

Appendix To “Estimating War Deaths: An Arena of Contestation”

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A. Notes on the provenance of the “PRIO” figures cited by Obermeyer, Murray, and Gakidou (OMG) in “Estimating War Deaths: An Arena of Contestation”

Several puzzles exist with respect to the origin of the numbers cited by OMG as being from the “Uppsala/PRIO” dataset:

1. *Like Is Not Being Compared With Like*

It is not clear why Uppsala is mentioned in the article, since communication from Ziad Obermeyer indicated that OMG relied on the version of the PRIO-collated battle-deaths data designed for use with the Correlates of War (COW) conflict data.¹ There is in fact no relationship between the Uppsala Conflict Data Program and the COW projects. Each project defines conflicts differently and covers very different time periods. So while OMG claim to be critiquing the “Uppsala/PRIO” (2008a, 2) dataset they are actually using the COW version of the PRIO battle-deaths data, *not* the version that is compatible with the Uppsala/PRIO Armed Conflict Dataset.

In fact there is no stand-alone PRIO battle-deaths dataset. Rather PRIO-collected battle-deaths data are collated in three formats, each designed for use with a pre-existing, stand-alone

¹ Below, we argue that there is reason to believe OMG used the Uppsala/PRIO-compatible battle-death data from 1998 onward. The bulk of the data that OMG examine, however, come from the COW-compatible version.

armed conflict dataset. The datasets in question are the Uppsala/PRIO armed conflicts dataset;² the COW armed conflicts dataset; and the Fearon & Laitin dataset on civil conflict. This is made clear on the PRIO website from which the battle-deaths data are downloaded.³

Each of these armed conflict datasets has its own coding rules, including the number of deaths required for a conflict to be registered. The Uppsala/PRIO version has the lowest fatality threshold of the three datasets, at 25 verifiable and codable deaths per year. Both the Fearon & Laitin and COW conflict datasets employ significantly higher deaths thresholds than the Uppsala/PRIO dataset, and this determines the number of conflicts that are included in each of the datasets. The number and nature of conflicts coded in each of the conflict datasets in turn determines the total number of battle-deaths that will be included in each version of the battle-deaths data.

A simple comparison of the three datasets and the cases included since the end of the Second World War shows that the COW data include 719 conflict years (all conflicts 1946-1997), Fearon & Laitin 1,021 conflict years (civil wars 1945-1999), and the Uppsala/PRIO 1,842 conflict years (all conflicts 1946-2005.)⁴ Since the Uppsala/PRIO version of the conflicts dataset includes more conflicts than the others by virtue of its lower deaths threshold, it will also include more battle-deaths from small conflicts. Indeed, the best estimate of total battle-deaths for the Uppsala/PRIO dataset is 10,101,671 compared with 9,567,904 for COW and 7,148,006 for the

² The so-called Uppsala/PRIO dataset is officially called the UCDP/PRIO Armed Conflict Dataset on the website and elsewhere. We use “Uppsala/PRIO” instead of UCDP/PRIO here to make it clear that this is the same conflict dataset mentioned, though not necessarily actually used, in the OMG critique of the battle-deaths data.

³ Centre for the Study of Civil War, PRIO, “Battle Deaths Data,” <http://www.prio.no/CSCW/Datasets/Armed-Conflict/Battle-Deaths/>, accessed November 11, 2009. Note that OMG used version 2.0 of this dataset. Since then version 3.0 has been released. Both can be accessed through the above URL. The statement above refers to version 2.0.

⁴ In the Uppsala/PRIO dataset, multiple civil wars can be identified within the same country simultaneously, depending on whether the rebels want to overthrow the government or have separatist goals.

Fearon & Laitin data. This means that the difference between OMG's estimates and the battle-death dataset is higher when using the COW version than had they used the Uppsala/PRIO version of the data. Using the COW version of the dataset necessarily means that conflict-related deaths will be missed that *would in principle be counted in the WHO data*. This particular case of undercounting has nothing to do with the PRIO battle-deaths data; it is purely a function of the COW conflict coding rules. The difference in absolute numbers may not be great but once again, we find that like is not being compared with like.

