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The Impact of War on Happiness: the Case of Ukraine

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The Impact of War on Happiness: the Case of Ukraine¹

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Abstract: In this paper, we study how war affects happiness using data from the on-going conflict in Ukraine. Using a difference-in-difference design, we find that the average level of happiness declined substantially in zones that experience war directly, with the effect of directly experiencing war on the happiness of an individual being roughly comparable to the loss of happiness a relatively well-off person would experience if he/she were to become a poor person. At the same time, despite the fact that the war in the East dominates the local media in Ukraine, respondents in other regions of Ukraine are basically as happy as they were before the war. We discuss the implications of this finding for the duration of the war and for the expectations regarding the management of veterans.

JEL Codes: I3, N44

Keywords: happiness, war, Ukraine

¹ We would like to thank Julia Sakhno and Vladimir Paniotto from Kyiv International Institute of Sociology (KIIS) for giving us access to the data and Mariia Panga for research assistance.

"Society doesn't feel that there is a war going on," says Artem [a soldier on temporary leave] ..."There is no atmosphere of war."²

Introduction

While there is a sizeable economics literature on happiness, (for example, Frey and Stutzer,2002; Stutzer and Frey, 2012) and on the impact of wars (for example, Blattman and Miguel, 2010), there are only a few papers which connect these two issues and study how war affects happiness. However, to what extent war affects happiness is an important question. First, if war substantially affects happiness, then war time elections will favour parties that push for solutions to end the war quickly³. Second, if war does not affect the happiness of non-combatants, then veterans should be warned to expect to come back to an environment that seemingly cares little about their sacrifices. This is important given the high suicide rate among ex-combatants. One estimate, for example, reports more than 100 suicides among Ukrainian soldiers since beginning of the war in Ukraine in 2014⁴.

As far as we know, there are only three papers that provide empirical estimates of how wars affect happiness⁵. Welsh (2008) uses cross-sectional data for 44 countries and shows that, as the intensity of the war (the number of victims per 1000 inhabitants) increases, the average happiness in a country goes down. Shemyakina and Plagnol (2013), studying the war in Bosnia and Herzegovina, find that, several years after the end of the war, people living in municipalities heavily affected by the war (as measured by the level of people killed or missing, the high level of damage to housing stock, or the number of refugees in the community) were not less happy than people living in municipalities that were not heavily affected. However, people who live in houses that are still suffering from war damage or who still think a lot about the war were found to be less happy. Finally, van Praag et al. (2010) show that Jews and Arabs, living in Israel, who were asked about their happiness during or after the 34-day 2006 Israel-Lebanese War⁶ did not have a significantly different level of happiness from those asked about their happiness before the start of the war.

While not providing empirical estimates, Frey (2011) also discusses the war-happiness question, noticing the scarcity of empirical research on this issue, and pointing out a major challenge: happiness surveys cannot measure or take into account the loss of happiness of war casualties themselves.

In this paper, we present a case study using data from Ukraine. By studying the Ukrainian data, we can add to the literature as we use individual level data on happiness at the time of the conflict (unlike Welsh 2008, who uses cross-country data, and unlike Shemyakina and Plagnol, 2013, who use data from several years after the conflict). Moreover, unlike these two previous studies, we have data from both before and during the conflict, enabling us to arrive at more trustworthy estimates of the impact of war on happiness. The study by van Praag et al. (2010) is closest to ours. They also have individual level survey data from before and during the conflict. But that study uses data from Israel where the population had already been experiencing violence and terrorism for many years,

² <u>http://www.kyivpost.com/content/kyiv-post-plus/war-sacrifices-not-shared-evenly-throughout-nation-392045.html</u>

³ For the relationship between happiness and elections, see Ward (2015)

⁴ <u>http://www.unian.info/war/1111956-over-100-suicides-among-ukrainian-soldiers-reported-since-beginning-of-</u>ato.html

 $[\]frac{1}{5}$ There is a somewhat larger literature on the effect of terrorism on happiness – see the works cited in van Praag et al. (2010).

