The Early Spread of Mass Media Increases the Probability of Civil War: A Research Note

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A recent article in *International Organization* suggests that by enhancing the soft power of states, the spread of mass media decreases the probability of civil war onset. This research note contributes a crucial correction to the logic of that argument (internal consistency) and demonstrates a substantively different and improved accounting of the empirical relationship between mass media and civil war (internal and external validity).

In a recent issue of *International Organization*, Camber Warren argues that mass media penetration makes civil wars less likely because mass media enhances state strength and therefore deters potential insurgents. Warren argues that the well-known cases in which mass media are often believed to have facilitated civil war, such as Yugoslavia and Rwanda in the early 1990s, are misleading examples selected on the dependent variable. Indeed, his account argues that these are cases of low mass media penetration (Warren 2014, 124) and are better understood as examples of how weak mass media systems increase the probability of civil war.

While Warren's article is an original and important study which presents numerous and convincing robustness checks for its main finding, the internal consistency of the argument suffers from two crucial oversights. First, when only a very small proportion of the population has access to mass media technologies, the mere presence of those technologies does not imply low levels of mass communication but rather still the categorical absence of properly mass communication. It would thus be an error to suppose that low levels of mass media density measure low levels of mass communications capacity; rather, the communications infrastructure they measure will only constitute the state's capacity for mass communications after the point at which transmissions can reach a mass public.[1] Second, if the level of mass media *in general* increases state strength as Warren argues, then for this very reason, the *first appearance and early growth* of mass media within a country should increase the utility of controlling the state relative to other means of merely influencing it, to control the state before its advantage in mass communications is established. In other words, if it is true that increasing mass media density makes state power increasingly safe from insurgency, then before media density crosses the threshold of constituting mass communications power, each increase in mass media density increases the payoffs to insurgency without increasing the risk. These two observations imply a crucial modification to the expectations laid out by Warren that increasing levels of mass media density will decrease the probability of civil war.

The implication which follows, and the central hypothesis advanced in this research note, is that the *early growth* of mass media density within a country

[1] I assume throughout that mass media typically first appears within countries at very low levels relative to the population (low media density). I also assume throughout that, despite variable rates of change and short-run decreases, media density has a long-run tendency to increase. In other words, I assume that the dynamics of media density are non-stationary and trend upward. The Levin-Lin-Chu (2002) and Im-Pesaran-Shin (2003) tests for stationarity in panel data fail to reject the null hypothesis that media density is non-stationary ($p = 0.7473$ and $p = 0.1$, respectively). See the Appendix for details.

should *increase* rather than decrease the likelihood of civil war. Precisely because a capacity for mass communications increases state power and becomes a robust deterrent against insurgents, but low levels of mass media density do not yet constitute that power, year-to-year increases in mass media density up to a certain threshold should be positively associated with civil war onset.[2] Beyond that threshold, Warren's finding of a negative relationship between mass media density and civil war onset should hold.

To test whether this hypothesis is superior to the more parsimonious model which predicts a simple negative relationship between mass media density and the probability of civil war onset, I pursue a strategy of increasing observable implications and moving out of the original sample.[KKV] I deduce two observable implications for within the epoch of mass media (testable within the original sample from 1945-2003) and one implication which pertains to the epoch of mass media relative to the previous epoch, all three of which are highly distinct from what they original theory would predict. If levels of mass media density in general decrease the probability of civil war, then civil war onsets should be more likely in countries with the very lowest levels of mass media relative to countries with low but slightly greater levels of mass media density. However, if the hypothesis proposed here is correct, then we would expect civil wars to be *less likely* at the very lowest levels of media density relative to slightly higher levels. Second, if levels of mass media density in general decrease the probability of civil war, then every increase in mass media density should be associated with a higher probability of observing civil war. However, if the hypothesis proposed here is correct, then we would expect that within the subset of country-years in which mass media density has not yet constituted a mass communications capacity, each increase in mass media density will be associated with an increase in the probability of civil war.[3] To place the original sample in a larger historical perspective, if mass media in general decreases the probability of civil war, then the historical period prior to the contemporary epoch of mass media should have witnessed

[2] It stands to reason that the same logic characterizes the incentives of incumbents, as each increase in mass media density up to that threshold also increases the utility of defeating insurgencies relative to stepping down or sharing power, thus further predicting civil war onsets. Yet the calculus of incumbents is likely more complicated given that under certain conditions it could be preferable to share the state's new mass communications power rather than risk losing it. At present, I focus on the calculus of insurgents and leave the calculus of incumbents to future research.