2. Country-Level Battle Death Data for Bangladesh, Georgia, and Namibia

A second puzzle has to do with the origin of OMG's battle-deaths figures for Bangladesh, Georgia, and Namibia, since none of these countries are considered a state at the time of the conflict in any of the COW-compatible battle-deaths data.⁵ This means in turn that there is no country-level data. There are totals for the *conflicts* which led to the independence of Bangladesh and Namibia, but it is unclear how OMG could have derived country-level fatality totals from the conflict-level battle-deaths data. In the case of Bangladesh, we believe that the figure that OMG provide may include a significant number of Pakistani deaths.

3. Mismatch with COW-Compatible data and Provenance of Deaths Data from 1998 to 2002

A third puzzle arises over the origin of battle-deaths data for the period 1998-2002, since the COW conflict dataset, and therefore the battle-deaths data that are designed for use with that dataset, end in 1997. Despite this fact, 6 of the 13 country fatality tolls cited by OMG matched

⁵ Georgia became independent in 1991 and experienced conflict immediately thereafter. However, in the technical appendix of OMG's paper (table A3), there is an indication of war deaths from the period 1975-84 (see below).

(after rounding) those that we calculated using the same (COW-compatible) data.⁶ This may be because, of the 6 countries where OMG's cited battle-deaths numbers match the numbers we generated from the same data, none has experienced conflict since 1997 according to the Uppsala/PRIO armed conflict dataset.^{7,8} This means that in these cases, the fact that the COW data stop at 1997 is of no practical consequence for the battle-deaths totals from 1955-2002. Of the remaining 7 countries, 5 have experienced conflict since 1997 according to the Uppsala/PRIO armed conflict dataset.⁹

For the 5 countries that did experience conflict after 1997, it is possible to match the numbers cited by OMG by adding in some deaths from the Uppsala/PRIO-compatible version of the battle-deaths data. To do this, one takes the battle-deaths from the Uppsala/PRIO-compatible version post-1997 and adds them to the numbers from the COW-compatible version through 1997.^{10,11}

⁶ The six countries are Guatemala, Laos, Zimbabwe, Vietnam, Bosnia, and Georgia.

⁷ It would be preferable, though of course impossible, to use the COW-compatible version of the battle-deaths data to see if any of the 13 countries *should have* had data after 1997, since the COW dataset, and therefore the battle-deaths data designed for it, only go to 1997. Since the Uppsala/PRIO dataset has a significantly lower deaths threshold for inclusion of a conflict, it cannot be confidently determined whether a conflict appearing in the Uppsala/PRIO dataset would also appear in the COW dataset.

⁸ Georgia *has* experienced conflict post-1997 as coded by the Uppsala/PRIO version of the battle-deaths data (in 2004, according to version 2.0 of the data). This makes no numerical difference in practice, however, since the battle-deaths numbers from the 2004 fighting were small enough to not change the rounded number calculated from the COW-compatible battle-deaths data through 1997.

⁹ The five countries are Ethiopia, the Philippines, Burma/Myanmar, Sri Lanka, and Republic of Congo.

¹⁰ In the case of Ethiopia, one must halve the number of battle-deaths in the Ethiopia-Eritrea conflict, since there are no battle-deaths data in this particular iteration of the Uppsala/PRIO-compatible version (ie. version 2.0) that are disaggregated by country.

¹¹ For example: The number for Sri Lanka cited by OMG as originating from the battle-deaths data for 1955-2002 is 61,000. Were one to add up the battle-deaths solely from the COW-compatible version of the battle-deaths data, which ends at 1997, one would arrive at 47,980. If one then consults the Uppsala/PRIO version of the battle-deaths data, and adds to 47,980 the number of battle-deaths in Sri Lanka from 1998-2005, the total becomes 60,869 –