⁶ During this 34 day military conflict, Hezbollah fired rockets on northern Israel and the Israel Defence Force attacked Hezbollah targets in Lebanon. The estimated number of Israeli casualties is less than 200. The estimated number of Lebanese casualties is less than 1,500 (https://en.wikipedia.org/wiki/2006_Lebanon_War).

which could explain the limited effect of war on happiness that they find. Our study, however, focuses on a country where, until the 2014 war, violence and terrorism had been rare (since World War II) and hence, the violence of war might have a much bigger impact. Moreover, given that the violence of war in Ukraine is concentrated in the East of Ukraine, we can use, as an identification strategy for the impact of war, a difference-in-difference methodology, comparing directly affected regions, before and during the war, to regions that experienced the war only through the media.

Background

The war in Eastern Ukraine started in mid-April 2014, when the Ukrainian government sent troops to take back control over government buildings which had been taken over by armed pro-Russian militants. The Ukrainian army was met with fierce resistance from heavily armed militia members. Since then, the fighting has continued at various levels of intensity. By mid-2015, about 8,000 people were estimated to have been killed and about 18,000 injured in the conflict. In addition, about 1.4 million people have become 'internally displaced'⁷.

Despite this on-going war, a recent survey by the Kyiv International Institute of Sociology (KIIS) on happiness in Ukraine shows a surprising picture: the estimated percentage of people in Ukraine who claim to be happy in May 2015 is very similar to estimated percentage of people in Ukraine who claimed to be happy in previous years (see Figure 1).



Figure 1. Happiness in Ukraine from 2001–2015.

Source: KIIS (<u>http://www.kiis.com.ua/?lang=eng&cat=reports&id=536&page=1</u>)

This is rather surprising as the violent conflict in the East of Ukraine, which started in April 2014, was the first war violence since World War II in Ukraine. At the same time, it is consistent with the results of van Praag et al. (2010) who document a limited effect of the 2006 Israel-Lebanese War on happiness.

To measure the impact of the war on happiness in Ukraine in more detail, we will focus on the happiness surveys collected by the Kyiv International Institute of Sociology (KIIS) in May 2013, February 2014 and May 2015. Since we want to focus on a comparison over time, we construct a balanced sample of settlements and hence exclude Crimea and the occupied territories of the Lugansk (but not Donetsk) region for which there are no observations for 2015. Moreover, we exclude six people without self-rated happiness and 102 respondents with missing level of

⁷ <u>http://www.ohchr.org/Documents/Countries/UA/11thOHCHRreportUkraine.pdf</u>

education. In addition, six respondents did not report their occupation, 13 people did not answer the question about economic circumstances and 131 respondents did not identify themselves as Ukrainian or Russian. After removing all observations with missing data we are left with 1,822 observations for 2013, 1,797 observations for 2014 and 1,763 observations for 2015 collected in 100 settlements.

Figure 2 gives the average level of happiness in different Oblasts, as measured in the 2014 happiness survey of early February, that is, before the fall of the Yanukovich regime and before the start of the war in the East.⁸



Figure 2. Average share of respondents who are happy or rather happy in 2014.

In 2014, the East of Ukraine was relatively happier, with the centre of Ukraine being the least happy, and the West of Ukraine being somewhere in between.

However by 2015, things change (see figure 3). An important characteristic of the war in Ukraine is that, while the war dominates local media in the whole of Ukraine, the war has directly affected only a very limited geographical area in the East of Ukraine⁹. In particular, only parts of the Donetsk and Lugansk regions (the two regions in the very East of Ukraine and on the far right side of the above map) were occupied by separatist forces as can be seen in the official map from the Ukrainian authorities in appendix A1.

In 2015, these two directly affected regions become the most unhappy regions of Ukraine and the West of Ukraine becomes the most happy region in Ukraine. As in 2014, the central regions of Ukraine remain relatively unhappy and the regions in the East directly bordering the conflict remain fairly happy.

