

Online Appendix for:

Motivation and opportunity for conflict-induced migration: An analysis of Syrian migration timing

In the table below, I summarize the interview methods. This follows the guidelines of Bleich and Pekkanen (2013). These interviews were mostly conducted in Arabic with a translator, but some were also conducted in English without a translator. For all interviews, refugees were treated as a vulnerable population.

Table A1. Interview methods for Syrians in Turkey

Source of Respondents	Saturation	Length	Recording
Snowball Sampling in Izmir	Saturation was achieved for Sunni Arab Syrians living in Istanbul at the time of research who are secular, young, urban, educated, wealthy, and oppose the Assad government.	In-person interviews were usually between 60 and 90 minutes.	Hand-written notes for 129 interviews.
Snowball sampling in Istanbul	Substantial variation in age, gender, education level, and wealth were also captured, but not to the point of saturation.	There was one 5 minute interview as a low outlier. There were two interviews that lasted just over 2 hours and one interview that lasted about 4 hours.	Typed responses on the survey document that was sent by email for 50 interviews.
Students at five universities in Istanbul: Koc, Bogazici, Bilgi, Sehir, and Ozyegin	Some variation was captured across origin and destination locations.		
Parents, teachers, and principals at Syrian schools and language academies in the Istanbul neighborhoods of Fatih, Kadikoy, Esenler, Esenyurt, Basaksehir, and Zeytinburnu			

Additional information on variable operationalization

This appendix section provides additional details on the operationalization for the *Armed Group Ties*, violent experiences variables (*Violence Received*, *Violence Witnessed*, and *Violence to Family*), and migration route violence variables (*Obstacles* and *Facilitators*). Readers interested in other variables or the full questionnaire are welcome to contact me.

Measuring the number of armed groups with which civilians are connected is a way to potentially measure variation in the amount of information civilians can access about security conditions. The *Armed Group Ties* variable asks the following question with ten line items:

Before you left Syria, did you know someone who participated, willingly or unwillingly, in the following organizations?

	Yes	No	Don't Know	Refused
Syrian Government Military				
Shabiha				
National Defense Forces				
Hezbollah				
Other Pro-Government Militias or Armed Groups				
Free Syrian Army				
Nusra Front				
ISIS (Daesh)				
YPG				
Other Group Opposed to Bashar Assad				
Name of Group _____				

The wording of this question merits consideration. In order to prevent respondents from placing themselves at risk, they were not asked whether they themselves had participated in an armed group. Instead, the question uses the language “did you know someone who participated,” following the convention of previous conflict research (Weinstein and Humphreys, 2006). At the same time, Syrian refugees come from a context where the security services frequently ask similar kinds of questions (Respondent T002). This motivated the inclusion of an additional qualifier, “willingly or unwillingly.” This

qualifier is particularly appropriate for the Syrian context due to the prevalence of forced recruitment (Davison, 2016).

Then, the violent experiences variables are based on the Survey of War Affected Youth (SWAY) (Blattman, 2009). SWAY was conducted in northern Uganda with the goal of understanding the causes and consequences of civil war violence and child soldiering. *Violence to Family* is the same as Blattman's variable, except for a question about whether a family member received a war injury. *Early Motivation* also has fewer line items than Blattman's violence witnessed variable. Line items about witnessing gunfire and massacres were removed because they are redundant with other items that were included, specifically witnessing battles and killings. As a general rule, interviews did not involve questions about witnessing rape due to the sensitive nature of the topic. They also did not include a question about the torching of homes because it is much less relevant for Syria than for Uganda. *Violence Received* is also similar to Blattman's variable. The specific line items for each violent experiences variable are in the table below.

Table All: Violence variables

VARIABLE	LINE ITEM
Violence Received	Someone took or destroyed your personal property
	You heard gun fire regularly
	Someone shot bullets at you or your home
	You received a severe beating to the body by someone
	Someone attacked you with a knife or blunt object
	You were kidnapped or detained as a prisoner
	You received a serious physical injury during a battle
	You received a serious physical injury during a bombing
Violence Witnessed	You witnessed beatings or torture of other people
	You witnessed a killing
Violence to Family	A parent was murdered or died violently
	A parent disappeared or was abducted
	Another family member was murdered or died violently
	Another family member disappeared or was abducted

The *Obstacles* and *Facilitators* variables come after the following prompt to introduce the section in the survey:

Now I am going to ask you a series of questions about the activities of armed groups along roads, in nearby towns, and at checkpoints or roadblocks. I'm also going to ask you about perceived risks of movement.

