

Terrorist Propaganda

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Abstract

This paper examines the influence of Islamic State (IS) propaganda on public opinion within the conflict theater of Afghanistan. We leverage district-level quarterly opinion polls over the 2015-2018 period to understand household views towards IS, the Government of Afghanistan, the Taliban, and international forces. We examine three separate mediums of IS propaganda using distinct identification strategies. First, our time-series analysis explores the effects of globally produced videos distributed by IS online. Second, a panel analysis studies captioned photos circulated by IS from within Afghanistan. Third, a DiD approach using an irregular terrain model identifies the impact of IS radio broadcasts from Eastern Afghanistan. Our findings highlight a differential impact between violent propaganda and state capacity content. Violent videos and radio broadcasts harm the reputation of IS, the Government of Afghanistan, and the Taliban. Videos showcasing IS capacity for institutional strength, by contrast, boost the reputation of both IS and the Taliban. Photos released by IS are generally ineffective at influencing public opinion.

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1 Introduction

Following the emergence of the Islamic State of Iraq and the Levant (ISIL) in 2014, the group enjoyed territorial conquests in Iraq, Syria, Libya, Nigeria, Egypt, Algeria, Saudi Arabia, Yemen, Pakistan, and Afghanistan (Jones et al., 2018). The rise of the Islamic State (IS) in Afghanistan, from mid-2014 until the end of 2015, was followed by significant contraction throughout 2016. Nevertheless, between January 2017 and October 2018, IS conducted more than 84 attacks killing 819 civilians across 15 Afghan provinces (CSIS, 2018). IS conflict activity in Afghanistan persists at the time of writing, even within Kabul (Clayton, 2018; Reuters Staff, 2020, 2021a), and after the Taliban regained control in August 2021 (Reuters Staff, 2021b). The survival of IS, like that of all terrorist organizations, is crucially dependent upon local support in their area of operation (DoA, 2007). In its combined effort to win hearts and minds while intimidating adversaries and dissidents, IS operates a vast network of global and local propaganda initiatives (see e.g., Monaci, 2017). These include (but are not limited to) the online circulation of videos and photos, and the local transmission of radio. The extent to which IS propaganda bears on household sentiment towards the conflict actors of Afghanistan is the topic of our study.

Our paper leverages unique data from various sources. First, we benefit from quarterly opinion polls commissioned by NATO in Afghanistan. Between 2012 and 2018, Afghan households were polled (by local survey enumerator ACSOR) on their views regarding conflict actors and security issues. We use the geolocated timestamped response data as public opinion outcome measures. Second we leverage a preponderance of data on terrorist propaganda from IntelCenter – a counterterrorism intelligence firm serving military, law enforcement, and intelligence agencies worldwide. These data enable us to track the online dissemination of propaganda material by Islamic State, including over 3000 videos and 1000 photos released between 2014 and 2018. Finally, we gather information of IS radio broadcasting and IS conflict activity from several additional sources.

To conduct our analysis we leverage a separate identification strategy for each of three mediums of propaganda. First we exploit temporal variation in the global distribution of

IS videos by constructing a time-varying measure of propaganda video exposure based on each survey respondent’s enumeration date. Secondly we conduct a panel analysis using spatiotemporal variation in the release of propaganda photos domestically sourced from within Afghanistan, benefitting from both the location and enumeration date of each survey respondent. Thirdly we introduce a difference-in-difference framework to measure the impact of local IS radio within a transmission zone estimated using an irregular terrain model. The latter identification strategy leverages topography to isolate exogenous variation in exposure to radio broadcasts (see e.g., Olken, 2009; DellaVigna, Enikolopov, Mironova, Petrova, and Zhuravskaya, 2014; Yanagizawa-Drott, 2014; Armand, Atwell, and Gomes, 2020). Using the approximate construction date of an IS radio tower in Eastern Afghanistan, we then compare the opinions of those within and outside the transmission zone, before and after the tower was constructed.

Following Mitts et al. (2021), we distinguish between propaganda depicting violence and content exhibiting the group’s institutional capacity (including religious practice and public goods provision). Our findings suggest violent videos and radio broadcasts by IS erode support for their group, but also for two of their key opponents – the Government of Afghanistan and the Taliban. This content also provokes a general sense of insecurity and pessimism, leading Afghans to support the then-continuing presence of international forces. By contrast, videos depicting a capacity for governance by IS tend to boost support for the group in Afghanistan. Photo propaganda is found to be comparatively ineffective at influencing public opinion in theater.

A growing literature in economics has explored media persuasion and the effectiveness of propaganda. Previous research found that the political slants of US newspapers are ineffective at influencing voter perceptions (Gerber, 2009; Chiang and Knight, 2011; Gentzkow, Shapiro, and Sinkinson, 2011). On the other hand, bias in television media has been shown to influence political preferences under both democracies (DellaVigna and Kaplan, 2007; Durante, Pinotti, and Tesei, 2019; Martin and Yurukoglu, 2017) and weak institutions (Enikolopov, Petrova, and Zhuravskaya, 2011; Knight and Tribin, 2019). Propaganda efforts by nefarious actors have also been shown to influence political and ideological preferences, with extremely

deleterious consequences. DellaVigna et al. (2014) show that exposure to nationalistic Serbian radio in Croatia contributed to ethnic extremism. Adena et al. (2015) document how Nazi radio facilitated party recruitment and the consolidation of dictatorship, while inciting anti-Semitism among the citizenry. Yanagizawa-Drott (2014) documents the role of radio broadcasts in exacerbating the Rwandan genocide. And Müller and Schwarz (2019) show that anti-refugee social media posts by the far-right AfD party led to violent hate crimes against refugees in Germany.

While the above studies focus on propaganda efforts of legitimized state and media actors, we contribute by examining propaganda by a *terrorist* organization. A nascent literature focuses on the success of counterinsurgency information campaigns at inducing defections (Armand, Atwell, and Gomes, 2020) and garnering intelligence (Sonin and Wright, 2019). Our paper complements this work by studying the flipside of the COIN – the effectiveness of terrorist propaganda. Notably, Mitts (2019) and Mitts, Phillips, and Walter (2021) have shown that IS attacks in Europe and online propaganda contributed to greater online support for IS among global Twitter users. Our study is differentiated from this work by focusing on opinion outcomes towards several actors within a conflict theater hosting IS. Specifically, we identify the impact of global and local IS propaganda on the political preferences of regular Afghans towards their government, the Taliban, international forces, and IS itself. Our work therefore sheds light on an important driver of public opinion (and practical allegiances) in the oft-cited battle for hearts and minds between domestic governments, international forces, and insurgency groups within complex civil war settings. As local support is crucial for the survival of any insurgent group, understanding the local success of terrorist information campaigns is of critical importance to governments, policymakers, and militaries worldwide. The continued emergence of radical insurgent groups with increasingly global presence further underscores the importance of this topic.

The remainder of our paper is structured as follows. Section 2 provides background information on the Islamic State terror organization, focusing on their various mediums of propaganda. Section 3 describes our public opinion, propaganda, and conflict data in detail. Section 4 expounds our analysis, including our identification strategy and results. Finally,

section 5 concludes our study.

2 Institutional Background

By 2018, Islamic State had successfully recruited over 30,000 foreign fighters from over 80 countries (Barret, 2015; Jones et al., 2018).¹ Islamic State Khorasan (ISK) is the IS branch whose operational jurisdiction includes Afghanistan. Their rank and file comprised largely of former Pakistan Taliban (TTP) members having fled military operations in the FATA after mid-2014 (Taneja, 2018; CRS, 2022). Afghan Taliban and foreign militants within Afghanistan also reportedly joined ISK around the same period (Mumtaz, 2016). Indians from Kerala state were found killed in airstrikes targeting ISK; and IS fighters from Central Asia likely fled to Afghanistan following the decline of IS in Syria and Iraq (Taneja, 2018).

In terms of media efforts, Islamic State has typically not maintained official websites or social media accounts. Instead, the so-called *Base Foundation* variously posted photos, videos, magazines, and audio broadcasts on jihadi forums and file sharing websites. Online followers then downloaded and reposted content to platforms of their choosing (Gambhir, 2016). Consequently, Facebook regularly banned the dissemination of IS content, shuttering accounts associated with the group (Salama, 2016). The Dawn of Glad Tidings - an official IS news dissemination app – was also suspended by Twitter in 2014 (Monaci, 2017). In 2015, IS launched another mobile news app—Amaq (EFSAS, 2020). Amaq News Agency in turn uploaded materials onto its Tumblr site (Winter, 2018). By 2016, Amaq played a significant role in IS media efforts, releasing news, photos, maps, and videos through its Telegram channel (Gambhir, 2016). The Base Foundation also ran the overseas al-Bayan radio, and a weekly military update. Al-Bayan radio was broadcast in major cities under IS control including Raqqa, Mosul, and Sirte (Gambhir, 2016). IS even developed a mobile app for broadcasting al-Bayan radio yet further afield (Jones et al., 2018).

Yarchi (2019) argues that IS practiced strategic messaging across myriad media platforms. Monaci (2017) indicates the various platforms suited different purposes of the organization – they did not simply constitute different channels of distribution for the same message.

¹ Leading source countries reportedly included Tunisia, Saudi Arabia, France, UK, Belgium, and Germany.

Rather, each medium was chosen for its distinct aesthetic features as part of a broader transmedia communication strategy. For example, Islamic State is notorious for releasing egregious violent video content. The group received unprecedented media attention for its production of beheadings. Other violent video content included aftermath footage of civilians maimed in opposition attacks, and retaliatory strikes or hostage videos (Greene, 2015; Winter, 2016). Scholars argue the motivation behind IS violent propaganda includes threatening dissidents/apostates (Barr and Herfroy-Mischler, 2018), recruiting fighters (EFSAS, 2020), and attracting public attention (Melki and Jabado, 2016; Simon, 2018). Downstream coverage by mainstream media, in turn, legitimized the group as a significant threat to current political orders (Greene, 2015).

Though brutality is undoubtedly the aspect of IS propaganda having received the most press, it actually constitutes a small fraction of the group’s overall political messaging (Winter, 2016). Aside from projecting threats and violence, IS also provides its audience with a utopian worldview and political project (Gerges, 2014). After all, the target audience of IS messaging includes unaligned civilians, in addition to their enemies and supporters (Gratrud, 2016). For the unaligned, “social media propagated a virtual reality in which the caliphate existed as an immediately accessible utopia” (Gambhir, 2016, p. 19). Various non-violent themes emerged in the group’s messaging, with moderate content appealing to a broader public (Barr and Herfroy-Mischler, 2018; Yarchi, 2019). For example, the al-Hayat and al-Furqan media centers produced a diverse array of videos focused on everyday life (Qi, 2020). Compared to other terrorist organizations, IS particularly emphasized a capacity for state-building in their messaging (Al Bayat, 2020; Lahoud, 2017). Videos and photos by the group regularly showcased military equipment, training camps, religious ceremonies, and service provision (e.g. education; food distribution).

