

The Impact of Legal Repression on Citizen Online Behavior: Evidence from Tanzania’s Jamii Forums*

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How does the restrictive legislation on online behavior impact citizen posting on the web? Although many welcomed the internet as a liberating technology, especially after the Arab Spring, governments quickly adopted various surveillance and repression strategies to monitor, regulate, and steer online citizen behavior. Given the global rise of informational autocrats (Guriev and Treisman 2019), it is critical to understand the impact of such legal repression on citizens’ online behavior.

Previous research has shown that the internet, particularly social media, has a significant impact on political participation in the form of voting behavior (Campante et al. 2018; Gavazza et al. 2019; Guriev, Melnikov, et al. 2019; Miner 2015; Schaub and Morisi 2020) and protests (Acemoglu et al. 2018; Enikolopov et al. 2020; Fergusson and Molina 2019). While some research has examined how repressive regimes use propaganda (Besley and Prat 2006; Gehlbach and Sonin 2014; Knight and Tribin 2019) and repress information systems (King et al. 2013; Stukal et al. 2019), there is little to no evidence on the impact of legal repression on citizens’ online behavior. We provide such evidence from the context of Tanzania, where we analyze the impact of the 2015 Cybercrimes Law on posts on political threads in Jamii Forums – a widely used, citizen-driven online platform in the country. Our analysis of more than **11 million** individual posts reveals four key findings:

- There is increased activity on political threads during the period leading up to the Cybercrimes Act going into full effect (September 2015).
- The number of new *and* inactive individual accounts increases dramatically during the period between the parliamentary approval of the Cybercrimes Act (April 2015) and when it went into full effect. One possibility is that this indicates citizens using new accounts to hide their identities.

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- Consistent with that possibility, new accounts that are opened in the lead up to the law’s enforcement have the same sentiment towards government actors relative to accounts that go inactive. This suggests that the law failed to reduce the incidence of critical posting against the government by citizens.
- There is also a spike in inactive accounts after the law goes into effect. This spike does not correspond with a wave of new accounts and more likely reflects citizens withdrawing from online posting.

Our findings suggest that citizens in Tanzania adapted their online behavior in ways that at least partially blunted the government’s intent. They likely did so by opening thousands of new accounts while letting old accounts lapse in the weeks before the law went into effect. Alternatively, it could be that backlash against the repressive law attracts new users to replace those that stopped posting. In either case, once the law went into effect and the government makes its first arrest under the law, thousands of citizens retreat from Jamii Forums completely, which suggests that legal repression does indeed ‘work’ on some citizens, especially when paired with enforcement. Nevertheless, we find no evidence that the law succeeded in reducing online sentiment critical of the government.

Information Autocrats: Prior Research

The last 20 years have seen an enormous rise in government crackdowns on media freedom. According to the Varieties of Democracy Dataset (VDem), the annual incidence of significant censorship has quintupled over that period (Coppedge et al. 2021). Since the internet provides citizens alternative sources of information about government behavior and reduces the costs of collective action, repressive-minded governments across the world have made various attempts to control citizens digital lives. Those efforts include digital censorship, surveillance, information manipulation, and restrictive laws aimed at controlling the information environment on the web (King et al. 2013; King et al. 2017; Lorentzen 2014).¹

While there is a decent amount of work on the impact of propaganda on citizens and media ecosystems (Besley and Prat 2006; Gehlbach and Sonin 2014; Knight and Tribin 2019), there is very little rigorous research on the impact of explicit legal restrictions on citizens’ online behavior. This is an important omission, because many governments have sought to restrict citizens’ online behavior by expanding the scope of illegal online expression defined as anything from ‘false information’ to ‘treasonous’ to support for ‘terrorists’. Ex ante, it is unclear how citizens will respond to new legal threats to what they post online. On one hand, citizens might respond to such a blunt repressive strategy with an online backlash, if they do not expect the government to enforce it. On the other hand, such laws might signal the government’s determination to silence critics and thereby make citizens more cautious on the web. Therefore, it is crucial to analyze how repressive legal strategies impact online political discussions.

¹See (Zhuravskaya et al. 2020) for an extensive review on the political effects of the internet and social media.