[3] Clearly, this subset of country-years would have to be non-trivial in size, not be a fragile artifact of an arbitrary cutoff, and contain a non-trivial quantity of civil wars for this hypothesis to be substantively meaningful. In fact, the pertinent subset is found to be substantially sized, robust to several alternative cutoffs, and containing a majority of the civil wars.

more civil wars than the period of the original sample. While anecdotal evidence suggests the contrary, as civil wars are well-known to have proliferated in the second half of the twentieth century relative to the first, the theory presented here appears more consistent with this historical record as it predicts precisely that the early global spread of mass media after World War II would increase rather than decrease the probability of civil wars. To test this out-of-sample implication more rigorously, I exploit the fact that countries with effectively zero mass media in 1945 can be assumed to have effectively zero mass media in *all* of the years previously, extend the original sample accordingly, and re-assess the competing hypotheses.

The findings suggest that while mass media density indeed exerts a large and robust pacifying effect on the probability of civil war onset, this simply overlooks the even larger and equally robust effect of *early increases* in mass media increasing the probability of civil war.

State findings up here, like effect sizes.

Literature Review

put in note about how graphical inspection is better for identifying structural breaks than statistically

Thus, at low levels, increase in mass media density should be associated

Additionally, a second observable implication which can be deduced from this argument is that broadcast technologies s

As for the threshold at which the growth of mass media constitutes a capacity for properly mass communications, there is no need to know *a priori* as that threshold is likely to be shaped by contextual factors such as land area, terrain, literacy

Additionally, it is unclear at what threshold mass media density before which at which it truly represents mass communication, it is better thought of at

consider a state and an opposition group they disagree over some policyf

under no mass media. consider a state and an opposition group with an exogenous increase in mass media. mass media only increases state strength after a certain level of reach, before then it can only mobilize early adopters. but every increase in mass media decreases the likelihood the opposition will get its policy, because after a certain threshold it's chances are zero.

compared to states with a complete absence of mass media then the complete absence of mass media should be associated with an even lower probability of civil war than low levels of mass media. Further, the very lowest levels

of mass media should be associated with a higher probability of civil war than slightly higher levels of mass media. However, empirically, neither of these implications are true. First, the contemporary era in which mass media has most proliferated around the globe has seen more civil wars than the period prior to the proliferation of mass media, a stylized fact strikingly inconsistent with but unacknowledged by Warren's argument. Second, while the probability of observing civil war consistently approaches zero after a mass media density of roughly 35% consistently approaches zero (with not a single civil war in any country with more than a mass media density of 145%), the very lowest levels of observed mass media are more positively associated with civil war than countries with slightly more mass media.[4]

then a low level of mass media should be associated with a higher probability of civil war than the absence of mass media.

Warren fails to consider the possibility

I argue that the *the introduction and early growth of mass media* increases the probability of civil war. While Warren demonstrates a theoretically and empirically robust negative relationship between levels of mass media and the probability of civil war onset, he

I provide an alternative characterization which extends *low levels of mass media make civil war more likely than the absence of mass media,* but that beyond a certain threshold mass media make civil war less likely. In other words, Warren sets up a straw man to characterize the well-known cases of media and civil war, representing that hypothesis to mean "the more media, the more likely civil war". But perhaps the most theoretically sensible version of that hypothesis is that early growth of mass media makes civil wars more likely?

I argue that this is precisely BECAUSE after about 35% of media density civil war against the state is no longer possible. Because state control with mass media is so much more durable than without the presence of mass media, once mass media is introduced into the national political arena, it increases incentives for insurgencies. People who previously believed in slow and steady non-violent struggle against the state realize that once the country is thoroughly penetrated by mass media, non-violent struggles to fundamentally challenge the state will become nearly impossible. This shifts some portion of the non-violent challengers to become violent rebels.

If Warren's argument is correct, it implies incentives for civil war from the early spread of mass media.