As mentioned, differentiating between Islamic State’s violent and state capacity content is an important feature of our study. For the case of video and photo propaganda, the distinction between these content categories is visually apparent.² Deeper investigation is warranted, however, when interpreting the content of IS audio messaging. In general the group’s radio

² Our categorization method is detailed in section 3.

broadcasts in Afghanistan are found to encourage violence (drawing on religious motivations), and also to spread vitriol against the government, Taliban, and international forces. For example, one broadcast referred to government officials in the ‘non-Islamic’ Afghan state as American stooges, requesting listeners to “kill these stooges first, and then begin with the foreign invaders until they are defeated and leave the holy soil of Khurasan” (IWP, 2018). Another broadcast threatens death to anyone connected with the government, but states that Taliban fighters are even higher-priority targets than ‘infidel’ government officials (WP, 2015). Local Afghans confirm the hostility expressed against Taliban and government officials through ISK radio broadcasts (Alarabiya, 2016). For example, a professor of Pashto literature attacks the Taliban and government during a regular program filled with jihadi music, bulletins of IS victories, messages from IS fighters, and confessions from IS captives in Afghanistan (UNRA, 2017). Meanwhile, commonly invoked sound effects conjure images of war – galloping horses, clashing swords, and bursts of machine gun-fire (Worldcrunch, 2016).³

3 Data

This project leverages unique data on (1) public opinion across Afghanistan, and (2) various mediums of IS propaganda (both within Afghanistan and further afield). Below we introduce our data sources, and describe the variables constructed for our analysis.

3.1 Public opinion

By virtue of a data-sharing agreement with NATO, we use public opinion data from the Afghanistan Nationwide Quarterly Assessment Research (ANQAR) survey. For approximately one decade from 2008, NATO commissioned a local survey company (ACSOR) to conduct nationwide polls on a quarterly basis, gathering information on household demo-

³ As with the group’s video messaging, IS radio broadcasts also explicitly call for Afghans to join their holy war (WP, 2015). In general IS presents itself a ‘powerful vanguard capable of delivering victory and salvation’ (Gerges, 2014, p. 46). The group’s narrative offers a counterculture for alienated and disenfranchised youth of various backgrounds (Melki and Jabado, 2016). IS messaging often encourages viewers to leave their jobs and families to join the caliphate and pledge allegiance to the group (Clark and Metz, 2016; EFSAS, 2020). In this respect, IS produced several recruitment videos targeting populations in the Balkans, Xinjiang Province of China, and Trinidad and Tobago (Gambhir, 2016).

graphics and public opinion.⁴ Our analysis focuses on household opinions toward Islamic State (IS), the Government of Afghanistan (GoA), the Taliban, and international forces. Specifically, we invoke the following survey questions to construct opinion measures for conflict actors: (i) *Do you think the arrival of IS would be good or bad for Afghanistan?*; (ii) *Does IS respect the religion and traditions of Afghans?*; (iii) *Do you believe the GoA is going in the right or wrong direction?*; (iv) *How well does the GoA do its job securing the country?*; (v) *Should international forces stay longer or leave Afghanistan?*; (vi) *How trustworthy is the messaging of the international forces?*; (vii) *If the Taliban were to return to power and govern Afghanistan, would it be good or bad for the people and the country?*; and (viii) *How trustworthy is the messaging of the Taliban?* Additionally, we also examine two psychological outcomes related to security: (ix) *How safe do you feel travelling outside your area?*; and (x) *Is it likely the next generation of Afghans will live in peace and security?* Household responses to the above questions are provided on a 4–5 point scale, depending on the measure. The exact wording for each question and response (scale) is provided in Table A1.

Four ANQAR survey waves were carried out each year throughout our sample. The enumeration dates change slightly from year to year, and roughly correspond to: late February to early March (wave 1), late May to early June (wave 2), late August to early September (wave 3), and late November to early December (wave 4).⁵ Figure 1a presents the nationwide average time series for IS-related opinion measures (i–ii above). Of note – neither instrument is available for our entire sample period (2015 through 2018). Figure 1b depicts the corresponding time series for GoA opinion measures (iii–iv), with full sample coverage. Figures 1c and 1d capture opinions towards the Taliban and international forces, respectively. Finally, Figure 1e depicts the time series for psychological outcomes (ix–x) throughout our sample period. Table 1 offers descriptive statistics for each public opinion measure, and all variables used in our analysis. Notably, from the ANQAR data we also benefit from respondent-level demographic controls, including age, gender, educational attainment, and ethnicity.

⁴ For a brief period preceding our sample, a company other than ACSOR conducted ANQAR polling.

⁵ Precise enumeration dates for each survey wave are provided in Table A3.

3.2 Mediums of propaganda

3.2.1 IS videos

To track the dissemination of IS videos, we invoke comprehensive data from the IntelCenter Database (ICD) - a subscription platform cataloguing thousands of videos, pictures, and other propaganda material released by terrorist groups worldwide. We import data on 3,375 videos released by IS between 2014 and 2018. For each video, the ICD documents its release date, geographic setting, language, thematic category, and content keywords. The majority of IS videos are filmed in Iraq and Syria, then distributed globally through various online platforms from which ICD gathers intelligence.⁶ To help address concerns surrounding endogeneity, we exclude a small number of videos (37) filmed in Afghanistan itself. In so doing, we yield a measure of global video propaganda arguably unaffected by local developments within Afghanistan. Upon review of video source material, we distinguish between two broad categories of content: (1) videos reflecting or espousing violence; and (2) videos exhibiting relatively benign institutional capacity (such as teaching the Koran, or distributing food supplies). The ICD classifies videos across 15 thematic categories, ten of which are wholly characterized either by violence or state capacity. Accordingly, we manually classify videos from those ten themes into our corresponding categories. Videos with ambiguous themes are classified instead using content keywords provided by ICD. In particular, we train a supervised machine learning model (using lasso logit regression) to predict the category of unassigned videos using their associated keywords.⁷ The distribution of violent and state capacity videos across our survey waves is depicted in Figure 2.⁸ Household-level exposure to this content is calculated by aggregating videos released since the previous ANQAR poll, up until the household-specific enumeration date. Effectively this implies each individual is ‘exposed’ to approximately three months of content.

⁶ ICD sources are confidential vis-à-vis the public and platform subscribers.

⁷ Videos manually assigned based on ICD themes are used as training data for the prediction model. Full details of the classification procedure are provided in Appendix B.

⁸ A daily time series of video release is provided in Figure A1.

3.2.2 IS photos

Our analysis also leverages ICD data on captioned photos published online by IS from within Afghanistan. A total of 766 photos taken in Afghanistan were released between 2015 and 2018. For each photo, our data include the image, caption, date, and (sparsely populated) keywords. By reading captions, we are able to geolocate 40% of these photos at the district level. As with videos, we classify each photo according to ‘violence’ or ‘state capacity’. This determination is conducted manually by the authors, based on information contained in the caption and keywords. In case of ambiguity, the image source is referenced to check for violent content (e.g. weapons, destruction, death). In general, the classification of photos is conducted to closely mirror the corresponding distinction among videos. Our photo classification results in 186 violent photos, and 119 photos depicting state capacity.

As with videos, we construct household measures of exposure to content in each of our two categories. Because these photos are set within Afghanistan, we are able to leverage both temporal and spatial variation in this medium of propaganda. Concretely, we calculate individual exposure to IS photos by indicating whether a batch of photos was released from his/her district since the previous opinion survey and before the individual’s enumeration date. Photo batches are defined as one or more photos released on the same day, depicting the same event, and captioned identically. During our sample period we identify 82 batches, of which 55 correspond to violent content and 27 to state capacity. Spatial variation in the location of photo batches (aggregated over the sample period) is reflected in Figure 3.

3.2.3 IS radio

Through extensive qualitative research we investigate the history of an IS radio tower built and destroyed in Nangarhar province of Eastern Afghanistan. The initial construction of the tower occurred sometime between October and early December 2015. The tower was subsequently destroyed on February 1st 2016, and rebuilt in early May 2016. Records indicate the tower was destroyed a second time between July 14th 2016 and early May 2017. We identify the tower’s location based on military records of an aerial bombardment which occurred in Achin district of Nangarhar province when the radio went off air.

We measure the radio signal’s reach across several provinces in Eastern Afghanistan. To achieve this, we follow [Yanagizawa-Drott \(2014\)](#) and calculate the Longley-Rice model for radio propagation (i.e. the Irregular Terrain Model, or ITM). To calculate the ITM propagation, we follow [Armand, Atwell, and Gomes \(2020\)](#) by using the cloud-based platform *CloudRF.com*. Based on descriptions of an earlier tower used by IS, we estimate the height of the radio transmitter (antenna) as 30 feet (9 meters). We then assume plausible values for inexpensive, accessible, and portable transmitters (30 MHz at 300 Watts). We estimate the likely signal using a five foot receiver and a threshold of 25 dBuVm (at the personal recommendation of CloudRF’s lead engineer). [Figure 4](#) displays the outcome of the ITM with regions in red indicating signal exposure to the IS radio tower in Achin, Nangarhar. We calculate district-level exposure to radio propaganda using the population share residing in the radio’s coverage area. Sub-district population weights are derived based on Afghan settlement locations and populations from the NASA Socioeconomic Data and Applications Center (SEDAC).

3.3 IS conflict activity

Of considerable importance for identification throughout our analysis is the breadth and scope of IS conflict activity. After all, it is natural to expect the group’s successes and failures on the battlefield to be potentially confounded with their propaganda efforts and approval ratings at the local, national, and global scale. To help address this important source of endogeneity, we introduce four variables capturing different aspects of IS conflict activity. At the local level, we invoke Uppsala Conflict Data Program (UCDP) records to indicate whether IS conflict activity has ever taken place in an individual’s district as of their enumeration date. For this we construct a binary indicator – *Local IS Exposure* – identified at the household level. The map in [Figure 5a](#) depicts in grey districts exposed to IS conflict activity by the end of our sample period. From Global Terrorism Database (GTD) records we then count the number of IS-related incidents occurring in each district-quarter, yielding a contemporaneous measure of *Local IS Attacks*. The red triangles in [Figure 5a](#) exemplify the total number of attacks per district throughout our sample period, according to the GTD.

Next we include a national-level measure of IS strength by calculating the share of districts subject to IS-related conflict in each survey wave. We construct this time-series measure – *National IS Presence* – using data from the UCDP database, and its values are depicted in Figure 5b. Finally, we capture the global expansion and contraction of IS by sourcing information on major conquests and defeats from the Wilson Report. This qualitative data is used to hand-code a measure of *Global IS Expansion*, also depicted in Figure 5b.

4 Effectiveness of Islamic State propaganda

4.1 Effects of global IS videos

We begin our analysis by estimating the effect of globally produced videos on approval of IS within Afghanistan. The latter is operationalized using household-level responses to the AN-QAR survey question: “*Do you think the arrival of IS would be good or bad for Afghanistan?*” Outcomes are coded such that higher values represent greater tacit approval. First we check the nationwide time-series correlation between video circulation and IS approval (see column 1 of Table 2). The estimated coefficient is negative but economically and statistically insignificant. Allowing for district-level heterogeneity with district-specific trends and fixed effects in column 2 yields a significant negative correspondence between videos and IS approval ratings. In column 3 we control for the strength of IS at both the global and national scale (see section 3.3 for variable discussion). Finally in column 4 we control for local (i.e. district-level) IS conflict activity. Our negative point estimate remains unchanged under these adjustments, likely owing to the earlier inclusion of district-level effects and trends.