This means that OMG appear to have taken battle-deaths data from two different versions of the battle-deaths dataset, designed for use with two different conflict datasets that are governed by different coding rules. Moreover, in order to match the 5 countries in question, one has to take the totals from the Uppsala/PRIO-compatible data up to and including 2005, while OMG's analysis ostensibly ends at 2002.¹² So it appears that, not only have OMG apparently used data from two different datasets to make their claims, they have also failed to use the same time period as that covered by the war deaths figures derived from the sibling surveys.¹³

If it is the case that OMG have indeed used battle-deaths numbers from the Uppsala/PRIO version of the data for 1998 through 2005, this would resolve the puzzle over the origin of their post-1997 data, and it means that we have matched OMG's cited battle-death tolls in 12 of the 13 countries, albeit using dubious methods to match at least 5 of these. This does not, however, resolve the provenance of the figure for Namibia that OMG cite as originating from the battle-deaths data; the origin of this figure remains a mystery.¹⁴

4. *Questions Concerning the WHS Figures Cited by OMG:*

In addition to the puzzles over the provenance of OMG's "Uppsala/PRIO" figures, there

rounded to 61,000 which is the number cited by OMG. The same procedure allows one to match OMG's cited battle-deaths figures for Ethiopia, the Philippines, Burma/Myanmar, and Republic of Congo.

¹² There are three versions of the battle-deaths data designed for use with the Uppsala/PRIO armed conflict dataset: one that ends in 2002; one that ends in 2005; and one that ends in 2008. The statement above refers to version 2.0 of the battle-deaths dataset, which ends in 2005.

¹³ It must be re-emphasized that we only speculate as to the provenance of the OMG figures for the battle-deaths data, since there is nothing in their article or appendix that indicates the provenance of their figures.

¹⁴ We received a response from OMG to our query about the origin of the cited "Uppsala/PRIO" figure for Namibia in February 2009. This response directed us to an entry in the battle deaths dataset which suggested 24,200 Namibian deaths and 800 South African deaths – nothing remotely close to OMG's "Uppsala/PRIO" number of 61,000.

are also some concerns about the WHS numbers cited in OMG’s article and the related technical appendix. At least one of these questions arises from a lack of internal consistency in OMG’s notation of their WHS-derived figures between Table 2 in the body of the article and Table A3 in their technical appendix.

In these two tables, WHS-derived deaths are noted by decade – in Table 2 they are in the form of absolute numbers with 95% confidence intervals, and in Table A3 they are in the form of percentages of the population in question, followed by 95% confidence intervals. The entries in

Table 2 | World health survey estimates of violent war deaths per year (thousands) with 95% confidence intervals

	1955-64	1965-74	1975-84	1985-94	1995-2002
Bangladesh	—	27 (13 to 50)	—	—	—
Bosnia	—	—	—	12 (5 to 19)	7 (2 to 16)
Burma	—	—	—	3 (2 to 5)	—
Ethiopia	—	—	23 (12 to 39)	22 (12 to 35)	19 (9 to 36)
Georgia	—	—	—	4 (1 to 8)	—
Guatemala	—	—	2 (1 to 3)	—	—
Laos	—	4 (2 to 8)	2 (1 to 3)	—	—
Namibia	—	—	1 (0.4 to 2)	0.3 (0.1 to 1)	1 (0.2 to 1.3)
Philippines	—	—	—	—	4 (3 to 7)
Republic of Congo	—	—	—	—	1 (0.3 to 3)
Sri Lanka	—	—	10 (6 to 16)	8 (5 to 13)	5 (2 to 8)
Vietnam	131 (75 to 211)	170 (102 to 255)	81 (44 to 127)	—	—
Zimbabwe	—	4 (2 to 8)	10 (6 to 15)	—	—
Total	131 (75 to 211)	205 (118 to 322)	129 (70 to 206)	49 (25 to 81)	36 (16 to 71)