Obstacles is an index of six indicators:

(1) Did the government, rebel groups, organized criminal groups, local protection units, or militias do anything to make your movement harder? ; (2) Did you encounter checkpoints or roadblocks? ; (3) From the time that you began to think about moving until your movement was complete, did you hear about violence on the roads you used? ; (4) From the time that you began to think about moving until your movement was complete, did you encounter violence on the roads you used? ; (5) Before you left your home, did you know anyone who had died while moving? ; and (6) Before you left your home, did you think that any property you left behind would be seized or looted?

Facilitators is a categorical variable with an index of three dichotomous indicators:

(1) Did the government, rebel groups, organized criminal groups, local protection units, or militias do anything to make your movement easier? ; (2) Did anyone offer you protection as you moved? ; and (3) Before you left your home, did you know anyone who wanted to move, but was killed before they were able to move?

There are also many variables relating to trust, which may affect civilian willingness to take the risk of sharing information and engaging in conflict-induced migration. From SWAY, the variable *Betrayal* is a dichotomous variable indicating whether respondents answered yes to the following war experience: “Someone you know betrayed you and put you at risk of death or injury.”

Furthermore, there were many control variables. This included a variety of generalized and particular trust questions. Social trust uses the World Values Survey question and answer choices, with the modification that it focuses on trusting people in the village or neighborhood only, rather than including the need for prudence as well. The trust component is referred to as *Neighborhood Trust*. The need for prudence component is referred to as *Neighborhood Alert*.

The *Ties to Police* and *Ties to International Company* variables are dichotomous variables. They are line items for the question: “When you were inside Syria before March 2011, did you know someone who worked for...” Here, *Police Ties* refers to “Police” and *Ties to International Company* refers to an “international Company like General Motors, Microsoft, or Coca Cola.” This question remained general, and respondents were reassured that names and the proximity of the connection, whether they were a close friend or loose acquaintance, did not need to be specified.

Finally, there were also control variables that captured income, age, computer ownership, and whether the respondent had a college education. In order to address concerns about potential collinearities, I include a correlation matrix of model variables in the tables below.¹ All of the correlations have an absolute value below 0.6, and the correlations between the variables for different types of violent experiences are all quite low. For *No Violence Witnessed* (the flipped version of *Violence Witnessed*) and *Violence Received*, the correlation is 0.2197. *No Violence Witnessed* and *Violence to*

¹ I do not include Variance Inflation Factors (VIFs) because they are calibrated for linear regression, not Cox models.

Family have a correlation of 0.0775. For *Violence Received* and *Violence to Family*, there is a correlation of -0.1597.

Table AIII: Correlation matrix for Cox models with controls

	Armed Group Ties	Wasta	No Violence Witnessed	Violence Received	Violence to Family	Neighborhood Trust	Neighborhood Alert	Income	Age	College Educated	Betrayal	Computer
Armed Group Ties	1											
Wasta	-0.0375	1										
No Violence Witnessed	0.0494	-0.1735	1									
Violence Received	0.0438	-0.0593	0.2197	1								
Violence to Family	-0.3275	0.1363	0.0775	-0.1597	1							
Neighborhood Trust	-0.1234	0.2917	-0.1234	-0.2277	0.2696	1						
Neighborhood Alert	-0.1504	0.0998	0.0048	-0.1916	0.0446	0.4813	1					
Income	0.2105	-0.0424	-0.1445	0.1826	-0.0887	-0.0749	-0.1723	1				
Age	0.1632	0.023	-0.2497	-0.0608	-0.019	0.023	0.2436	0.1026	1			
College Educated	-0.0398	-0.129	-0.0228	0.1924	0.0239	-0.1643	-0.1657	-0.1374	-0.2662	1		
Betrayal	0.0319	-0.3121	0.2215	-0.3506	-0.1083	-0.1667	0.0219	-0.185	-0.0553	-0.0079	1	
Computer	-0.1569	-0.0144	-0.0921	-0.3831	0.0453	0.3403	0.1912	-0.2087	0.1302	-0.3451	0.0939	1
Tie to International Company	-0.0848	0.1888	-0.3145	-0.0594	-0.0554	0.0333	0.0961	0.0841	0.0904	-0.1176	-0.0631	-0.1014
Tie to Police	-0.1722	-0.3627	0.2439	0.2029	0.082	0.0063	0.17	0.1175	0.0818	-0.1324	-0.0149	-0.0423
High Obstacles, Low Facilitators	-0.0174	-0.0652	0.3324	-0.0541	0.0958	0.1534	0.018	-0.2185	-0.3423	-0.0668	0.1278	-0.0242
Low Obstacles, High Facilitators	-0.0423	0.0252	0.2988	-0.0192	0.095	0.0182	0.0794	-0.0536	-0.0777	-0.0901	0.1438	0.011
High Obstacles, High Facilitators	-0.0589	-0.021	0.1594	-0.2306	0.0898	0.1447	0.0016	-0.0312	-0.0978	-0.2969	0.0677	0.105
Male	-0.0258	0.0531	-0.158	-0.0664	-0.0022	0.0772	0.199	-0.1673	0.2503	0.1518	-0.2009	0.1578