Based on the above results, one could naively conclude the global video campaign of IS is actually detrimental to their approval within Afghanistan. Informed by Mitts et al. (2021), however, we suspect the impact of such videos may depend heavily on their content.⁹ Accordingly, we allow for heterogeneity across video types, as discussed in section 3.2 (and Appendix B). In column 5 of Table 2 we estimate the nationwide time-series correlation between IS approval and videos subdivided into *violent* and *state capacity* categories. Even

⁹ In particular, Mitts et al. (2021) demonstrates that violent videos are differentiated in their effects from non-violent content.

without further controls, the heterogeneous effects across video categories is apparent. The specifications of columns 6, 7, and 8 follow columns 2, 3, and 4, respectively. Across all models we find that violent videos erode support for IS in Afghanistan, while videos demonstrating institutional capacity are effective at boosting support. Notably, however, the public opinion damage from a one standard deviation increase in violent videos is considerably greater than the corresponding gains achieved with state capacity content. Our full specification of column 8 demonstrates that the relationship between video propaganda and IS approval holds conditional on a strict set of controls, including district-level opinion trends, territorial gains/losses on the global and national scale, and the evolution and incidence of local IS conflict activity. The full model estimated in column 8 can be written as:

$$(1) \quad Y_{ikt} = \alpha_k + \beta^v V_{it}^v + \beta^s V_{it}^s + \theta X_{ikt} + \omega_k t + \epsilon_{ikt}$$

where Y refers to the opinion outcome for respondent i in district k surveyed in year-quarter t ; α_k is the district-level fixed effect; $\omega_k t$ allows for district-level trends; V measures video volumes for violent (v) and state capacity (s) categories (released since survey wave $t - 1$ and before respondent i 's enumeration date); X contains controls at various levels of identification (including respondent-level demographics; IS conflict activity measures); and errors are clustered at the district level.

4.1.1 Violent videos

In Figure 6 we expand our analysis to opinion outcomes across multiple domains. First we concentrate on the effects of violent video content (β^v from Equation 1 above). The first row simply reproduces our point estimate from column 8 of Table 2. The reasons for which citizens may support or oppose a nascent rebel group are generally multifaceted.¹⁰ Of particular importance in our setting is the degree to which anti-government elements (AGEs) are perceived to embody cultural norms in Afghanistan. Decapitations and assaults on civilians clearly run contrary to traditional and religious values throughout the country.

¹⁰See, e.g., literature review in Child (2022).

It is perhaps unsurprising that violent videos lead Afghans to believe IS does not respect their religion and traditions (see second row of Figure 6).¹¹

As violent videos erode support for IS within Afghanistan, it is natural to wonder whether the group benefits in-theater from this global medium of propaganda. To resolve this puzzle, we examine the impact of videos on opinions towards other conflict actors. First we assess the degree to which violent videos influence perceptions of the Afghan government (GoA). When exposed to larger volumes of violent videos, Afghans are significantly more inclined to state their government is headed in the wrong direction. The subsequent estimate provides one potential explanation for this finding. Following the release of violent videos, survey respondents perceive their government to be doing a worse job at securing the country. Both government-related outcomes therefore suggest violent videos erode trust in the GoA.

Next we examine views towards the Taliban – the other key opponent of IS within Afghanistan. Our estimates suggest violent videos lead Afghans to more strongly oppose the Taliban’s return to power. The result may stem from a moral equivalence attributed by Afghans to IS and the Taliban (both being AGEs). It is also possible that scenarios depicted in violent videos are reminiscent of the Taliban’s own tactics practiced hitherto (*Al Bayat*, 2020). For potentially similar reasons, violent videos are also found to erode trust in Taliban messaging - itself a proxy of general trustworthiness - (see e.g., *Siegrist, Gutscher, and Earle*, 2005). So while violent videos erode popular support for IS itself, they also degrade trust in two key opponents of IS within Afghanistan – the GoA and Taliban. From this perspective, the global circulation of violent videos may be consistent with the group’s domestic interests in theater.

In the subsequent panel, we estimate effects on public opinion towards international forces. Given the depicted salience of violence and insecurity, it is no wonder that exposure to violent videos leads Afghans to suggest international forces remain in the country. After all, international forces had successfully weakened IS in Afghanistan, inhibiting their capacity for attacks on several occasions (*Army*, 2018; *Center*, 2016; *Citizen*, 2021). But despite a greater demand for security, trust in international forces appears unaffected in the following

¹¹It should be noted that many *violent* videos also depict relatively less controversial insurgency warfare against government forces.

estimate.

Finally we examine the impact of violent videos on psychological outcomes related to security. Given the aura of violence, insecurity, and mistrust brought about by these videos, we test their effects on two subjective evaluations of safety. We find that violent videos lead Afghans to feel less safe traveling outside their district. Moreover, these videos appear to instill a general pessimism, as locals are less likely to believe the next generation will live in peace and security. Overall these findings may therefore be interpreted as reflecting a sense of ‘terror’ provoked by IS violent video propaganda.

4.1.2 State capacity videos

Notwithstanding the above findings, it is not only a generalized sense of terror which may benefit the strategic interests of IS. To operate effectively within a conflict theater, all rebel groups rely upon at least some level of community support (Nagl, 2015). Figure 6 suggests IS videos depicting their ability to govern and develop institutional capacity may advance their interests in this regard. Indeed we find that *state capacity* videos boost the group’s image among regular Afghans. Those with high exposure to state capacity videos are more likely to suggest the arrival of IS would benefit their country. Many state capacity videos depict IS leading religious ceremonies, teaching the Koran, or distributing gifts. Accordingly, these videos influence Afghans to believe IS respects their religion and traditions.

As with violent video content, state capacity videos influence views towards both AGEs (i.e. IS and the Taliban) similarly. Greater exposure to state capacity videos leads Afghans to favour the Taliban’s return to power, and have greater trust in Taliban messaging. The nascent rebel group’s display of public goods provision and community engagement may be reminiscent of the Taliban’s own experiences (and successes) in this domain. A moral equivalence perspective may again help explain the spillover effects onto local AGE adversaries. By contrast, the impact of state capacity videos on views towards the GoA and international forces are largely insignificant. Their effects on psychological terror are also found to be ineffectual.

4.2 Effects of domestic IS photos

Next we examine the impact of captioned photos circulated by IS from within Afghanistan. The location of many photos is identified at the district level, as reflected in Figure 3.¹² Accordingly, in this section we leverage temporal *and* spatial variation to measure our effects of interest. Specifically, we estimate the following model:

$$(2) \quad Y_{ikt} = \alpha_k + \beta^v P_{ikt}^v + \beta^s P_{ikt}^s + \theta X_{ikt} + \omega_k t + \epsilon_{ikt}$$

where familiar terms are defined as in Equation 1. P_{ikt}^j indicates whether a photo (batch) of type $j \in \{v, s\}$ was released in district k since survey wave $t - 1$ and before the enumeration date of individual i . The vector of controls X additionally includes province-level shocks in each survey wave t , to further control for local IS conflict activity – a particularly important source of confound with respect to domestically released photos.

Figure 7 presents our results for all opinion outcomes previously examined. In general, we find the impact of domestically sourced photos to be largely ineffective as compared to global propaganda videos. Our point estimates are mostly insignificant, and the null effects are generally robust to alternative model specifications. We do, however, find three results consistent with our video analysis. First, photos depicting violence are significantly negatively correlated with IS approval. Second, violent photos lead respondents to suggest their government is headed in the wrong direction. And third, violent photos degrade trust in the messaging of IS’ main AGE adversary – the Taliban. Elsewhere, imprecise estimates and null effects suggest these captioned photos are largely ineffective at persuading local opinion. This finding may be interpreted broadly as reflecting the greater salience of video content relative to still imagery in more general settings (Berni, Maccioni, and Borgianni, 2020; Brinson and Stohl, 2012; Boivin, Gendron, Faubert, and Poullin, 2017).

¹²See section 3.2.2 to recall the nature of these photos.

4.3 Effects of local IS radio

Next we exploit the construction of an IS radio tower to identify the impact of radio messaging on public opinion outcomes. The tower’s approximate construction date is used to identify the onset of treatment. The spatial reach of the signal is depicted in the map of Figure 4.¹³ This district-level radio coverage is used to calculate a measure of treatment exposure to IS radio propaganda. Based on this, we conduct a difference-in-difference (DiD) analysis, comparing the evolution of opinions within the radio’s coverage area to those in neighbouring districts. Before outlining our model and results, however, we conduct a first-stage validation check. This exercise provides assurance that our projected treatment measure is well-founded and empirically relevant.

4.3.1 Validation of ITM projections

Throughout our sample period, the ANQAR surveys conveniently document subjectively reported IS activities. One survey question asks specifically whether respondents are aware of IS radio broadcasts in their area. Figure 8 traces the average response to this question, for households within and outside our broadcast zone (projected from the ITM). This Figure demonstrates that households within our estimated broadcast zone are significantly more aware of IS radio, after the tower’s construction (marked by the vertical asymptote). A greater awareness of IS radio among our ‘treated’ households seems to persist throughout the sample period. Limited inclusion of the radio awareness question across ANQAR waves prevents us from detailing a complete picture in Figure 8. Nevertheless, this validation exercise suggests our ITM-based treatment measure is appropriate for the subsequent DiD analysis.

In Table 3 we formally test the difference visually apparent in Figure 4. For this we adopt a DiD design. We estimate the impact of signal exposure on awareness of IS radio, following the tower’s construction. Due to missing outcome data, this test is conducted using both short- and long-run indicators of IS radio awareness (in upper and lower panels,

¹³Section 3.2.3 describes a timeline of events related to the IS radio tower in Achin, Nangarhar, and also explains the estimation procedure.

respectively). Short-run effects are measured using survey responses from the first half of 2016, whereas long-run effects are from W2–W4 2017. Column 1 estimates a parsimonious DiD model, suggesting households within our projected broadcast zone are relatively more aware of IS radio in both the short- and long-run. Column 2 excludes Achin—the district housing the radio tower, and controls for distance to that relative IS stronghold. Columns 3 and 4 additionally control for IS conflict activity at the local and global/national levels, respectively. Across all columns, our estimated measure of radio exposure is significantly positively correlated with awareness of IS radio. This relation holds across both the short and long run. Based on these validation checks, we are comfortable interpreting our ITM-based measure of IS radio exposure as accurate and meaningful for the following analysis.¹⁴

Importantly, this empirical validation check is also consistent with evidence gathered from qualitative investigations. In Afghanistan, radio remained a crucial medium of information transmission even in 2018, and particularly in the East and Southeast (Akseer et. al, 2018). In Nangarhar, regular Afghans have testified to the salience of IS radio. One citizen expressed concern his son would be recruited after listening to the broadcasts, following in the footsteps of his peers (IWP, 2018). Another civilian expressed enthusiasm for IS radio, while refraining from supporting the group directly (Worldcrunch, 2016). From the province’s capital of Jalalabad, yet another citizen attributed the popularity of IS radio to the novelty, strength, and clarity of its content (Alarabiya, 2016). These testimonies offer additional reassurance that IS radio is relevant to regular Afghans, and potentially influences public opinion.

4.3.2 Radio exposure and public opinion

Given the nonstandard timeline of treatment and data availability, our DiD’s conceptual framework merits careful consideration. First, uncertainty around the IS radio tower’s exact construction date implies the ANQAR enumeration period of W4 2015 may fall before or after the true beginning of treatment. To ease interpretation, we therefore exclude W4 2015 from our analysis. Accordingly, our pre-treatment period constitutes W1–W3 2015. Meanwhile our post-treatment period is again divided into two time frames. For lack of IS opinion

¹⁴Importantly, we do not use subjectively reported radio awareness as our explanatory variable on account of its clear endogeneity with respect to opinion outcomes drawn from the same ANQAR survey.

data, we cannot estimate effects from W3 2016 until W1 2017. Accordingly, short-term effects are calculated with reference to surveys conducted from W1–W2 2016; and long-term effects from W2 2017 until W1 2018 (a period following the radio tower’s second incident of destruction). In sum – our pre-treatment reference period is W1–W3 2015; our short-term effects are measured in W1–W2 2016; and long-term effects calculated from W3 2017 – W1 2018. We spatially restrict the DiD analysis to those provinces neighboring Nangarhar with non-zero exposure to IS radio.¹⁵ Our DiD model takes the following form:

$$Y_{ikt} = \alpha_k + \beta R_k T_t + \psi T_t + \theta X_{ikt} + \omega_k t + \epsilon_{ikt}$$

where Y_{ikt} is again the public opinion outcome for individual i in district k in year-quarter t ; R_k indicates whether a district k majority resides in the radio transmission zone; T_t indicates if quarter t follows the first construction date of the IS radio tower; X_{ikt} captures household-level controls (i.e. ethnicity, age, gender, education); α_k is the district-level fixed effect; $\omega_k t$ allows for district-level trends; and ϵ_{ikt} are the errors clustered at the district level.