⁸ Notice that KIIS surveys are not designed to be representative at the regional level of each region. Hence, maps are provided only for illustrative purposes and average happiness levels in regions are only provided as an approximation. ⁹ See f.e. <u>http://mediarnbo.org/2015/10/12/map-ato-12-10-15/?lang=en</u>



Figure 3. Average share of respondents who are happy or rather happy in 2015. *Note: The cut-off points are the same as in 2014 for comparison purposes and do not correspond to the quantiles in 2015.*

Table 1 summarizes the evolution over time of happiness in four 'macro' regions. We aggregate Oblasts into bigger geographical units based on their location relative to the Donetsk and Luhansk regions. In particular, "Donbas" includes the Donetsk and Lugansk regions, the regions where the war violence took place. "Bordering Donbas" includes the Kharkiv, Dnipropetrovs'k and Zaporizhzhja regions that border Donbas. "Centre and South" includes regions not bordering Donbas in central and southern parts of Ukraine. Finally, "West" includes all other regions in western Ukraine.¹⁰

Region	# of observations in 2015	2013	Change 2013 to 2014	2014	Change 2014 to 2015	2015
All Ukraine	2093	0.553	0.030	0.583	-0.024	0.560
Donbas, including:	293	0.498	0.082	0.580	-0.283	0.297
Controlled	173	0.583	0.031	0.614	-0.284	0.329
DNR	120	0.414	0.128	0.542	-0.292	0.250
Bordering Donbas	308	0.646	0.023	0.670	-0.053	0.617
Centre and South	673	0.527	0.014	0.540	0.033	0.574
West	526	0.557	0.030	0.587	0.061	0.649

Table 1. Share of happy and rather happy respondents by regions of Ukraine

¹⁰ In particular, Center and South includes city of Kyiv and Kyiv, Kirovograd, Mykolaiv, Odesa, Poltava, Sumy, Kherson, Cherkasy and Chernihiv regions. West consists of the Vinnytsja, Volyn, Zhytomyr, Zakarpattja, Ivano-Frankivsk, L'viv, Rivne, Ternopil', Khmelnyts'k and Chernivtsi regions.

Note: Donbas includes the Donetsk and Lugansk regions; Bordering Donbas includes the Kharkiv, Dnipropetrovs'k and Zaporizhzhja regions that border Donbas; Centre and South includes regions not bordering Donbas in central and southern parts of Ukraine; West includes all other regions in western Ukraine

The May 2013 survey was the last survey conducted in peacetime, while the second Ukrainian revolution was already happening in February 2014. However, the fall of the Yanukovich regime, the occupation of Crimea and the military invasion in Donbas had not happened yet. The last peaceful year of 2013 shows fairly uniform levels of happiness, ranging from 49.8% to 64.6% of happy or rather happy respondents, across the four macro regions. From May 2013 to February 2014, when the revolution started, the percentage of happy or rather happy respondents increased everywhere from 1.4% to 8.2% and the largest increase happened in Donbas.

Things changed drastically by May 2015. On the one hand, in our sample, the overall share of happy or rather happy people dropped by 2.4% points. However, this modest average decline does hide substantial geographical variation in changes in happiness. In Donbas, which was directly affected by the war, the average share of happy respondents in 2015 went down to about one half of the share in 2014. Happiness decreased by 5.3% points in the three regions bordering Donbas. Finally, there were 3.3% points more happy respondents in the Centre and South of Ukraine, and 6.1% points more happy respondents in the West.

Of course, since different people enter the sample in different years, changes over time could just reflect changes in sample. In the next section, we therefore use regression analysis to study the determinants of happiness in Ukraine and attempt to disentangle the effect of war, economics and politics.

Econometric Analysis

In our regression analysis, to capture differences in the composition of the sample across time, we control for a rich set of mostly exogenous respondent characteristics including age, gender, indicators for vocational and higher education, and a dummy for respondents living in a city. We also include a set of dummies reflecting whether a person considers herself/himself "Ukrainian only", "Russian only" or in between these two categories. Finally, we include a set of 11 dummies that capture the occupation of the respondent.

To check the influence of the control variables, we present in Table 2 the results of a probit regression of being happy or rather happy. We start with a basic regression in column (I) which includes only yearly dummies in addition to demographic characteristics, indicators for self-identification as Ukrainian or Russian, and occupation. Marginal effects from this probit regression indicate that happiness increases with education (by 4.9% and 13.2% points for vocational and higher education respectively). In addition, specialists at positions requiring higher education, entrepreneurs and students are happier compared to workers and agricultural workers. Happiness decreases with age and is lower for unemployed respondents. Gender and urban residence do not make a difference in terms of happiness.