Table AIV: Correlation matrix for Cox models with controls (Continued)

	Tie to International Company	Tie to Police	High Obstacles, Low Facilitators	Low Obstacles, High Facilitators	High Obstacles, High Facilitators	Male
Tie to International Company	1					
Tie to Police	-0.2774	1				
High Obstacles, Low Facilitators	-0.0953	0.0374	1			
Low Obstacles, High Facilitators	0.0369	0.0736	0.3316	1		
High Obstacles, High Facilitators	-0.1359	0.129	0.5068	0.2705	1	
Male	-0.0818	-0.027	-0.0909	-0.1762	-0.1814	1

Alternative specifications

For the interaction term presented in the main text, the reference category is people who witnessed violence and did not have wasta. By varying the reference category, I find additional nuance in the interaction between witnessing violence and wasta. The table below displays Model 4 from the main text, labelled Model 4a here, as well as models using each permutation of the interaction as the reference category.

Table AV. Determinants of Migration Timing

	(4a)	(4b)	(4c)	(4d)
No Wasta, Violence Witnessed		-0.285 (0.30)	-0.390 (0.36)	-1.254*** (0.37)
No Wasta, No Violence Witnessed	0.285 (0.30)		-0.104 (0.44)	-0.969* (0.38)
Wasta, Violence Witnessed	0.390 (0.36)	0.104 (0.44)		-0.864 (0.47)
Wasta, No Violence Witnessed	1.254** (0.37)	0.969* (0.38)	0.864 (0.47)	
Violence Received	0.042 (0.11)	0.042 (0.11)	0.042 (0.11)	0.042 (0.11)
Violence to Family	-0.070 (0.14)	-0.070 (0.14)	-0.070 (0.14)	-0.070 (0.14)
Armed Group Ties	-0.056 (0.06)	-0.056 (0.06)	-0.056 (0.06)	-0.056 (0.06)
High Obstacles, High Facilitators	0.164 (0.34)	0.164 (0.34)	0.164 (0.34)	0.164 (0.34)
High Obstacles, Low Facilitators	-0.191 (0.28)	-0.191 (0.28)	-0.191 (0.28)	-0.191 (0.28)
Low Obstacles, High Facilitators	0.202 (0.53)	0.202 (0.53)	0.202 (0.53)	0.202 (0.53)
Time-varying covariate				
Male	0.002 (0.01)	0.002 (0.01)	0.002 (0.01)	0.002 (0.01)
Other Controls	YES	YES	YES	YES
N	111	111	111	111

Cox model coefficients are reported. Standard errors are in parentheses.

* p<0.05 ** p<0.01 *** p<0.001

In these models, I find additional support that *wasta* and witnessing violence do not independently influence migration timing. Opportunity facilitates earlier migration timing when people have early motivation to migrate. Early motivation does not facilitate earlier migration for people with opportunity. These results support the argument that people need both early motivation and opportunity to migrate sooner. They add the insight that opportunity only facilitates early migration for people with early motivation.

I also test for the possibility that receiving violence has conditional effects on migration timing based on whether people have opportunity. I provide the table below to display results from the interaction between receiving violence and *wasta*. Since *Violence Received* is a continuous variable and *Wasta* is a dichotomous variable, I can display the coefficients for increasing the number of received violence events with and without *wasta*. These results do not support any relationship between receiving violence and migration timing that is conditional upon *wasta*.