	1955-64		1965-74		1975-84		1985-94		1995-2002	
	<i>Pct</i>	<i>95% CI</i>	<i>Pct</i>	<i>95% CI</i>	<i>Pct</i>	<i>95% CI</i>	<i>Pct</i>	<i>95% CI</i>	<i>Pct</i>	<i>95% CI</i>
Bangladesh			2	1 - 4						
Bosnia							44	19 - 68	23	6 - 50
Ethiopia						-		-	3	1 - 7
Georgia					3	2 - 6	3	1 - 4	2	1 - 3
Guatemala						-	8	2 - 18		
Laos				-	3	1 - 4				
Myanmar			10	4 - 18	4	2 - 7		-		
Namibia					10	6 - 15	8	5 - 12	3	2 - 6
Philippines							1	0 - 1		-
Rep. Congo					8	3 - 15	3	1 - 5	3	1 - 8
Sri Lanka						-		-	1	1 - 2
Vietnam	18	11 - 30	22	13 - 34	11	6 - 18				
Zimbabwe			7	3 - 12	13	8 - 21				
Mean	18	11 - 30	10	5 - 17	7	4 - 12	11	5 - 18	6	2 - 13

Table A3. WHS estimates of percent deaths due to war by ten-year interval with 95% confidence intervals

the two tables do not match each other in terms of the specific decades into which WHS-derived estimates are entered. For example, in the Georgia case, Table 2 notes deaths only in the 1985-1994 decade, while in Table A3 deaths are entered for Georgia for 1975-1984, 1985-1994, and 1995-2002 (2002 being the last year covered by the surveys). If Table A3 is taken to be accurate, it is clear that deaths have been recorded based on the WHS surveys in Georgia before Georgia was an independent country, most probably including deaths by Soviet army recruits suffered in the Afghanistan war. These deaths would be included in the Afghanistan conflict death toll, not Georgia, in the battle-deaths dataset. In Table 2, deaths are entered for Georgia only for the period 1985-1994. There is no way of knowing when exactly the deaths recorded in this period took place, so if Table 2 is taken to be accurate, it is not possible to tell whether the deaths recorded in that time period were pre- or post-independence, since this ten-year period straddles both pre- and post-independence years.

In addition to the issue of potentially recording deaths in Georgia prior to the country's independence, however, the mismatches between the two tables cause further confusion over the provenance and treatment of WHS-derived death figures quite generally: the two tables disagree

with each other for eight of the thirteen countries under scrutiny by OMG.

B. Puzzles Over Specific Countries

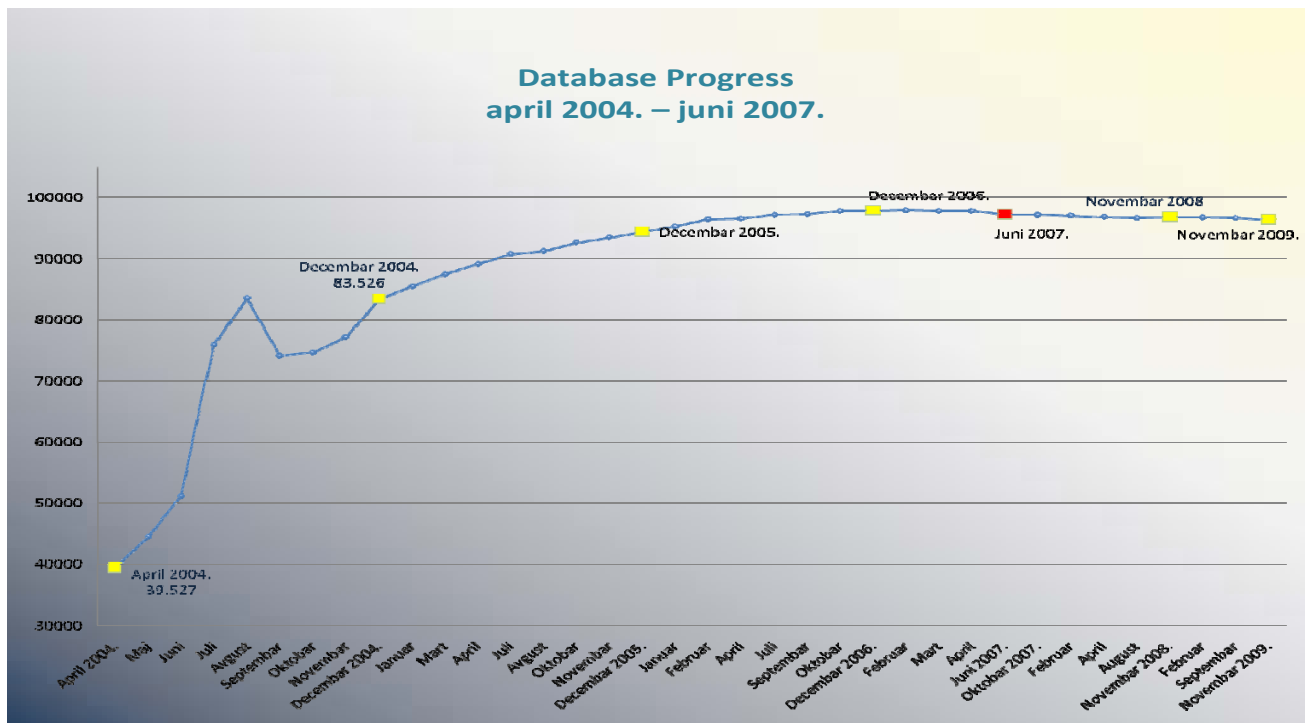
1. Further Problems with OMG's Georgia Outlier

