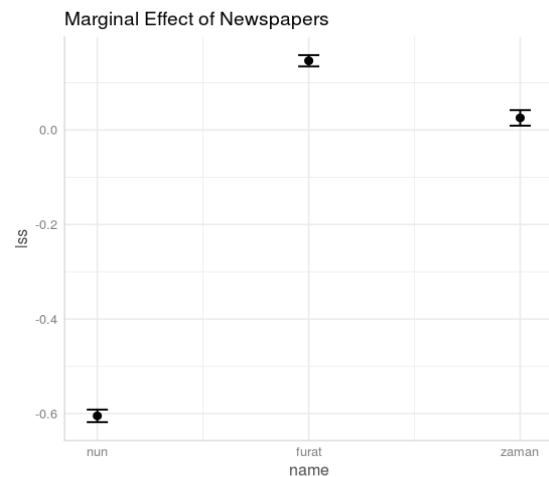
M4: M1, IBC, event*IBC =>H4

	Dependent variable							
	Sectarian							
	M1		M2		M3		M4	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Nun	-0.751	0.006 ***	-0.927	0.013 ***	-0.726	0.010 ***	-0.753	0.006 ***
Zaman	-0.121	0.007 ***	-0.265	0.020 ***	-0.204	0.014 ***	-0.118	0.007 ***
E2	0.096	0.009 ***	0.033	0.014 **	0.136	0.010 ***	0.081	0.033 **
E3	0.137	0.009 ***	0.138	0.015 ***	0.204	0.013 ***	0.257	0.034 ***
E4	0.223	0.008 ***	0.169	0.013 ***	0.273	0.011 ***	0.065	0.041 ***
E5	0.14	0.139 ***	0.12	0.021 ***	0.188	0.015 ***	0.522	0.063 ***
E6	0.203	0.011 ***	0.229	0.018 ***	0.265	0.013 ***	0.338	0.050 ***
E7	0.273	0.013 ***	0.149	0.022 ***	0.289	0.014 ***	0.267	0.037 ***
E8	0.238	0.009 ***	0.044	0.013 ***	0.23	0.009 ***	0.227	0.034 ***
IBC			-4E-05	0.000 ***	-5E-05	0.000 ***	-2E-05	0.000
Nun: E2			0.151	0.021 ***				
Nun: E3			0.046	0.021 **				
Nun: E4			0.181	0.019 ***				
Nun: E5			0.169	0.031 ***				
Nun: E6			0.138	0.024 ***				
Nun: E7			0.361	0.029 ***				
Nun: E8			0.425	0.019 ***				
Zaman: E2			0.245	0.027 ***				
Zaman: E3			0.229	0.027 ***				
Zaman: E4			0.228	0.025 ***				
Zaman: E5			0.074	0.042 *				
Zaman: E6			-0.162	0.038 ***				
Zaman: E7			-0.091	0.045 **				
Zaman: E8			0.064	0.030 **				
Nun: IBC					-3E-05	0.000 ***		
Zaman: IBC					0.0001	0.000 ***		
E2: IBC							3E-05	0.000
E3: IBC							-1E-04	0.000
E4: IBC							0.0001	0.000
E5: IBC							-3E-04	0.000 ***
E6: IBC							-1E-04	0.000
E7: IBC							3E-05	0.000
E8: IBC							4E-05	0.000
Intercept	0.146	0.006 ***	0.231	0.008 ***	0.166	0.008 ***	0.154	0.029 ***
N	132,532		127,266		127,266		127,266	
Adj R2	0.122		0.13		0.123		0.123	
F	2,038.21		793.155		1,492.67		1,055.54	

* p<0.1; **p<0.05; ***p<0.01

Newspapers (H2)

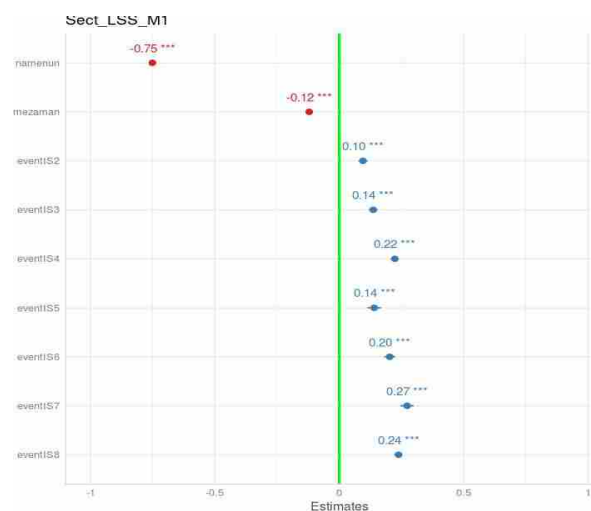
- Based on Model 1
- Marginal effect (probability) of LSS by papers
 - $Nun < Zama < Furat$
- Incentives for normative reporting by denying sectarianism
- H2: supported