Table AVI. Determinants of Migration Timing

	(5a)	(5b)
No Wasta*Violence Received	0.027 (0.11)	0.033 (0.09)
Wasta*Violence Received	0.221 (0.13)	0.149 (0.09)
Violence Witnessed	-0.400 (0.27)	-0.463* (0.23)
Violence to Family	-0.095 (0.14)	-0.111 (0.12)
Armed Group Ties	-0.056 (0.06)	-0.062 (0.05)
High Obstacles, High Facilitators	0.225 (0.33)	0.154 (0.29)
High Obstacles, Low Facilitators	-0.206 (0.28)	-0.092 (0.23)
Low Obstacles, High Facilitators	0.226 (0.52)	0.441 (0.47)
Time-varying covariate		
Male	0.001 (0.01)	-0.007 (0.01)
Other Controls	YES	NO
N	111	122

Cox model coefficients are reported. Standard errors are in parentheses.

* p<0.05 ** p<0.01 *** p<0.001

These alternative specifications reinforce the results from the main text. Witnessing violence, and not receiving violence, affects migration timing. Early motivation and opportunity are both needed for migration to occur earlier. This appendix provides the additional layer that opportunity influences people with early motivation. Early motivation does not influence people with opportunity or people without opportunity.

Gendered migration timing

In the main text, I state that the gender variable, *Male*, violates the proportional hazards assumption. This is because, rather than men just migrating earlier or later than women, men and women actually display fundamentally different migration timing patterns. In Cox proportional hazard models, forming a time-varying covariate by interacting gender with time can address the proportional hazards assumption. While this technique allows me to proceed with the analysis, it effectively sets aside the issue of gendered migration timing. Additional research is needed to understand gendered migration timing.

In this appendix section, I offer a potential answer for why men and women exhibit different migration timing patterns: the timing of indiscriminate forced conscription in Syria. The figure below displays the comparison of migration timing between men and women. Here, it becomes clear that men leave their homes much more rapidly than women beginning in October 2014. The gendered variation in migration timing corresponds with the timing of escalations in conscription efforts by the Syrian Arab Army (SAA). Conscription targets men, not women, so it is understandable that men would perceive increased threats as conscription efforts increase (Carpenter, 2006).