Figure 9 reports DiD treatment effects in both the short and long run. Recall from section 2 that IS radio broadcasts consist mainly of: (1) encouraging war and violence, and (2) launching rhetorical attacks against the government, Taliban, and international forces. In the short-term (within approximately 6 months of the radio’s inception), only public opinion towards the Taliban is affected. Inhabitants of districts with greater radio exposure are more likely to suggest the Taliban’s return would be bad for Afghanistan, and that Taliban messaging is not trustworthy. The relative strength of this result implies that anti-Taliban rhetoric was either more effective or more prominent than IS denouncements of the government and international forces during this period.

Next we examine the long term effects of IS radio. Our long term estimates are calculated between August 2017 and March 2018. In the long term we find several interesting results. First, respondents from districts with greater radio exposure are less likely to believe IS arrival would be good for Afghanistan. This finding is perhaps attributable to the group’s strong

¹⁵Provinces included in the DiD analysis are therefore: Kunar, Laghman, Nangarhar, and Nuristan. Kabul is excluded for comparability.

encouragement of war and conflict through their broadcasts. Next we obtain negative point estimates on household opinions towards government. Perceptions of government security provision are significantly negatively affected, likely attributable to either anti-government rhetoric, or local news bulletins and interviews with IS fighters and captives. Opinions of the Taliban are also significantly negatively affected (both outcomes), testifying to the continued effectiveness of anti-Taliban rhetoric in IS radio broadcasts. Next we find that public trust in the messaging of international forces is negatively impacted by IS radio exposure, attributable again to rhetorical attacks. Meanwhile those residing in radio-exposed districts are more likely to suggest international forces should remain in country. This finding is perhaps driven by the greater sense of fear invoked through IS radio, which is further exemplified in our final results examining psychological outcomes.

5 Conclusion

We examine the public opinion consequences of terrorist propaganda. In particular, we estimate the impact of local and global IS propaganda on measures of local support within the conflict theater of Afghanistan. To this end, we leverage rich spatial and temporal data on public opinion, IS propaganda, and IS conflict activity. Three separate identification strategies are used to examine the effectiveness of three mediums of IS propaganda. Our findings indicate that violent videos and radio broadcasts by IS erode support for the group, but also for two of their main adversaries – the Government of Afghanistan and the Taliban. IS videos depicting state capacity, by contrast, seem to boost support for the organization. Finally, domestic propaganda in the form of captioned photos has a much less discernible impact on public opinion within Afghanistan.

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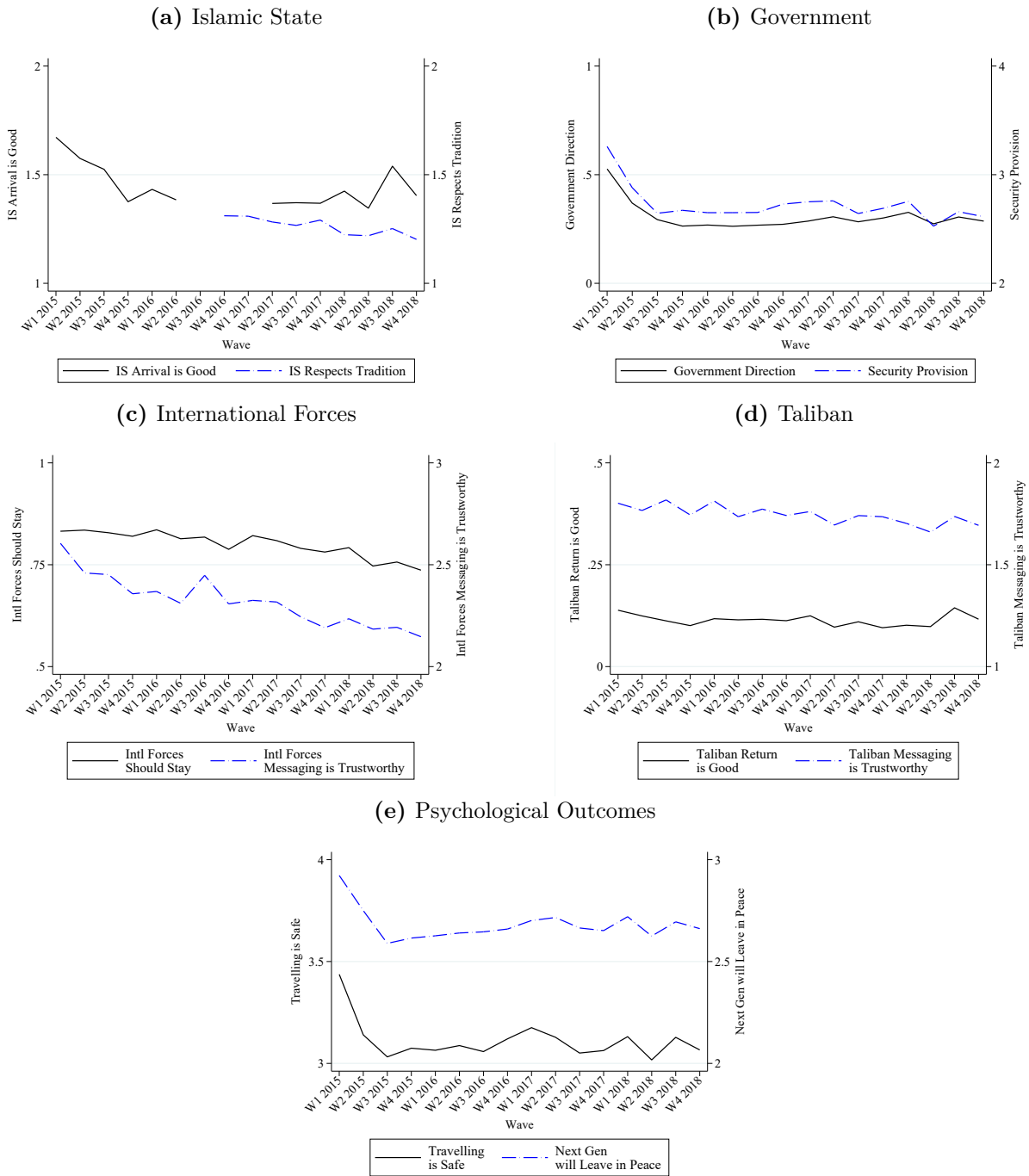
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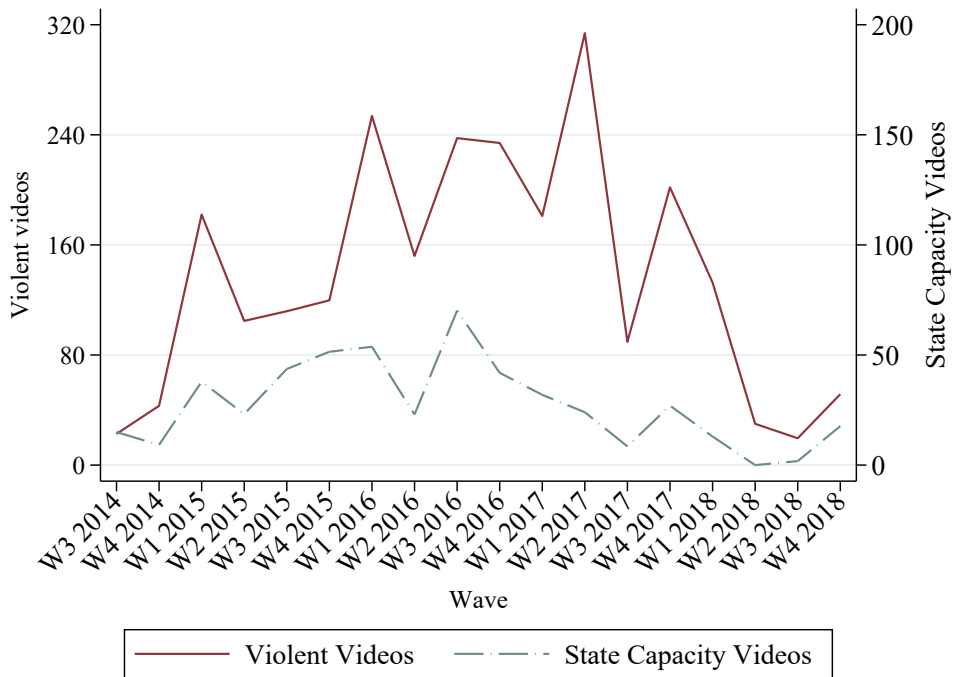
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Figure 1: Public Opinion Time Series



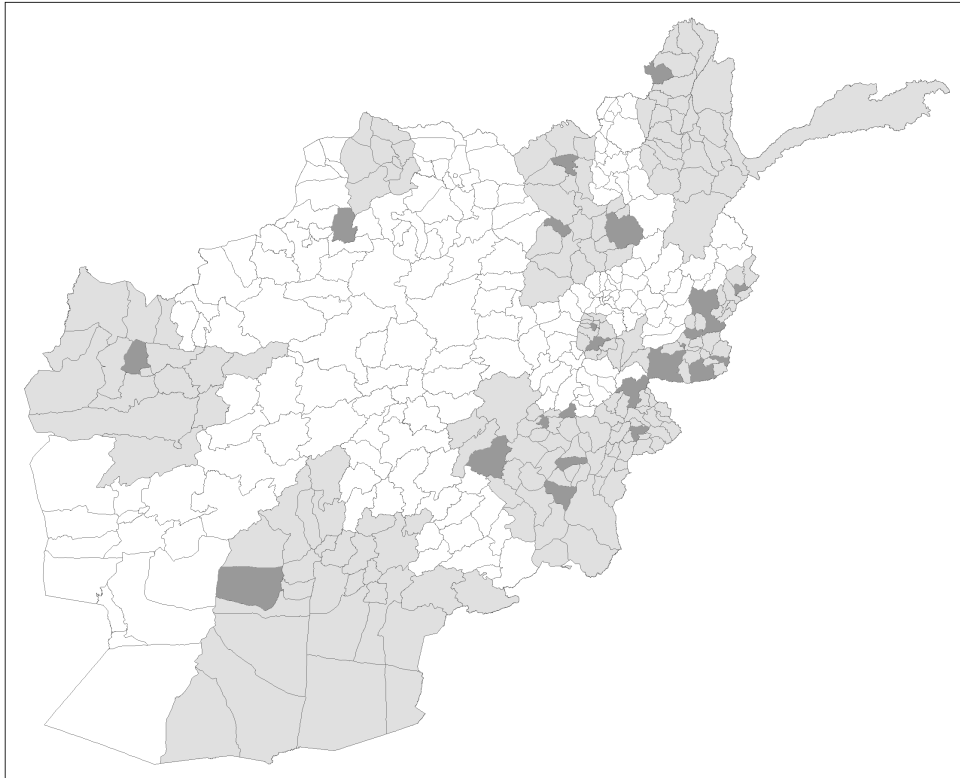
Notes: These subfigures depict the time series of average opinions within Afghanistan. Public opinion data are from 16 waves of the Afghanistan Nationwide Quarterly Assessment Research (ANQR) survey conducted between 2015 and 2018. Survey questions and reporting scales are as follows: *Do you think the arrival of IS would be good or bad for Afghanistan?* (1–5); *Does IS respect the religion and traditions of Afghans?* (1–4); *Do you believe the GoA is going in the right direction?* (0,1); *How well does the GoA do its job securing the country?* (1–5); *Should international forces leave Afghanistan?* (0,1); *How trustworthy is the messaging of the international forces?* (1–4); *If the Taliban were to return to power and govern Afghanistan, would it be a good thing for the people and the country?* (0,1); *How trustworthy is the messaging of the Taliban?* (1–4); *How safe do you feel travelling outside your area?* (1–5); *Is it likely the next generation of Afghans will live in peace and security?* (1–4). The exact wording for each question and response is provided in Table A1.