Most importantly, column (I) shows no significant difference in happiness in 2013 and 2014 compared to the base year of 2015. This suggests that the war by itself did not reduce the overall happiness level in the country. Of course, given that the war in Ukraine is only one of the factors that make mid-2015 different from the beginning of 2014 and other years, one should be careful about attributing the changes between 2015 and previous years to the war. Important changes in this period include the change in the economic situation and the change in the political circumstances.

Surveys of the literature by Frey and Stutzer (2002) and Stutzer and Frey (2012) suggest that a person's economic situation affects one's happiness. To control for the economic situation of the respondents, we include a set of dummy variables based on their answer to a question "Which statement best describes your household financial state?". In particular, "lacking [money] for food"

is the base category, and other categories are [having] "enough [money] for food", "enough [money] for clothes", "can buy expensive things" and "can afford anything". Column (II) shows that happiness is higher for people who have enough money for food, clothes or can buy expensive things compared to the base category.¹¹ What is interesting, however, is that 2015 is still no different from 2013 and 2014 after we control for the economic situation.

That political preferences can matter for happiness has been shown, for example, by Napier and Jost (2008) who find that right wing orientation is correlated with higher life satisfaction in ten countries. Similarly, Pierce et al. (2015) find that, in the week after the elections, happiness declines for partisan voters whose party lose the elections.

In Ukraine, there is a clear geographical pattern in political preferences which may affect happiness levels. The pro-Russian Party of Regions (which included the Party of Tyhypko in 2012) and the Communist party are popular in the East and South of Ukraine. While these parties were in power, after the 2012 elections, a major political shift happened after the 2014 elections following the Ukrainian Maidan revolution. In particular, the Opposition block (a re-branded Party of Regions), the party of Tyhypko and the Communist party lost power to Western-oriented parties, parties which tend to be more popular in the Centre and the West of the country. This means that it is possible that the change in the political regime made some regions on average more or less happy depending on their political preferences.

While we do not have a survey question about political preferences at the individual level, we can measure the political preference of the polling unit to which the respondent belongs using the official results of the elections in December 2012 and October 2014. In particular, we computed the share of votes in the settlement for the Party of Regions and the Communist party in 2012 elections as a measure of political preferences for the 2013 and 2014 sample years. For the 2015 sample year, we computed the share of votes for the Opposition block, the Party of Tyhypko and the Communist party. We call this new variable "Pro-Russian party support" given these parties have a more pro-Russian orientation. Column (III) shows that support for pro-Russian parties does not significantly change happiness. Column (III) further shows that in 2013 happiness is 3.8% points lower than in 2015. However, there were no elections in 2014 in six settlements in the Donetsk region which reduces our sample by 117 observations. These settlements are directly affected by the war and, presumably, the least happy respondents live there. Hence, as a robustness check (column IV) we impute missing observations for "Pro-Russian party support" as a predicted variable from a regression of 2014 Pro-Russian party support on 2012 Pro-Russian party support. In this regression neither the coefficient before "Pro-Russian party support" nor the coefficient before the year 2013 are significant.

However, support for a given political party might not be the most relevant 'political' variable. Instead, what may matter more for happiness is whether your political party is in power or not. To capture this idea we create a new variable "Support for parties in power" as a share of votes for the Party of Regions and the Communist party in 2013 and 2014. In 2015, when pro-Russian parties lost the majority, we compute "Support for parties in power" as 1 minus share of votes for the Opposition block, the Party of Tyhypko and the Communist party. With this variable, we try to capture the idea that having one's preferred party in power makes one happy. Column (V) indicates that indeed a 10% point higher support for current parties in power increases probability to be happy or rather happy by 1.39% points. This result is robust to inclusion of imputed support variable for 117 missing observations in Donbas (column VI). The effect of "Support for parties in power" becomes even stronger (1.75% points higher chance of being happy) but also the coefficient for the year dummies for 2013 and 2014 also become significant at a 5% level suggesting people were somewhat more happy, 3.8% to 4.8% points, in 2013 and 2014.

¹¹ We control for people who "can buy anything" or "don't know" but do not report coefficients due to the small number of those.