In the main article we point out that OMG's claim that the PRIO data, "indicated a figure of only a third [of OMG's totals]" is not well supported by OMG's own data, not least because it relies heavily on one particular and unconvincing treatment of OMG's outlying Georgia estimate. Here we make the additional point that, for several reasons, OMG's Georgia estimate itself is unreliable. First, OMG report a 95% confidence interval on this estimate of 10,000 to 80,000, a ratio of 8 to 1 from top to bottom which renders the Georgia estimate the second least precise of the 13 reported in Table 3 in the OMG paper. Second, not one of the ten independent sources that were reviewed in compiling PRIO fatality toll gives a fatality figure remotely close to the WHS-derived projection of 35,000 deaths. The highest estimate from the independent sources is 15,000. Third, as pointed out in the previous section, it is possible that more than one third of the Georgia fatality estimate comes from the period before Georgia was an independent country and there are substantial discrepancies in OMG's Georgia estimates between Table 2 of the main paper and Table A3 of their appendix.

2. Bosnia

We consider it likely that the OMG estimate of 167,000 deaths in the Bosnia conflict is

too high.¹⁵ The Research and Documentation Center in Sarajevo has spent years documenting the human losses in the Bosnian conflict using a large number of source materials and making considerable outreach efforts to communities all over Bosnia. The graph below, generously provided to us by Eldar Jahic of the Research and Documentation Center in Sarajevo, gives the evolution of documented deaths over time in this database. It shows that until the end of 2006 the number of documented deaths generally increased over time with periodic retrenchments due to period efforts to purge double counting from the system. This rate of increase declines considerably over time and eventually turns slightly negative in 2007. This suggests that it is unlikely that more than 40% of actual deaths have remained undocumented.



¹⁵ On the other hand, Ball (2000) estimates 132,000 war deaths due in Guatemala with a 95% confidence interval of 119,300 to 145,000. If this estimate is anywhere close to accurate then OMG's estimate of 20,000 war deaths with a 95% CI of 10,000 to 34,000 is far too low.

Tabeau and Zwierzchowski (2009), working with additional documents available to the International Criminal Tribunal for the former Yugoslavia used capture-recapture methods to estimate 104,730 deaths in the Bosnian conflict, only 8% above the 97,207 deaths documented by the Research and Documentation Center in Sarajevo. Tabeau and Zwierzchowski (2009) express skepticism about the OMG estimate, and point out that OMG's estimate of 56,000 deaths for 1995-2002 implies, essentially, 56,000 deaths in 1995 which was the final year of the war, a year during which there are 19,000 documented deaths (Ball, Tabeau and Verwimp, 2007), about 1/3 of the OMG estimate.

It should be pointed out that OMG have a very wide 95% confidence interval of 67,000 to 305,000 which almost surely contains the true number. However, their central estimate appears to be too high.