Figure 2: Online Release of IS Videos



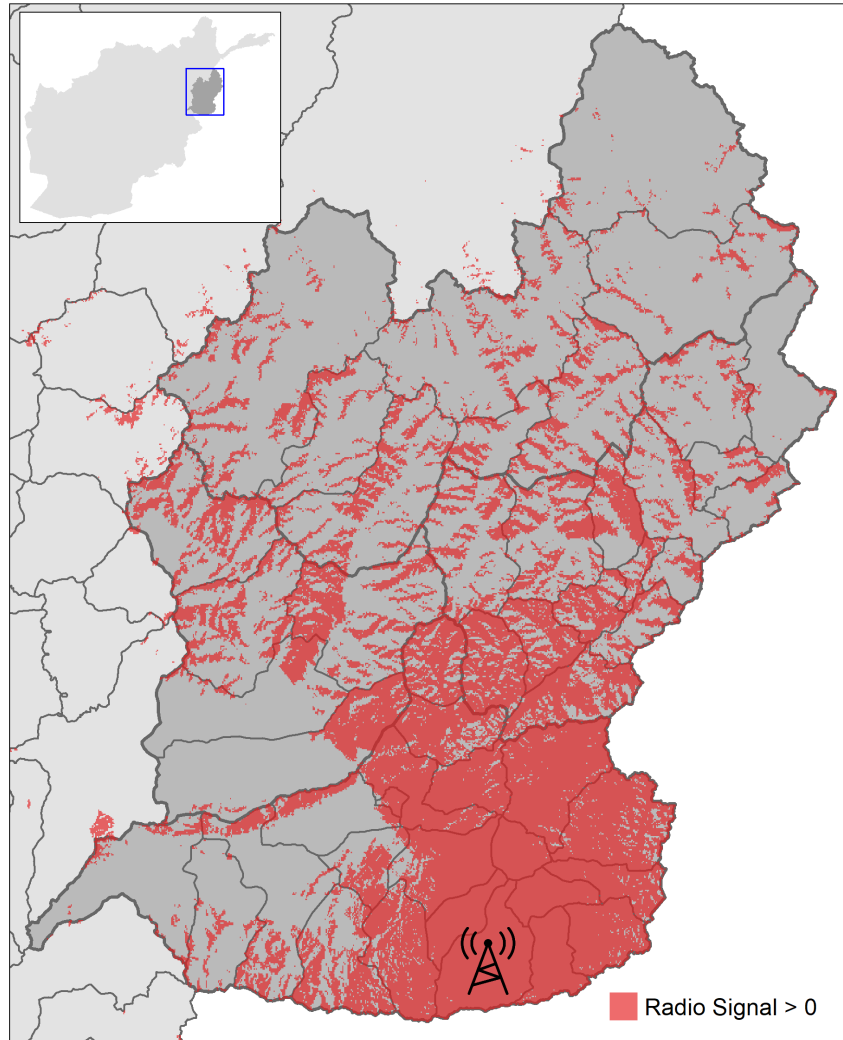
Notes: This figure depicts temporal variation in the online release of IS propaganda videos (aggregated by quarter). Data on globally released IS videos are from the Intel-Center Database (ICD). A total of 3375 videos were released over a 40-month period. Videos are classified by the authors into ‘violent’ and ‘state capacity’ categories (as described in section 3.2.1.)

Figure 3: Spatial Distribution of IS Propaganda Photos



Notes: This map depicts the spatial distribution of geographic sources for IS photo propaganda. Districts in dark gray are those from which an IS photo was ever sourced. The corresponding provinces are represented in light grey. Data on IS photos in Afghanistan are from the IntelCenter Database (ICD). A total of 227 photo batches were released over a 36-month period, 82 of which we can geolocate at the district level. Photos are classified by the authors into ‘violent’ and ‘state capacity’ categories.

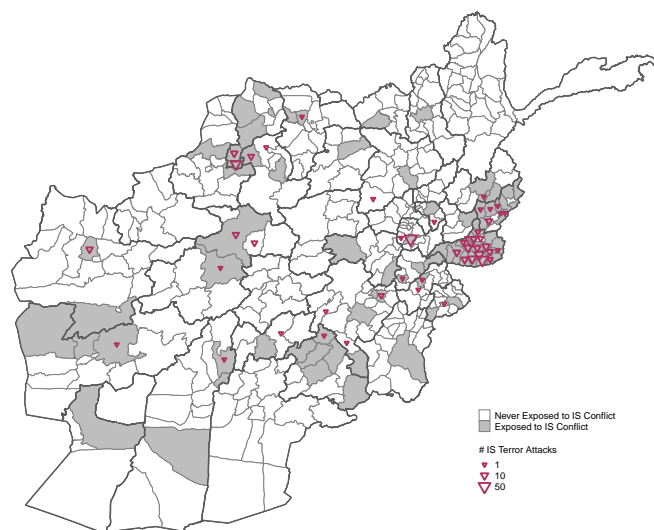
Figure 4: Islamic State Radio Coverage



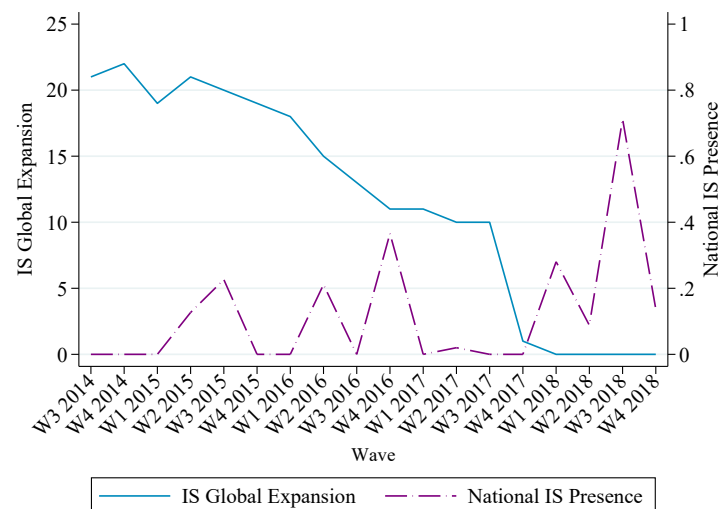
Notes: This map depicts the estimated reach of the signal propagated from an IS radio tower in Achin, Nangarhar. Areas in red indicate those within reach of the IS radio broadcasts. The provinces in dark grey (subdivided by district) include Kunar, Laghman, Nangarhar, and Nuristan. These constitute Nangarhar’s neighboring provinces with a non-zero population share living within the radio’s projected transmission zone.