	υ	1	0	117	117	
	Annual	With	With	With	With	With
	effects	economic	opposition	opposition	being in	being in
	enteets	situation	support	support	power	power
Year 2013	0.001	-0.022	-0.038**	-0.015	0.011	0.038**
	(0.016)	(0.016)	(0.017)	(0.017)	(0.020)	(0.019)
Year 2014	0.024	-0.012	-0.026	-0.005	0.022	0.048**
	(-0.016)	(0.016)	(0.018)	(0.017)	(0.020)	(0.019)
Enough money for food		0.092***	0.091***	0.091***	0.083***	0.096***
<u> </u>		(0.020)	(0.020)	(0.020)	(0.021)	(0.020)
Enough money for clothes		0.199***	0.196***	0.196***	0.186***	0.205***
		(0.022)	(0.022)	(0.022)	(0.023)	(0.022)
Can buy expensive things		0.223***	0.220***	0.220***	0.210***	0.229***
		(0.038)	(0.038)	(0.038)	(0.038)	(0.038)
Pro-Russian party support			-0.018	-0.038		
			(0.030)	(0.030)		
Support for parties in power					0.139***	0.175***
					(0.028)	(0.027)
Imputed political variables?			No	Yes	No	Yes
Pseudo-R ²	0.051	0.064	0.063	0.064	0.066	0.069
# observations	5382	5382	5265	5382	5265	5382

Table 2. Marginal effects from a probit regression of a respondent being happy or rather happy

Note: Marginal effects after probit regressions. Standard errors in parentheses. All regressions control for demographic characteristics, dummies for self-identification as Ukrainian or Russian and occupation.* p<0.10, ** p<0.05, *** p<0.01

Summarizing our findings so far, the data suggest that the war had at most a small negative effect on the overall level of happiness in Ukraine, while being better off economically as well as having your party in power makes people happier.

Next we do a difference-in-difference regression and check whether these results survive once we control for the respondents' geographical location relative to the frontline. Specifically, we create a set of cross terms for each macro region (mentioned above) and year. For example, the interacted variable West*2013, allows us to compute whether the difference in happiness between the Donbas region in 2015 and the Western region in 2013 is significant.

The model in Table 3 includes all variables from Column (VI) and regional dummies as well as region-year cross terms. The most interesting results are presented in the bottom of Table 3 where we provide the test results for whether the year effect plus the region effect plus the region-year interaction effect is different from Donbas in 2015 which is our base category. We will discuss the model with imputed support for parties in power (Column II) to keep a balanced sample but results without imputations (Column I) are similar and also presented in Table 3. It appears that respondents in all regions and all years were more likely to be happy or rather happy than people in the Donbas region in 2015, with the difference in happiness being anywhere from 20.4 to 31.7% points. Similarly, respondents in Donbas were 15.7 to 22.5% happier before the outbreak of the war¹². Also in this extended specification, economic variables still matter for happiness, as does having one's preferred political party in power (but the latter effect is only marginally significant).

¹² One could argue that Donbas in 2015 is different from Donbas 2014 and 2013 because many people left the region. If happy people are more likely to leave the region where violence took place, we also would observe a drop in happiness. Note, however, that our regression controls for many variables that will correlate with the decision to leave the region and that one as well could argue that more happy people are more likely to stay in the affected region as they

We also tested how happiness in other regions is different in 2013 and 2014 compared to the 2015 base year¹³. We find that none of the changes is significant except for one marginal case. Specifically, the regions Bordering Donbas were 6.6% points (p-value of 8.6%) more happy than in 2015^{14} .