3. OMG's Estimate of the Number of People Killed in the Iraq War

OMG apply their formula:

$$\text{Estimated war deaths for war } W = 27,380 + 1.81 \times (\text{PRIO figure for war } W)$$

to reach an estimate that there were 184,000 deaths in the Iraq war, a figure that they contrast with an estimate of 151,000 from the Iraq Family Health Survey Study Group (IFHS) (2008) and an estimate of 601,000 of Burnham et al. (2006). However, even if one accepts the general approach underlying the above equations, which we do not, OMG's estimate is still too high for two main reasons. First, OMG multiply their coefficient of 1.81 by a figure of 82,772 taken

from Iraq Body Count (continuously updated) but this number covers the period from the beginning of the war through April of 2008. In contrast, IFHS (2008) and Burnham et al. (2006) only cover through June of 2006, a period for which IBC records 48,429 violent deaths. Plugging this lower, more appropriate, IBC figure into the OMG formula yields an estimate of 115,000.

Second, the 115,000 figure includes the statistically insignificant constant or 27,380, the removal of which would reduce the estimate to 88,000.¹⁶

C. Rare Events

Spagat (2009) uses computer simulations based on real conflict data for Iraq to study the performance of small cluster samples, of the sort used in the WHS surveys employed by OMG, in measuring conflict violence. Since war violence tends to concentrate in few geographical areas, small cluster surveys can, on the one hand, fail to detect any war deaths or, on the other hand, overestimate war deaths by a wide margin. Indeed, OMG's WHS-based estimate seems to fit this profile in at least one important respect. As we point out in the main paper, for 21 countries for which PRIO finds battle deaths, OMG find too few war deaths in their WHS samples to be able to include these countries in their paper. In other words, they fail to detect

¹⁶ In addition, IBC figures exceed PRIO 2.0 figures, upon which the OMG equation was fit, by 20% on average, suggesting further inflation in OMG's Iraq estimate. On the other hand, PRIO version 3.0 changes PRIO's Iraq methodology compared to version 2.0 which OMG used. In version 3.0 IBC figures, which only cover civilian deaths, are just one of three components, the other two being coalition and insurgent military deaths. Moreover, PRIO uses the full IBC figures in version 3.0, a decision that we think should be revisited since many of these deaths are not battle-deaths in our view. Under the new methodology PRIO's Iraq figures exceed IBC's by 40% on average.

war deaths, or detect only a small handful of war deaths, in substantially more cases than those in which they detect many war deaths. Moreover, it appears that in at least two cases, Georgia and Bosnia, OMG overestimated war deaths by a wide margin. This means that the OMG estimates may fit the profile predicted in Spagat (2009) in a second respect as well. This suggests that the OMG estimates are not reliable enough to be used in the comparison attempted in the OMG paper.

D. OMG May Have a Convenience Sample

1. The Reliability of the WHS Information on War Deaths

OMG argue that the use of WHS sibling data makes it possible to avoid the security and logistical challenges and the politicized environment in countries with ongoing conflicts. Therefore, it is surprising to notice that of the 13 countries for which war deaths estimates are presented in their article, five were involved in ongoing conflicts in 2002-2003 when the surveys were performed.¹⁷ During the time of the surveys, fighting was of relatively low intensity in these countries, but it is still pertinent to ask whether the survey teams were able to randomly select households in the territories that have been affected by warfare. For example, there probably would have been more sibling deaths reported had the survey team included households among the refugee camps on the Burma-Thailand border.

2. The Reliability of the Mortality Data

¹⁷ Burma, Ethiopia, Philippines, Republic of Congo, and Sri Lanka. In total there are 11 countries out of 46 for which the sibling death question was included that were experiencing conflict in 2002, 2003 or both years (www.ucdp.uu.se/database).

OMG use indirect methods in calculating their figures, extrapolating from the survey results using estimates from the UN Population Division of total deaths by country from 1955 forward. OMG employ the WHS data only to produce estimates of the *fraction* of all deaths for each country and time period that are attributed to war injuries. These war-injury fractions are then multiplied by total deaths, as determined by the UN, to yield estimates of deaths due to war injuries. Thus, in order for OMG to extrapolate the 797 deaths of siblings to create what they call “accurate non-biased” global estimates of war deaths spanning nearly 50 years, their calculations require both the WHS survey mortality data and the UN death estimates to be accurate.