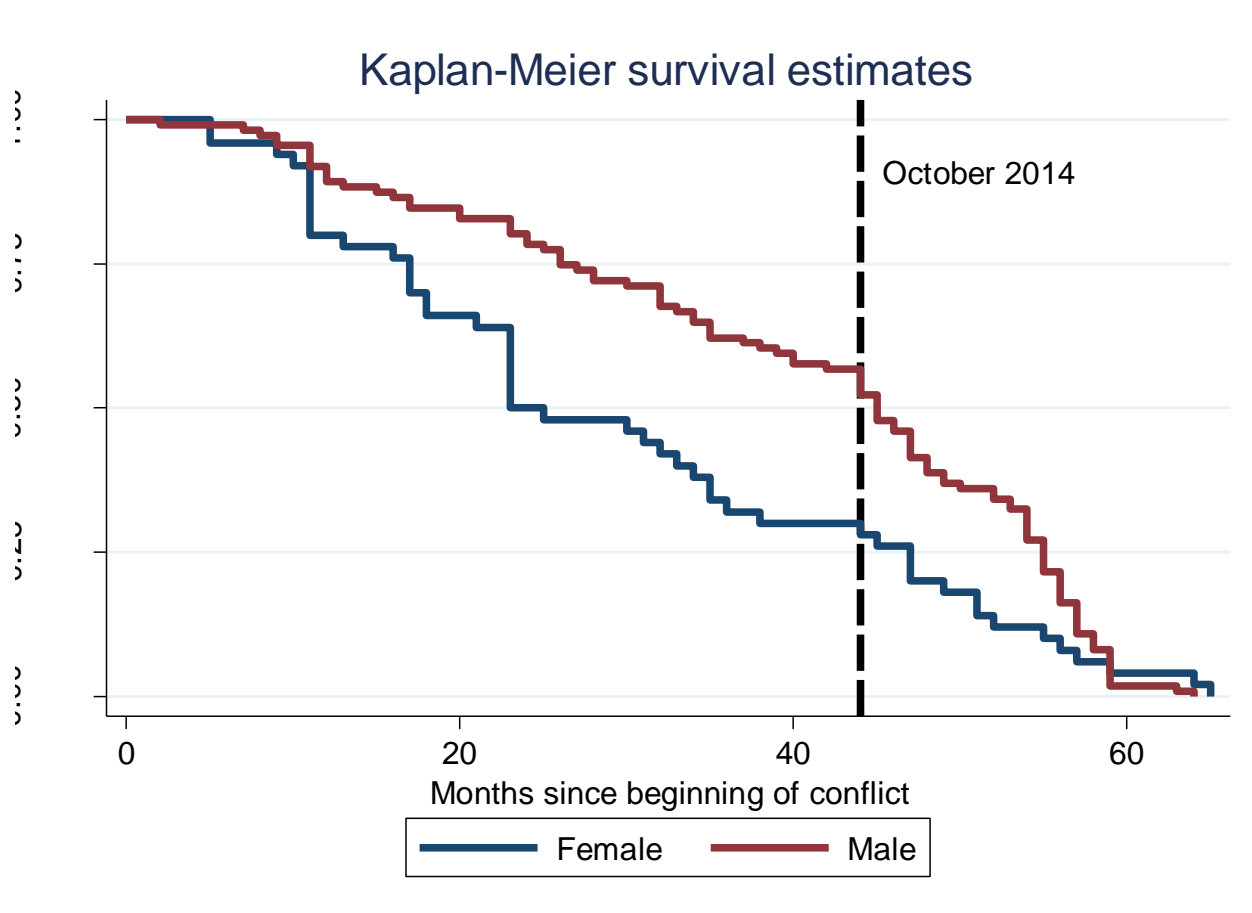


Figure A1: Gendered migration timing

Conscription into the Syrian Arab Army (SAA) began as a selective act, but over time its use expanded to threaten all young men who had not already joined the government military or a pro-government militia. Early in the conflict, civilians could use *wasta* to avoid military service. An account documenting the experience of a former Damascus resident named Hazem illustrates this:

Hazem rarely had to worry about this [conscription] during the early years of the war, because he could pay off people. In its initial stage, he gave an officer in the Damascus military-recruitment office roughly \$100 a month to alert him whenever his name appeared on the list of soldiers who would be called for duty. A second person in the police department would get paid to make sure his name never made it to the pro-regime forces manning the checkpoints, meaning he could continue freely moving around Damascus despite being a draft dodger. (Masi, 2015)

By the end of 2014, wasta could no longer protect people from conscription (Kozak, 2015). This was prompted by a massive loss of military manpower, as the Syrian Arab Army (SAA) fell from a pre-war high of 300,000 soldiers to a 2014 estimate of 150,000-170,00 soldiers (Kozak, 2015). While providing open-ended responses on why they migrated, 17 respondents asserted that fear of conscription motivated their migration. This included 5 respondents who had perceived that they had wasta in Syria.

In the first seven months of 2014, the Syrian Network for Human Rights documented over 5400 arrests for military conscription. These men are often given minimal training, even when they are immediately placed on the frontlines. Crackdowns on young men attempting to avoid military service were particularly severe around Damascus and Syria's heavily Alawite 'central corridor,' which includes Homs, Hamaa, Latakia, and Tartous (Kozak, 2015). These areas have men who may have wasta through money, personal connections, or ethnic connections. Such men should be safe from state violence, but they clearly are not. If conscription were truly selective, then wasta should protect people from it. As the figure below suggests, fear of conscription became a key motivation for migration in 2014 and 2015, when conscription transitioned into an act of indiscriminate violence.