Figure 5: Islamic State Conflict Activity

(a) Local IS Exposure & Local IS Attacks

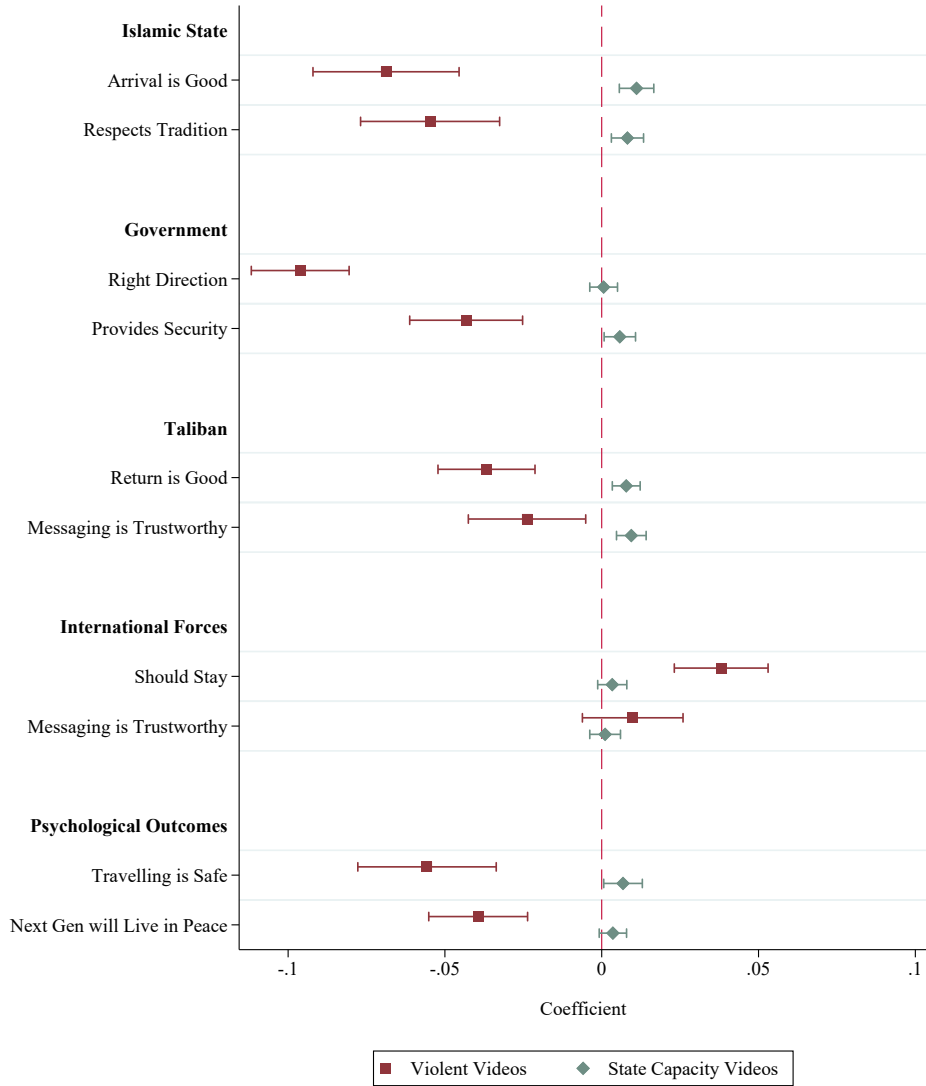


(b) National IS Presence & Global IS Expansion



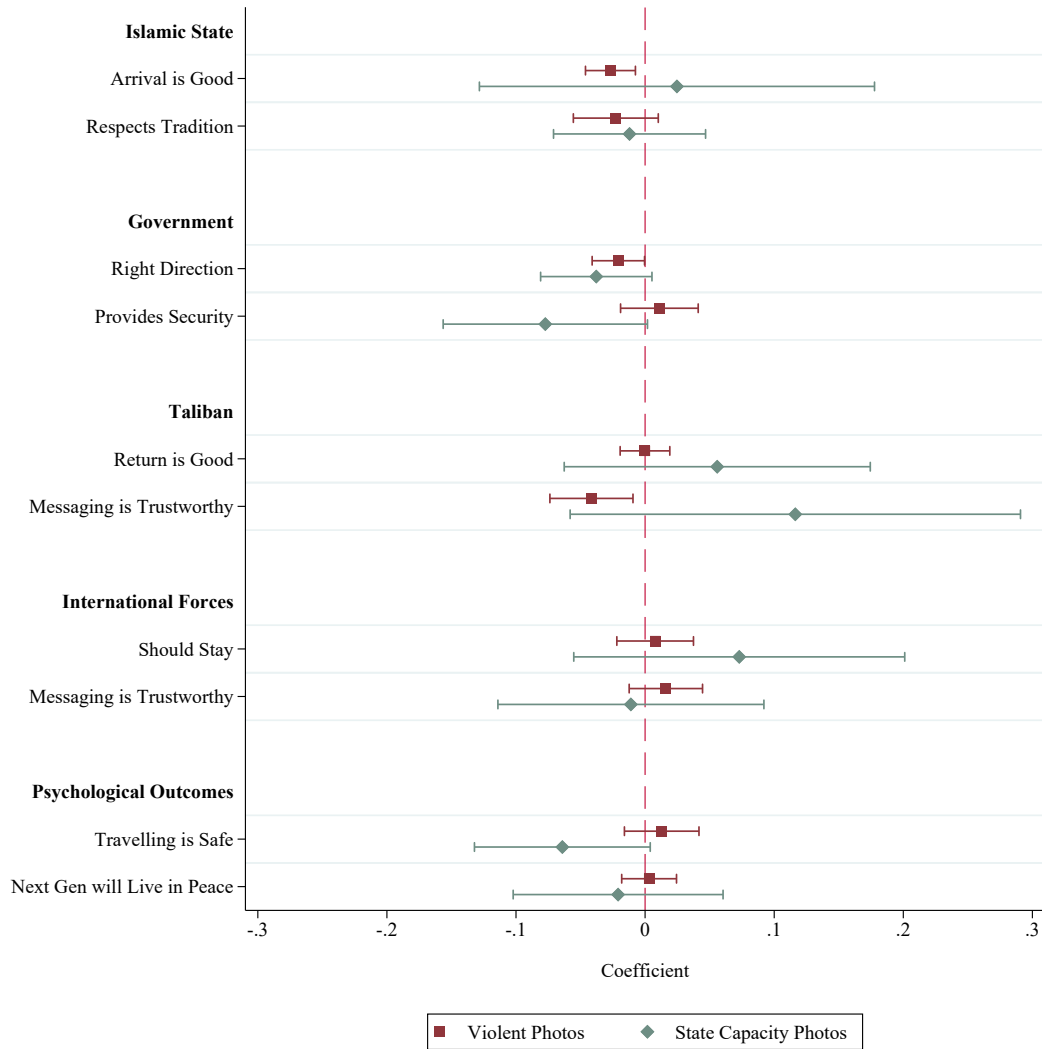
Notes: The map plots in grey the districts ever exposed to IS conflict before the end of our sample period (end of 2018), according to UCDP records. Red triangles represent the extent of district-level exposure to IS terror attacks, according to the GTD. The time series graph indicates: (i) the share of districts exposed to UCDP-reported IS conflict in each wave (*National IS Presence*); and (ii) the global expansion/contraction of IS, based on the Wilson Report (*Global IS Expansion*).

Figure 6: Effect of IS Videos on Public Opinion



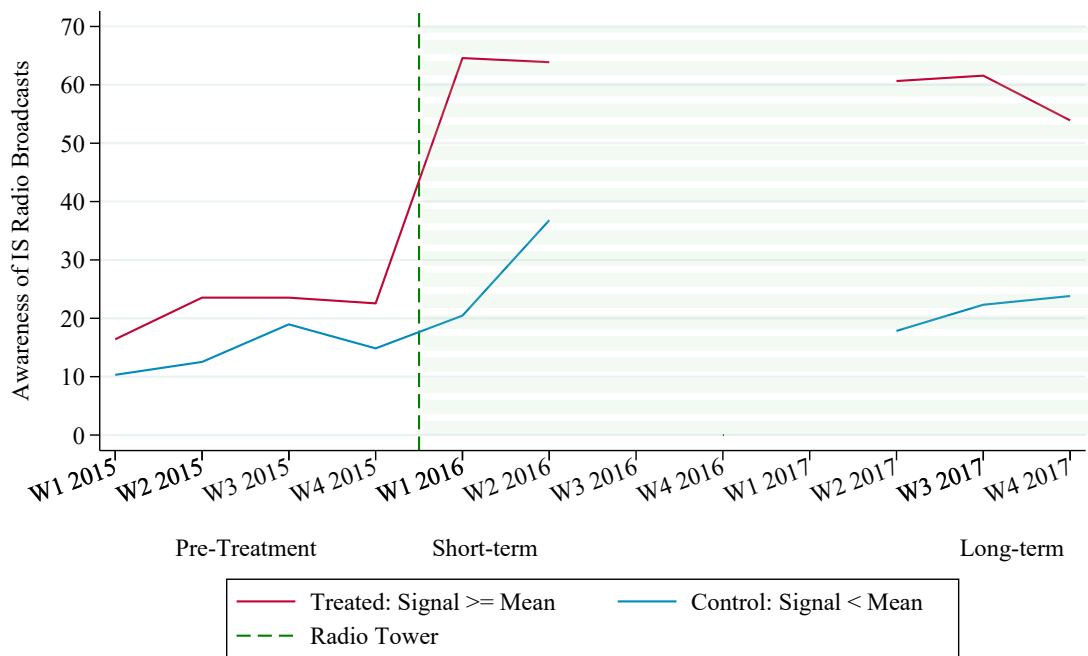
Notes: Videos are expressed as the aggregated amount released since the end of the prior opinion poll (survey wave). Outcomes are, in descending order, individual responses to the survey questions: *Do you think the arrival of IS would be good or bad for Afghanistan?*; *Does IS respect the religion and traditions of Afghans?*; *Do you believe the GoA is going in the right direction?*; *How well does the GoA do its job securing the country?*; *Should international forces leave Afghanistan?*; *How trustworthy is the messaging of the international forces?*; *If the Taliban were to return to power and govern Afghanistan, would it be a good thing for the people and the country?*; *How trustworthy is the messaging of the Taliban?*; *How safe do you feel travelling outside your area?*; and *Is it likely the next generation of Afghans will live in peace and security?*. The exact wording for each question and response is provided in Table A1. All models include district fixed effects and district trends. Baseline controls include age, gender, educational attainment, and ethnicity. 90% confidence intervals are based on standard errors clustered at the district level.

Figure 7: Effect of IS Photos on Public Opinion



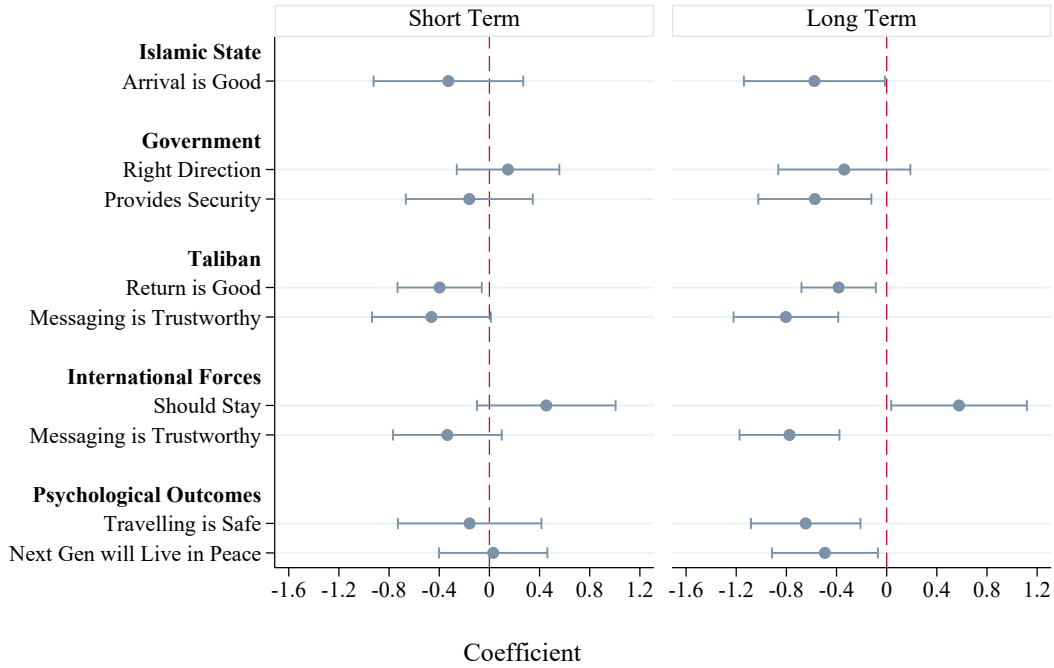
Notes: Photos are expressed as the aggregated amount released from within a respondent’s district since the end of the prior opinion poll (survey wave). Outcomes are, in descending order, individual responses to the survey questions: *Do you think the arrival of IS would be good or bad for Afghanistan?*; *Does IS respect the religion and traditions of Afghans?*; *Do you believe the GoA is going in the right direction?*; *How well does the GoA do its job securing the country?*; *Should international forces leave Afghanistan?*; *How trustworthy is the messaging of the international forces?*; *If the Taliban were to return to power and govern Afghanistan, would it be a good thing for the people and the country?*; *How trustworthy is the messaging of the Taliban?*; *How safe do you feel travelling outside your area?*; and *Is it likely the next generation of Afghans will live in peace and security?*. The exact wording for each question and response is provided in Table A1. All models include district fixed effects and district trends. Baseline controls include age, gender, educational attainment, and ethnicity. 90% confidence intervals are based on standard errors clustered at the district level.

Figure 8: Awareness of IS Radio Broadcasts around the Construction of an IS Radio Tower



Notes: The analysis includes Kunar, Laghman, Nangarhar, Nuristan provinces. Districts are regarded as treated when more than 50% of the population has access to IS radio. Data on the awareness of IS radio broadcasts is from ANQAR. The survey instrument is unavailable from W2 2016 through W1 2017. W4 2015 is excluded from all regressions as it falls within the possible construction period of the first tower.

Figure 9: Short and Long Term Effects of IS Radio on Public Opinion



Notes: Outcomes are, in descending order, individual responses to the survey questions: *Do you think the arrival of IS would be good or bad for Afghanistan?*; *Does IS respect the religion and traditions of Afghans?*; *Do you believe the GoA is going in the right direction?*; *How well does the GoA do its job securing the country?*; *Should international forces leave Afghanistan?*; *How trustworthy is the messaging of the international forces?*; *If the Taliban were to return to power and govern Afghanistan, would it be a good thing for the people and the country?*; *How trustworthy is the messaging of the Taliban?*; *How safe do you feel travelling outside your area?*; and *Is it likely the next generation of Afghans will live in peace and security?*. The exact wording for each question and response is provided in Table A1. All models include district fixed effects and district trends. Baseline controls include age, gender, educational attainment, and ethnicity. 90% confidence intervals are based on standard errors clustered at the district level.