OMG explain their decision to start their time period in 1955 because that is when UN estimates of total deaths first became available. The quality of these data is, however, highly variable, as the UN statistical division acknowledges. When examining the UN mortality data for the 13 countries in OMG’s study it becomes immediately clear that the reliance on the UN’s data is problematic. Three of the 13 countries have never reported mortality statistics to the UN Demographic Yearbook (Laos, Namibia, and the Republic of Congo.) Another five countries have provided data 1-4 times, but all in a single decade, making it hard to identify trends (Burma, Bosnia, Ethiopia, Vietnam, and Zimbabwe.)¹⁸ When data are not reported, the UN estimates a figure using available census and sample survey data on mortality. If no such information is available, then the estimate has to rely on available sample survey data on population at a given time plus speculative modeling of the most likely mortality patterns over time, generally relying on estimates of infant mortality and life expectancy at birth made by the United Nations Development Program (UNDP) since these go back to 1955. Thus, in countries such as Burma

¹⁸ Ethiopia (once), Burma (twice), Zimbabwe (twice) and Bosnia (three times) only supplied data in the 1990s, while Vietnam reported data four times in the 1980s but not before or since.

and Namibia, OMG apply their WHS survey results to mortality data calculated from another survey and then applied to population data calculated from yet another survey (United Nations 2004, 2005, 2007.) For Burma in particular, the data seems to be the UNDP estimates, a census in 1980, and sample surveys in 1983, 89, 95, 99. (UN 2005)¹⁹. We would not expect these procedures to provide reliable data for mortality rates during intense conflict years in the 1960s and 70s. Moreover, these sample surveys would have taken place whilst the country in question experienced an ongoing conflict, so they may only measure the mortality/population/sibling deaths in government-controlled territory. A biased design or a mistake in any of these surveys performed in difficult circumstances could seriously distort the findings of OMG.

3. Explaining the Non-Cases

In the main article, we argue that OMG's claim that the PRIO battle-deaths dataset consistently undercounts the severity of conflict does not hold, as the OMG data have lower estimates than PRIO in five of thirteen cases. In addition, OMG discounted 33 countries from their analysis on the basis of them having five or fewer reported sibling deaths from war injuries in a given 10 year period. These countries should, therefore, have even fewer battle-deaths than the 13 countries included in the analysis.

¹⁹ The years of the census and surveys are approximated from a graph.

Starting²⁰ with the countries that *were* included in the OMG study, the WHS data do for the most part indicate the periods when these countries were involved in large-scale wars. It can be assumed that most of the deaths identified in the WHS surveys came from:

- the independence war and accompanying repression in Bangladesh 1971,
- the Bosnia civil wars and ethnic cleansing 1992-95,
- Ethiopia's many civil wars, "red terror" repression and international conflict with Somalia since 1964,
- the Georgia civil wars 1991-93,
- the civil war in Laos and the US "strategic bombing" campaigns crossing into that country 1959-73,
- the independence war in Namibia 1966-88,
- Sri Lanka's civil war against the Tamil Tigers since 1984,
- the civil war in Zimbabwe 1973-79, and
- the Vietnam war which, for the Vietnamese, ended in 1989 when troops withdrew from their involvement in the Cambodian civil war.

In a few cases, the WHS data identify war deaths from years when it is well known that the fighting were particularly intense, such as the escalation of violence in the Republic of Congo 1997-98²¹, or the most intense phase of the government "dirty war" in Guatemala in the early 1980s (the civil war lasted 1965-95.) But OMG do not capture the occurrence of smaller conflicts such as the Bangladesh insurgency (1975-92), the first years of the Zimbabwe civil war

²⁰ The comparison on active conflict-years is based on information from the 2009 version of the Uppsala/PRIO Armed Conflict Dataset (Harbom and Wallensteen 2009.)