[4] Footnote about cutpoints and robustness

Table 1: Early Growth of Media Density Compared to Media Density in General

	onset		
	(1)	(2)	(3)
mdi	−0.03***		
	(0.01)		
ld.mdi		0.51**	
		(0.26)	
ld.news			1.44*
			(0.75)
ld.radio			0.27
			(0.31)
ld.tv			2.10*
			(1.22)
lgdpl	−0.04	−0.49	−0.49
	(0.17)	(0.32)	(0.31)
larea	−0.09	0.01	0.001
	(0.09)	(0.15)	(0.15)
lmtn	0.11*	0.12	0.11
	(0.06)	(0.09)	(0.09)
lpopl	0.27***	0.28**	0.28**
	(0.09)	(0.13)	(0.13)
oil2l	0.76***	1.12**	1.16**
	(0.28)	(0.47)	(0.48)
deml	0.18**	0.24*	0.23*
	(0.08)	(0.12)	(0.12)
deml2	−0.01**	−0.01	−0.01
	(0.003)	(0.01)	(0.01)
ethfracl	0.20	−0.73	−0.59
	(0.37)	(0.54)	(0.55)
relfracl	1.38***	1.27	1.38*
	(0.52)	(0.79)	(0.79)
pcyrs	−0.06	−0.10	−0.10
	(0.09)	(0.12)	(0.12)
spline1	−0.0001	−0.001	−0.002
	(0.002)	(0.003)	(0.003)
spline2	−0.0002	0.0003	0.0004
	(0.001)	(0.001)	(0.001)
spline3	0.0001	0.0000	−0.0000
	(0.0002)	(0.0003)	(0.0003)
Constant	−8.35***	−9.59***	−9.65***
	(1.18)	(1.77)	(1.80)
N	5,899	1,672	1,672
Log Likelihood	−527.50	−219.80	−218.40
AIC	1,085.00	469.60	470.70

*p < .1; **p < .05; ***p < .01

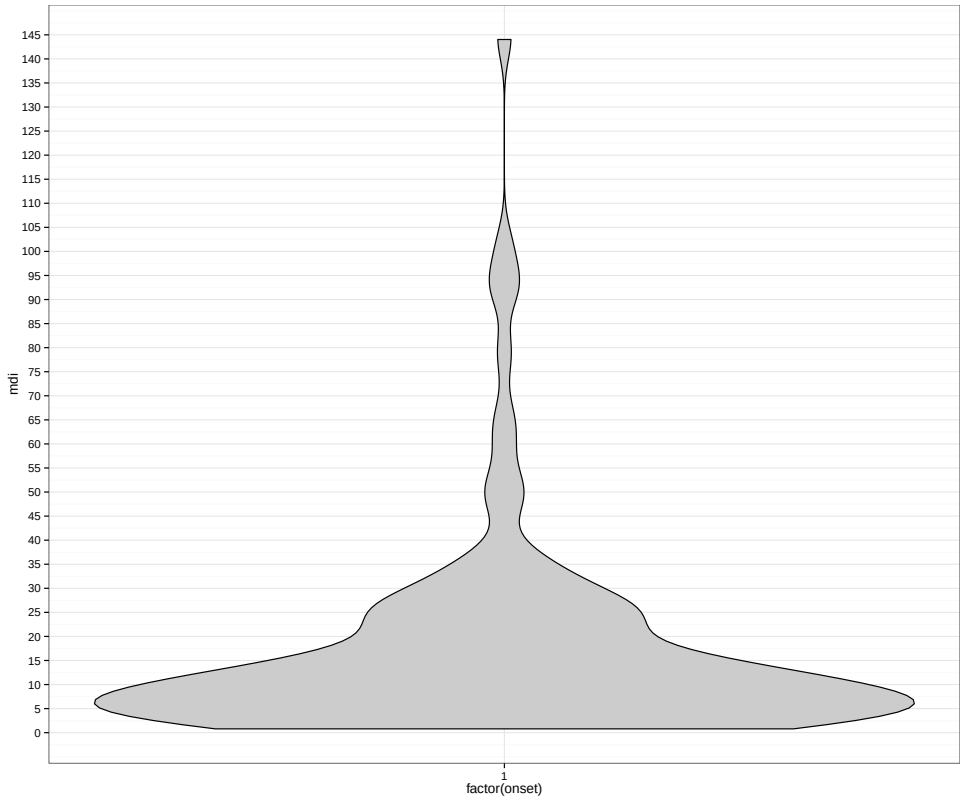

Figure 1: Violin plot of media density for all civil war onsets

Appendix

The Levin-Lin-Chu statistic is a standard test for the presence of a unit root, otherwise known as non-stationarity or integration of order I(1), in a time series variable observed across multiple cross-sectional units. The Im-Pesaran-Shin test is a "second generation" test which is robust to cross-sectional dependence, common in cross-national panel data. For each test, the null hypothesis is the presence of a unit root. Because the tests require balanced panels, they were applied only to the 24 countries with the maximum time-series of 55 years, a subset which still contains significant variation in geography, income, regime type, and other factors. Specifically, the countries in this subset are: Canada, Cuba, Haiti, Dominican Republic, Mexico, Honduras, El Salvador, Nicaragua, Costa Rica, Uruguay, Ireland, Netherlands, Belgium, Luxembourg, France, Switzerland, Hungary, Romania, Finland, Sweden, Nor-