Table 1: Descriptive Statistics

	N	Mean	SD	Mean	Max
Awareness of Daesh Activity	170229	1.22	0.78	0	2
IS Arrival is Good	130307	1.44	0.84	1	5
IS Respects Traditions	129226	1.27	0.60	1	4
Government Direction	210302	30.5	46.1	0	100
Security Provision	211675	2.72	1.19	1	5
Taliban Return is Good	206830	0.11	0.32	0	1
Taliban Messaging is Trustworthy	209611	1.75	0.90	1	4
Intl Forces Should Stay	208591	0.80	0.40	0	1
Messaging of Intl Forces is Trustworthy	207909	2.32	0.97	1	4
Travelling is Safe	211894	3.11	1.04	1	5
Next Gen will Live in Peace	207828	2.68	0.87	1	4
Awareness of IS Radio Broadcasts	87046	11.6	32.0	0	100
Videos	212456	180.1	94.9	19	364
Videos (Violent)	212456	150.8	81.8	18	339
Videos (State Capacity)	212456	29.4	19.1	0	74
Photos (Violent)	159342	0.11	0.50	0	7
Photos (State Capacity)	159342	0.0057	0.096	0	3
Share of population reached by radio	212456	4.59	18.8	0	100
Age	212456	35.2	12.4	18	99
Male	212460	0.64	0.48	0	1
Education	212372	2.07	1.39	1	5
Global IS Expansion	212456	-1.37	2.31	-9	2
National IS Presence	212460	0.14	0.25	0	1.01
Local IS Exposure	212456	0.19	0.39	0	1
Local IS Attacks	212460	0.57	2.03	0	17
Distance to Achin	212460	309186.7	215144.7	0	853194.3

Notes: The first group of variables are from ANQAR, and are represented at the individual level. The second group of variables is reported at the ANQAR survey collection period, and the last group is reported at the district level. The third group of variable is instead reported at the district and survey collection period level. The video and photo variables are from the IntelCenter Database, while the radio measure is constructed from CloudRF. *Global IS Expansion* is coded from the Wilson Report. *Local IS Exposure* and *National IS Presence* are compiled from the UCDP. *Local IS Attacks* is calculated from the GTD.

Table 2: Effect of Videos on IS Approval

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Videos	-0.005 (0.010)	-0.063*** (0.012)	-0.048*** (0.011)	-0.049*** (0.011)				
Videos (Violent)					-0.065*** (0.012)	-0.088*** (0.014)	-0.070*** (0.013)	-0.069*** (0.014)
Videos (State Capacity)					0.027*** (0.003)	0.016*** (0.003)	0.012*** (0.003)	0.011*** (0.003)
Observations	130249	130249	130249	130249	130249	130249	130249	130249
Adj. R-squared	0.014	0.150	0.150	0.151	0.017	0.150	0.151	0.151
District Trends + FE	no	yes	yes	yes	no	yes	yes	yes
Global IS Expansion	no	no	yes	yes	no	no	yes	yes
National IS Presence	no	no	yes	yes	no	no	yes	yes
Local IS Exposure	no	no	no	yes	no	no	no	yes
Local IS Attacks	no	no	no	yes	no	no	no	yes

Notes: The outcome variable is an individual response to the ANQAR survey question: *Do you think the arrival of IS would be good for Afghanistan?* Videos are expressed as the aggregate amount released since the end of the prior opinion poll (survey wave). We exclude videos filmed in Afghanistan (0.01%). Baseline controls include age, gender, educational attainment, and ethnicity. Standard errors are in parentheses, clustered at the district level.

* $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

Table 3: Radio Signal Exposure and Awareness of IS Radio

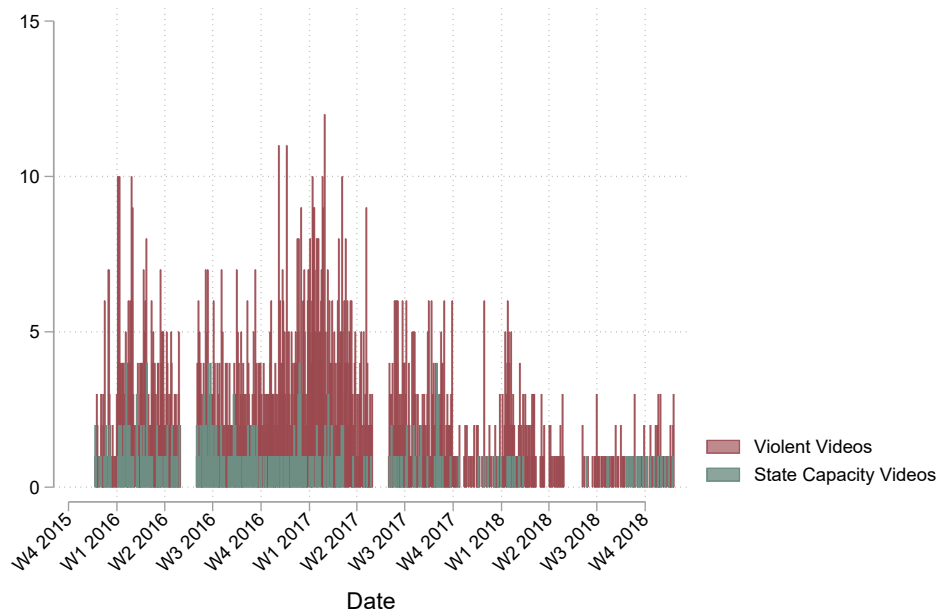
	(1)	(2)	(3)	(4)
Short-Term: W1 2016 - W2 2016				
Signal x Post	0.309*** (0.114)	0.270** (0.134)	0.254* (0.149)	0.254* (0.149)
Observations	4443	4443	4443	4443
Adj. R-squared	0.280	0.280	0.281	0.281
Long-Term: W2 2017 - W1 2018				
Signal x Post	0.545** (0.213)	0.560** (0.241)	0.541** (0.257)	0.541** (0.257)
Observations	5325	5325	5325	5325
Adj. R-squared	0.273	0.273	0.274	0.274
Global IS Expansion	no	no	no	yes
National IS Presence	no	no	no	yes
Local IS Exposure	no	no	yes	yes
Local IS Attacks	no	no	yes	yes
Achin Excluded	no	yes	yes	yes
Distance to Achin	no	yes	yes	yes

Notes: Signal is a binary indicator for whether the majority in the respondent's district reside within the transmission zone of IS radio. *Post* takes a value of zero for waves W1–W3 2015; one for waves W1–W2 2016 in the first panel; and one for waves W2 2017 onward in the second panel. From column (2) on we exclude the province of Achin for robustness. All regressions include baseline controls: age, gender, educational attainment, and ethnicity. We include district fixed effects and district trends. W4 2015 is excluded from all regressions. The analysis includes Kunar, Laghman, Nangarhar, and Nuristan provinces. Standard errors are in parentheses, clustered at the district level.

* $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

A Appendix: Additional exhibits

Figure A1: Daily Time Series of IS Videos Release



Notes: This figure depicts the daily time series of IS propaganda videos released online. Data are from the IntelCenter Database (ICD). A total of 3375 videos were released over a 40-month period. Videos are classified by the authors into ‘violent’ and ‘state capacity’ categories (as described in section 3.2.1).

Table A1: Variable Descriptions

Variable	Question/Description	Categories/Scale/Formula	Source
<i>Public Opinion</i>			
IS arrival is good	“Do you think the arrival of Da’esh would be a good thing or a bad thing for Afghanistan?”	1 = very bad; 2 = bad; 3 = neither good nor bad; 4 = good; 5 =very good	ANQAR
IS respects traditions	“Does Da’esh respect the religion and traditions of Afghans?”	1 = does not respect at all; 2 = does not respect very much; 3 = somewhat respects; 4 = completely respects	ANQAR
Government right direction	“Generally speaking, do you believe the Government of Afghanistan is going in the right direction, the wrong direction, or is in the same place, not going anywhere?”	0 = wrong direction or not going anywhere; 1 = right direction	ANQAR
Government provides security	“How well does the Government of Afghanistan do its job securing the country?”	1 = very poorly; 2 = a little poorly; 3 = neither poorly nor well; 4 = a little well; 5 = very well	ANQAR
Foreign forces shall stay	“How much longer should the foreign military forces remain in Afghanistan? Should they leave now?”	0 = international forces shall leave now; 1 = shall not	ANQAR
Foreign forces messaging is trustworthy	“Messaging of International Forces is trustworthy”	1 = not trustworthy at all; 2 = not so trustworthy; 3 = somewhat trustworthy; 4 = totally trustworthy	ANQAR
Taliban return is good	“If the Taliban were to return to power and govern Afghanistan, would it be a good thing for the people and the country, or would it be a bad thing for the people and the country?”	0 = bad for the people and the country; 1 = good for the people and the country	ANQAR
Taliban messaging is trustworthy	“Messaging of Anti-Government Elements is trustworthy”	1 = not trustworthy at all; 2 = not so trustworthy; 3 = somewhat trustworthy; 4 = totally trustworthy	ANQAR
Travelling is safe	“How safe, if at all, do you feel traveling outside of your mantaqa during the day?”	1 = very unsafe; 2 = a little unsafe; 3 = a little safe; 4 = mostly safe; 5 = completely safe	ANQAR
Next generation will live in peace	“Do you believe that the next generation of Afghans (in 10-15 years) will be able to live in peace and security?”	1 = not likely at all; 2 = not likely; 3 = somewhat likely; 4 = very likley	ANQAR
<i>Mediums of Propaganda</i>			
Videos	Videos released by IS (not in Afghanistan) in time-span 2014-2018	Logarithm of the count	ICD
Photos	Pictures released by IS in Afghanistan in time-span 2015-2018	Count	ICD

Table A1: Variable Descriptions

Variable	Question/Description	Categories/Scale/Formula	Source
Radio	Nangarhar radio signal weighted by population in settlements reached by signal itself		Radio signal: US military, Afghan settlements: PIX
<i>Demographic Controls</i>			
Age	How old were you on your last birthday?		ANQAR
Gender	Gender		ANQAR
Ethnic Group	What is your ethnic group?		ANQAR
Education	What is your highest level of education?		ANQAR
<i>Conflict Activity</i>			
Global IS expansion	IS expansion outside of Afghanistan	Net territorial expansion in a given ANQAR survey collection period	Wilson report and hard coded data
National IS presence	IS expansion in Afghanistan	The ratio of districts exposed to IS conflict in a given ANQAR survey collection period over the total number of districts	UCDP database
Local IS exposure	Binary variable for exposure to IS conflict		UCDP database
Local IS attacks	Count of IS terror attacks in a given district and in a given ANQAR survey collection period		GTD

Notes: ICD corresponds to the IntelCenter Database. ANQAR is the Afghanistan Nationwide Quarterly Assessment Research surveys. UCD is the Uppsala Conflict Data Program.

Table A2: ANQAR Survey Waves and Collection Periods

Wave	Year	Start		End	
		Month	Day	Month	Day
1	2015	February	22	March	4
2	2015	May	21	June	4
3	2015	August	13	August	25
4	2015	November	11	November	20
1	2016	February	19	March	4
2	2016	May	12	May	22
3	2016	August	25	September	2
4	2016	November	18	November	27
1	2017	January	5	January	18
2	2017	April	3	April	18
3	2017	June	17	July	1
4	2017	November	6	November	18
1	2018	February	25	March	10

Notes: This table depicts the start and end dates of each ANQAR survey wave. Four waves were carried out each year throughout our sample. The enumeration dates change slightly from year to year, and roughly correspond to: late February to early March (wave 1), late May to early June (wave 2), late August to early September (wave 3), and late November to early December (wave 4).

B Appendix: Classification of IS videos and photos

B.1 Videos

Raw video data gleaned from the IntelCenter Database (ICD) contain for each video the following fields: unique ID, title, location/setting, language, thematic type, and keywords (tags). The thematic type variable classifies videos across 15 categories, and over 100 keyword tags further describe video content.