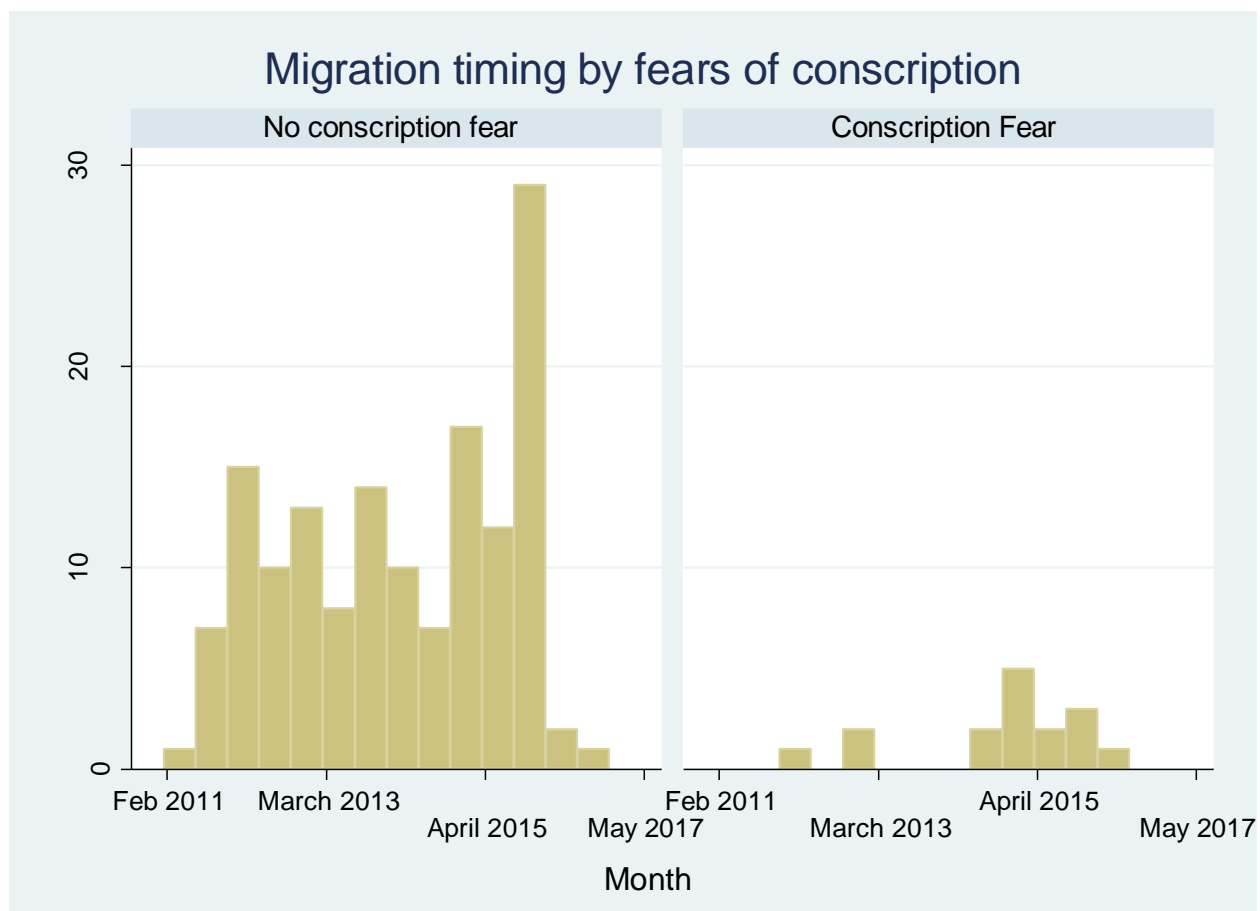


Figure A2: Migration timing by expressed fear of conscription

To fully explain gendered patterns in migration timing during conflict, it is necessary to conduct systematic, in-depth interviews with men and women. Male researchers alone will most likely be unable to accomplish this. Instead, men and women need to engage in collaborative field research. Such collaboration can help respondents of both genders feel comfortable in sharing their experiences and overcome the challenges that often exist in male-female interviews.

Works cited

- Blattman C. (2009) From violence to voting: War and political participation in Uganda. *American Political Science Review* 103: 231-247.
- Bleich E and Pekkanen R. (2013) How to report interview data. *Interview research in political science*: 95-116.
- Carpenter RC. (2006) Recognizing gender-based violence against civilian men and boys in conflict situations. *Security Dialogue* 37: 83-103.
- Davison J. (2016) *Seeing no future, deserters and draft-dodgers flee Syria*. Available at: http://www.reuters.com/article/us-mideast-crisis-syria-army-idUSKCN1001PY?utm_source=Sailthru&utm_medium=email&utm_campaign=New%20Campaign&utm_term=%2ASituation%20Report.
- Kozak C. (2015) *"An army in all corners": Assad's Campaign Strategy in Syria*. Available at: <http://www.understandingwar.org/sites/default/files/An%20Army%20in%20All%20Corners%20by%20Chris%20Kozak%201.pdf>.
- Masi A. (2015) *Syrian Men Conscripted in Bashar Assad's Army Choose Escape Over 'Kill or Be Killed'*. Available at: <http://www.ibtimes.com/syrian-men-conscripted-bashar-assads-army-choose-escape-over-kill-or-be-killed-1919724>.
- Weinstein J and Humphreys M. (2006) Handling and Manhandling Civilians in Civil War. *American Political Science Review* 100: 429-447.