²¹ Even though this civil war also was active in 1993-94, 1999, and 2002.

(1967-68), or the fighting between Laos-Thailand 1986-88 followed by the short resumption of the Laotian civil war 1989-90.

For two of the countries included in the OMG paper, the periods for when “war deaths” occur simply does not fit with the evidence—and OMG’s data are not internally consistent. First, in the table presented in OMG’s main paper, the *only* period where war deaths occurred in Burma was 1985-94, but the table from the paper’s appendix does not include *any* deaths from this period at all, though it does for 1965-84. In fact the civil war in Burma has been ongoing with very few and short interruptions since the country became independent in 1948. In each decade since then, there has been high-intensity fighting even though the violence has decreased in recent years. Depending on which of the two tables presented by OMG is used, the WHS failed to find any deaths in Burma for time periods in which the PRIO dataset report 220,000 or 75,000 battle deaths, respectively.²²

Second, a similar problem arises with the WHS data on war deaths from the Philippines. The OMG paper indicates that war deaths occurred only in the period 1995-2002, whilst the paper’s appendix indicates that war deaths occurred only in the period 1985-94. In the Uppsala/PRIO dataset, there is ongoing conflict in the Philippines every year since 1969, and many of these years have witnessed intense fighting. Depending on which of the two tables presented by OMG is used, the WHS failed to find any deaths in the Philippines for time periods where the PRIO dataset report 90,000 or 70,000 battle deaths, respectively.

OMG’s assertion that the use of retrospective survey data captures more war deaths than the PRIO data suggests that the countries are excluded from their analysis because there were insufficient deaths reported in the surveys would have very few or no deaths in the PRIO dataset.

²² This is consistently calculated as the median value between the low and high estimates provided in the PRIO data, as the data for most years have no best estimate.

For 22 of the 33 excluded countries, this seems to be the case. The countries concerned have either been completely peaceful or have only experienced low-intensity violence.²³ However, there are a number of notable omissions of war deaths in the WHS survey data involving large countries that have fought in several well-reported violent conflicts in the time period for the OMG study. It seems surprising that the WHS surveys failed to pick up deaths from any of the wars involving China, India, Russia, or Pakistan. China has fought international wars against Burma, India, Soviet Union, Taiwan, and Vietnam as well as a rebellion in Tibet in 1955-2002. According to the PRIO battle-deaths dataset; these wars have led to a combined death toll of over 160,000 people. India has been involved in numerous civil wars with communists and separatists as well as international wars against China and Pakistan with a total of some 99,000 battle deaths. Russia/Soviet Union suffered large losses as part of its involvement in Afghanistan and has been involved in one of the bloodiest conflicts of the 1990s in Chechnya which had led to over 86,000 deaths by 2002. Also, the losses of Pakistani life in its civil wars, the conflicts with India and the independence war in Bangladesh would also be expected to feature (in particular since the Bangladesh survey registered so many deaths). It may be that the WHS surveys were unable to capture war deaths in such populous countries, but that does not explain the lack of reporting of the 4,000 dead in the Dominican Republic, the 5,000 dead in Malaysia, the 7,000 dead in South Africa, the 15,000 dead in Morocco, or the 42,000 dead in Chad. If we combine – counting conservatively - all the war deaths from time periods or countries where Uppsala/PRIO has data but where OMG are not able to provide an estimate because there were not strong enough indications of war deaths in the WHS data, then we find that at least 600,000 deaths were

²³ These 22 countries are Burkina Faso, Comoros, Czech Republic, Ecuador, Estonia, Ghana, Kazakhstan, Kenya (who experienced colonial conflict in the 1950s but fighting decreased after 1955), Mali, Malawi, Mauritania (who experienced colonial conflict in the 1950s but fighting decreased after 1955), Mexico, Paraguay, Senegal, Slovakia, Slovenia, Swaziland, Tunisia, UAE, Ukraine, Uruguay, and Zambia.

not picked up by the WHS surveys. This gives additional cause for concern about the ability to generalize to global trends using this data source.

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