	Coef.			Std.er.		Coef.			Std.er.	
Year 2013	0.144	***	(0.051)	0.157	***	(0.045)
Year 2014	0.212	***	(0.051)	0.225	***	(0.045)
Bordering Donbas	0.237	***	(0.047)	0.250	***	(0.041)
Centre and South	0.231	***	(0.047)	0.244	***	(0.040)
West	0.303	***	(0.051)	0.316	***	(0.045)
Bordering Donbas*2013	-0.078		(0.064)	-0.091		(0.059)
Centre and South*2013	-0.186	***	(0.070)	-0.197	***	(0.066)
West*2013	-0.196	**	(0.082)	-0.206	***	(0.078)
Bordering Donbas*2014	-0.157	**	(0.064)	-0.170	***	(0.059)
Centre and South*2014	-0.250	***	(0.070)	-0.261	***	(0.065)
West*2014	-0.258	***	(0.082)	-0.268	***	(0.078)
Enough money for food	0.083	***	(0.021)	0.088	***	(0.020)
Enough money for clothes	0.189	***	(0.023)	0.196	***	(0.022)
Can buy expensive things	0.215	***	(0.038)	0.222	***	(0.037)
Support for parties in power	0.090	*	(0.053)	0.094	*	(0.053)
Tests of linear combinations	Coef.			Std.er.		Coef.			Std.er.	
2013 + Bordering Donbas + B.D.*2013	0.303	***	(0.046)	0.317	***	(0.040)
2013 + Centre and South + C.&S.*2013	0.190	***	(0.042)	0.204	***	(0.035)
2013 + West + West*2013	0.252	***	(0.046)	0.267	***	(0.039)
2014 + Bordering Donbas + B.D.*2014	0.293	***	(0.047)	0.306	***	(0.041)
2014 + Centre and South + C.&S.*2014	0.194	***	(0.042)	0.208	***	(0.036)
2014 + West + West*2014	0.258	***	(0.046)	0.273	***	(0.040)
Imputed political variables?		No					Yes			
Pseudo-R ²		0.078					0.083			
# observations		5265					5382			

	Table 3. Marginal	effects from	a full probit	model of	being happy
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Note: Marginal effects after probit regressions. Main model includes all variables from Column IV of Table 2 with imputed values for parties in power. *p<0.10, **p<0.05, ***p<0.01

are likely to also be more optimistic about the chance of solving the violence quickly. We assume overall the effect of selection cancels out.

¹³ These results are available on request. Note: one could also argue that the economic and political situation in Ukraine has been affected by the war. If we exclude these two variables from the regression from Table 3, we basically get similar results though central and Western regions sometimes have higher happiness in 2015 than in earlier years.

¹⁴ We also tested whether those who identify themselves as "Russian only" felt any happier in 2013 and 2014 compared to the base year. There is no significant effect for 2013 but in 2014 "Russian only" respondents have 18.0% points higher probability of being happy (marginal effect). This finding is consistent with the fact that "Russian only" respondents primarily reside in Donbas (46 out of 97). All other results remain robust to this check.

Discussion and conclusions

In this paper, we use individual level data from Ukraine to study the impact of war on happiness. We estimate that overall happiness in Ukraine is at most 5% (and in most specifications even less) lower in 2015, the year of the war, as compared to the two years before the conflict, even after controlling for political and economic changes between these years and for individual characteristics.

Disaggregating the data geographically and using a difference-in-difference design, we further show that the impact of war is substantial in the directly affected areas, with respondents in all other regions and all other years demonstrating much higher probability (from 15.7% to 31.7% points) of feeling happy or rather happy. For comparison, this effect corresponds to moving from the financial state "lacking money for food" to somewhere in between "enough money for clothes" and "can buy expensive things". The regions bordering the conflict area see a small decrease in happiness, while happiness in other regions remains stable in 2013–2015. This suggests that experiencing the war directly, rather than hearing about it from the press, is what makes people unhappy. This is also consistent with van Praag et al. (2010) who study the 2006 Israel-Lebanese War, a war which mainly affected Lebanon, and find a limited effect on happiness in Israel.

The situation in Ukraine is very different from the experience of Syria, where happiness levels are much lower than in Ukraine. Syria is now among the countries with the lowest happiness in the world. Syria ranked 156 out of 158 in the World Happiness Report, 2015 (which uses data for 2012-2014) while Ukraine ranks 111¹⁵. This is consistent with the idea that direct experience of the conflict is what destroys happiness. Indeed, the conflict in Syria has not only been much more violent but also much more widespread geographically, with violence taking place in many parts of Syria compared to the geographically concentrated violence in Ukraine¹⁶.

Our research has several policy implications. First, it is important to provide adequate psychological support to ex-combatants coming back to their homes, given what is likely to be interpreted as indifference of the people living in peaceful areas. Second, a hybrid war that does not spread over the entire country might, at least in the short run, have limited power in terms of demoralising people and thus dramatically affecting electoral results. Finally, if many Ukrainians themselves are not made unhappy by the conflict in the East of their country, it is hard to expect the rest of Europe and the world to worry much about it. War remains a dreadful reality but only those people who are directly affected can realise this to the full extent.

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Appendix



Figure A1. Parts of Ukraine occupied by separatist forces on the day of Parliamentary elections date.