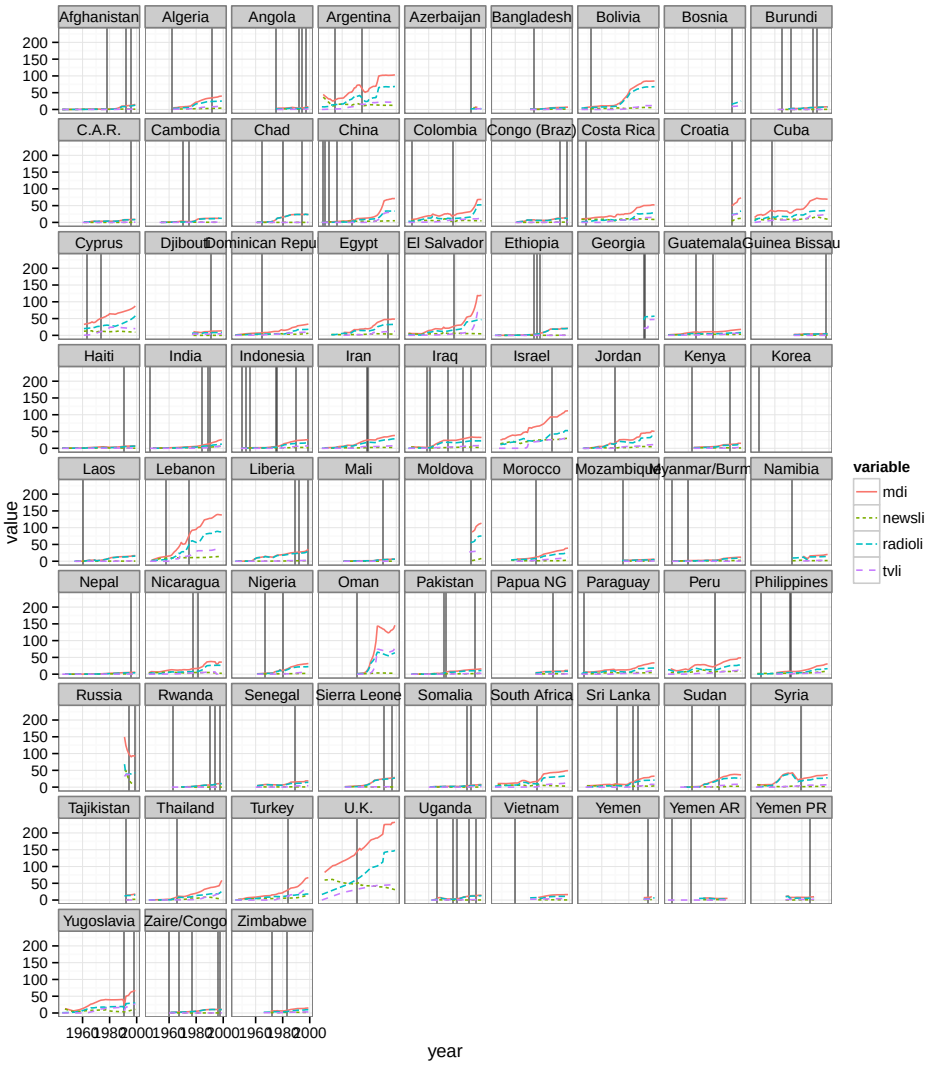

Figure 2: Disaggregated media density and all civil war onsets over time, by country

way, Denmark, Afghanistan, China.

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Levin-Lin-Chu Unit-Root Test (ex. var. : Individual Intercepts
and Trend )
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data: unit$mdi z.x1 = -0.3222, p-value = 0.7473 alternative hypothesis: stationarity

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Pesaran's CIPS test for unit roots
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data: unit$mdi CIPS test = -2.064, lag order = 2, p-value = 0.1 alternative hypothesis: Stationarity

References

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