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IS Impact (H1)

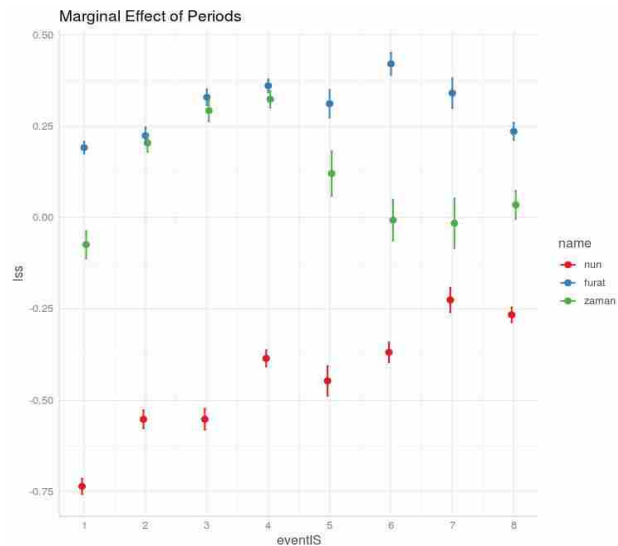
- Based on Model 1
- Regression coefficients
 - All period (E2~E8) are statistically significant, positive compared to E1 (before IS)
- Shift to the tone of overcoming sectarianism after IS
- H1: supported



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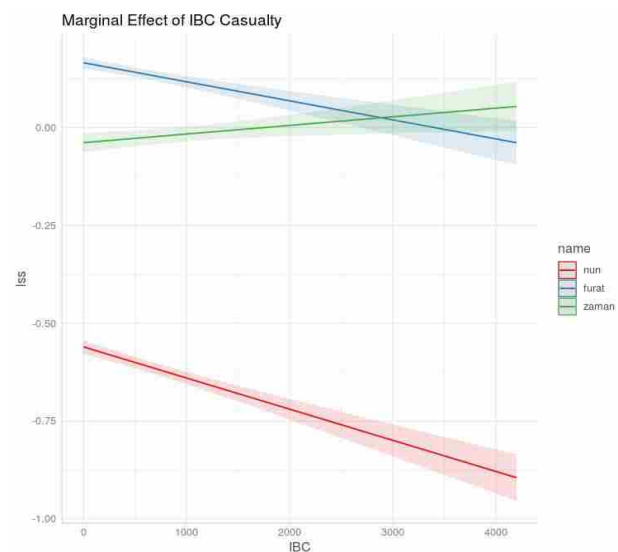
Crucial Event by Newspapers (H3)

- Based on Model 2
- Marginal effects of tone of paper by event (E1~E8)
 - Domestic (*Furat, Nun*): upward trend after E1
 - Oversea (*Zaman*): upward, but decrease in E5~E7
- Difference between domestic and oversea
- H3: supported



Intensity of Conflict (H4)

- Based on Model 3, 4
- Marginal effects of papers by intensity of conflict
 - Domestic (*Furat, Nun*): negative as IBC increase
 - Oversea (*Zaman*): positive as IBC increase
- Difference in sensitivity of IS threat
- H4: supported



Conclusion


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Findings

1. Tone of reporting becomes positive after the IS to overcome sectarian division of Iraq (H1)
 2. Difference in paper: overseas paper and party paper are more likely normative (anti sectarianism) (H2)
 3. Influence of critical events differs between the domestic and overseas paper: the more sectarian, overseas =more sectarian, domestic =less sectarian (H3)
 4. Influence of intensity of conflict is opposite between the domestic and overseas paper (H4)
- ※ difference in perception of threat of the IS

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Conclusion

- IS' impact on reporting tone \neq negative
 - Varies based on newspaper's character, crucial event, and intensity of conflict
- 
- Various efforts to overcome the negative impacts of the IS
 - Resilience in resisting the threat of break-up brought about by the IS

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