Classification by thematic type is unsuitable for our purpose due to (1) the sheer number of themes used by ICD, and (2) ambiguous themes with respect to violent content shown important by [Mitts et al. \(2021\)](#). Accordingly, we broadly classify ICD videos into two categories: ‘violent’ and ‘state capacity’.¹⁶

B.1.1 Rule-based classification

We begin our classification by manually assigning videos from ten unambiguous themes into either of our broad categories. For this purpose, we construct a mapping from ‘thematic type’ to category. The mapping below in [Table B1](#) is crafted based on our review of source material corresponding to each thematic type. Following this first stage of rule-based classification, we have 1,896 violent videos, 269 state capacity videos, and 1,210 videos unassigned because their (ambiguous) video type contains both violent and nonviolent videos.¹⁷

B.1.2 Supervised prediction

To classify the 1,210 unassigned videos mentioned above, we use their associated keywords to predict whether the video is inherently violent. Because our outcome variable is binary, we train a lasso logit regression model for prediction. The model is trained (i.e. parameters estimated) on videos labeled using the rule-based classification above, with keywords leveraged as the input features. Hyperparameter tuning (for λ) is conducted using 10-fold

¹⁶A residual category captures audio recordings circulated online as mp4 video files.

¹⁷In this first stage, we also classify 42 religious videos as ‘state capacity’ based on manual reading of video titles. Videos with titles containing words such as “prayer” or “recitation”, for example, are regarded as religious. The vast majority (over 95%) of remaining unassigned videos correspond to the thematic types of ‘produced video’, ‘statement video’, and ‘other video’.

cross-validation. The final optimized prediction model is then applied to videos with unassigned categories, to label them either ‘violent’ or ‘state capacity’. Further details on model training and prediction are provided below.

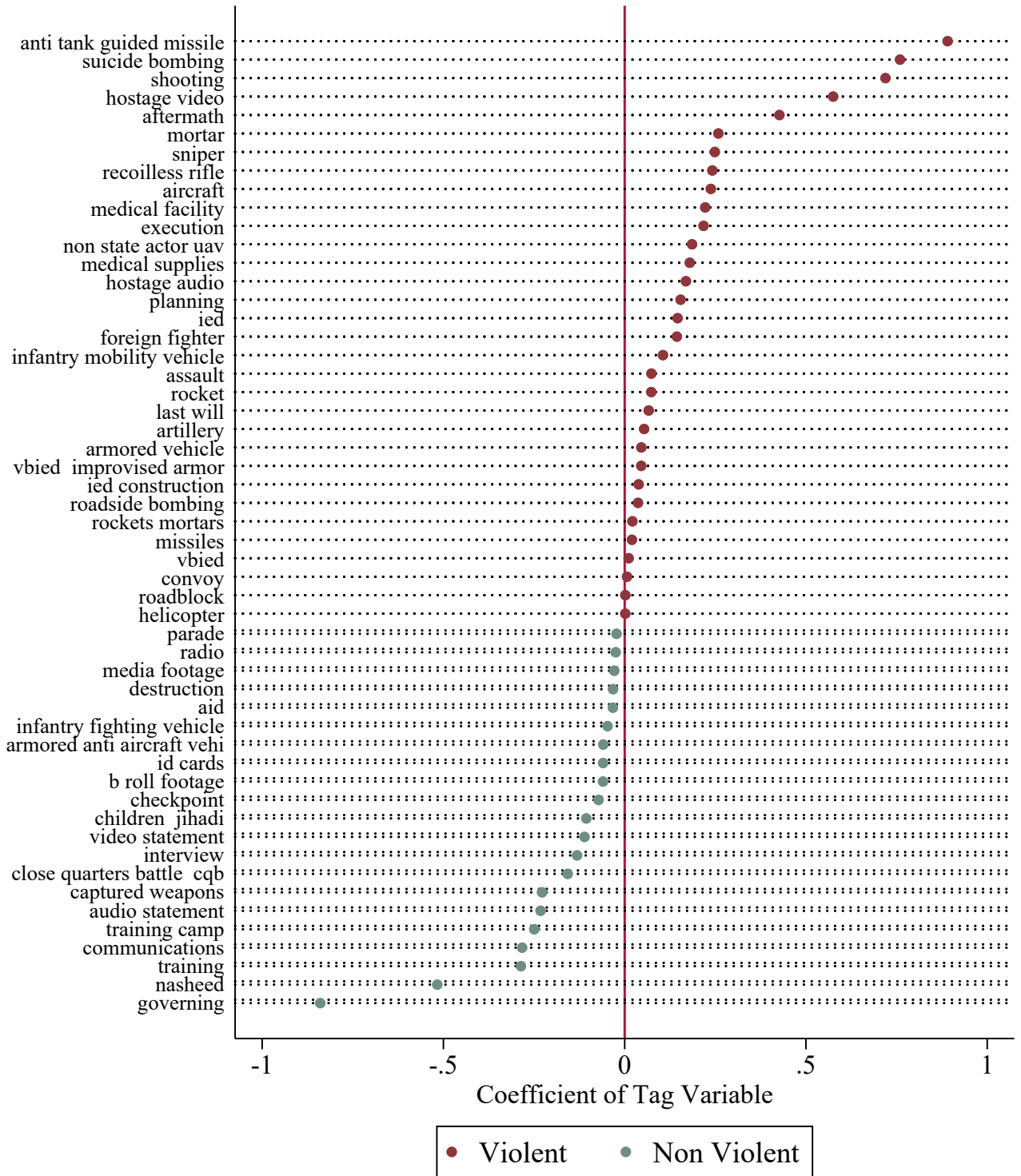
- Hyperparameter tuning: We use 10-fold cross-validation (CV) to select the optimal penalty term (λ) governing the combined absolute value of covariates in our model. The CV method divides training data into 10 subsets, in turn using 90% of training data to predict outcomes on the remaining 10% holdout sample. Average prediction error across the ten holdout samples is used to grade each value of the penalty term. The λ value generating the highest CV prediction accuracy is then adopted in our final model, which is then re-parameterized using the entire training set.
- Prediction: Our optimized prediction model is deployed on all unassigned videos, to predict violent content based on available keyword covariates. If the predicted probability of violence is greater than 0.5, the video is classified as violent (otherwise it’s included in the ‘state capacity’ category).

Following prediction, our sample contains 2,818 violent videos, and 557 videos pertaining to state capacity. Figure B1 lists the subset of keywords selected from our final prediction model, together with estimated coefficients. Our optimal prediction model selected 53 keywords (from over 100) which best predict violent content.

B.2 Photos

A total of 947 photos released online by IS between 2015 and 2021 are available from the ICD. Raw photo data typically contain the title and date (and occasionally – sparse keywords). Each photo is manually classified by the authors based on details reflected in the title and keywords. In case of ambiguity, the image source is referenced to check for violent content (e.g. weapons, destruction, death). In general, the classification of photos is conducted to closely mirror our categorization of videos above. This manual classification results in 567 violent photos, and 380 photos corresponding to state capacity.

Fig. B1: Coefficient of Tags Selected Using Lasso Regression



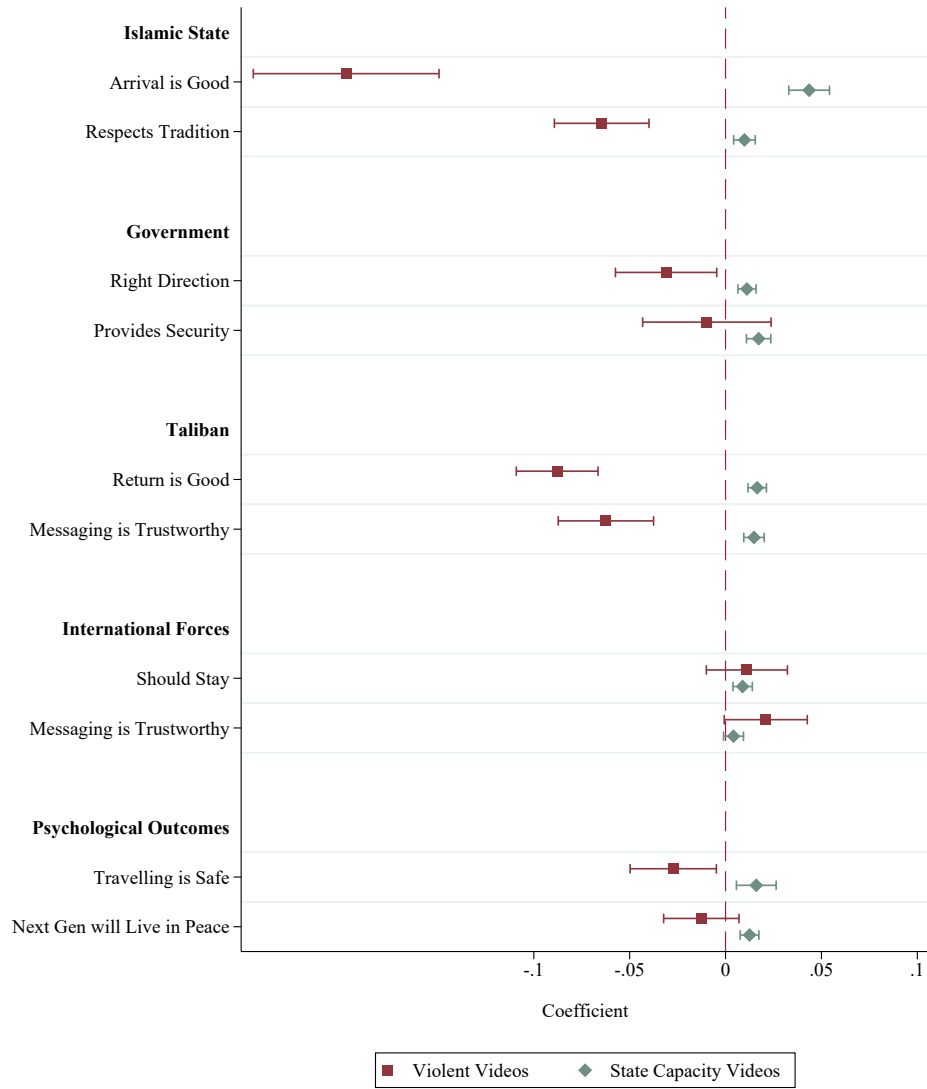
Notes: This figure depicts the coefficients of selected features (keyword tags) in the optimized lasso logit regression model. The model predicts the category of unassigned videos ('violent' or 'state capacity') based on their associated keywords provided by IntelCenter Database (ICD).

Fig. B2: Confusion Matrix - Videos

Classified Data	State Capacity	156	27	183
	Violent	91	1675	1766
		247	1702	1949
		State Capacity	Violent	
		Ground Truth		

Notes: This figure depicts the error matrix of the optimized lasso logit regression model. The model predicts the category of unassigned videos ('violent' or 'state capacity') based on their associated keywords provided by IntelCenter Database (ICD).

Fig. B3: Effects of IS Videos on Public Approval: Robustness to Macro Trends



Notes: We replicate our main our coefficient plot, adding global trends to 7. World trend data are retrieved at the yearly level from the World Bank and include global GDP, trade (% GDP), FDI inflows and outflows (% GDP), net official development assistance, and official aid received. We exclude videos depicting events within Afghanistan. Baseline controls include age, gender, education level and ethnic group.

Table B1

Thematic Type	Category
Operational Video	Violent
Aftermath Video	Violent
Hostage Video	Violent
Last Will Video	Violent
Destruction Video	Violent
Governing Video	State Capacity
Captured Territory Video	State Capacity
Training Video	State Capacity
Street Interview Video	State Capacity
Street Life Video	State Capacity
Produced Video	-
Statement Video	-
Other Video	-
Trailer Video	-
Interview Video	-
No Video	-

Notes: This table defines our mapping from IntelCenter Database (ICD) thematic video type to our own aggregate categories. Unassigned videos (denoted with ‘-’) are later categorized as ‘violent’ or ‘state capacity’ using the lasso logit prediction model.