The Tanzanian Context

We focus on Tanzania, a country that has experienced a steady decline in online and offline media freedom over the last decade. This decline in media freedom echoes a broader democratic erosion in the country. Indeed, according to the Varieties of Democracy Project (V-Dem), Tanzania is one of the 25 countries that has undergone a process of *autocratization* over the past decade (Hellmeier et al. 2021). The deterioration of the political situation started with the election of President John Magufuli in 2015.²

Since then, the government of Tanzania has enacted several laws to silence online critics, such as the 2015 Cybercrimes Act, the 2016 Media Services Act, and the 2018 Electronic and Postal Communications Act. We focus on the Cybercrimes Act of 2015, which passed Parliament in April 2015 and came into force in September 2015, since it was the first significant act targeting internet activity and widespread coverage at the time was concerned that it would intimidate citizens' online behavior.

The law criminalized cyber activities such as publishing false and deceptive information, child pornography, racist and xenophobic material, and unsolicited messages. However, experts noted that Section 16 of the Act, which is about the publication of false information, is vague enough for the government to use it against opponents and, thus, posed a threat to freedom of expression.³ The law also gave the police broad powers to search the homes of suspected violators and seize any electronic device.

After the Cybercrimes Act went into force in September 2015, the government began charging people at the beginning of October.⁴ Thereafter, the government used the law regularly, including to target the main opposition party, Chadema. For instance, on election night in late October, the government raided Chadema's exit-polling center and arrested 38 people for publishing "inaccurate and unverified data".⁵

This report analyzes the Cybercrimes Act's impact on Jamii Forums, the most well-known, citizen-driven web forum in Tanzania. A key platform for anonymous whistle-blowing and the origin of several government-related scandals, Jamii Forums has been dubbed the Swahili language version of Wikileaks by BBC.⁶ Given that the Cybercrimes Act explicitly targeted online venues, some journalists at the time concluded that "the future is uncertain for Jamii Forums and its users."⁷ Indeed, the founder of Jamii Forums claimed that the law would "affect our users by destroying the confidence they had on our platform as it been [sic] open and safe for them to air out their views. They will be afraid to have a conversation online because they know the government will be watching them."⁸ Subsequently the government

²<https://www.hrw.org/world-report/2019/country-chapters/tanzania-and-zanzibar>

³<https://advox.globalvoices.org/2015/04/17/tanzanias-cyber-crime-bill-gives-more-power-to-police-less-to-people/>

⁴<https://advox.globalvoices.org/2015/10/19/two-tanzanians-accused-of-posting-false-information-face-charges-under-new-cybercrime-law/>

⁵<https://slate.com/technology/2015/10/tanzania-s-terrible-cybercrimes-act-used-to-arrest-opposition-leaders.html>

⁶<https://www.bbc.com/news/world-africa-13786143>

⁷<https://www.vice.com/en/article/wnjy3n/in-tanzania-activists-worry-a-new-law-will-land-them-in-jail-for-spam>

⁸<https://www.vice.com/en/article/wnjy3n/in-tanzania-activists-worry-a-new-law-will-land-them-in-jail-for-spam>

regularly harassed Melo. In 2017, he appeared in court 81 times under the Cybercrimes Act. In 2019, Melo received the Committee to Protect Journalists’ (CPJ) International Press Freedom Award for his efforts to protect online freedom of expression in Tanzania.⁹ A year later, he was arrested for refusing to disclose the personal data of whistleblowers on Jamii Forums.¹⁰

Data and Approach

Here we test whether Jamii Forum’s founder was correct in predicting that the 2015 law would have a chilling effect on citizens’ online behavior. To analyze the impact of the Act, we collected all posts on political threads in Jamii Forums between 2006 to 2021. Since most posts are in Swahili, we machine-translated all these posts into English for purposes of analysis. In total, our dataset consists of around 11.5 million posts on political threads.

To identify posts about government actors, we counted a post to be government-relevant if it contains any of the following words: CCM, president, government, Magufuli, minister, and Kikwete. This short list of keywords includes both presidents before and after the 2015 elections, the main political actors and the governing party. We also track overall sentiment toward those government actors over time.¹¹ Using a large language model, we label each post based on its sentiment (negative, positive, or neutral). If the law intimidates citizens from posting negatively about the government, we should see less critical posting about the government after it goes into effect.

Results

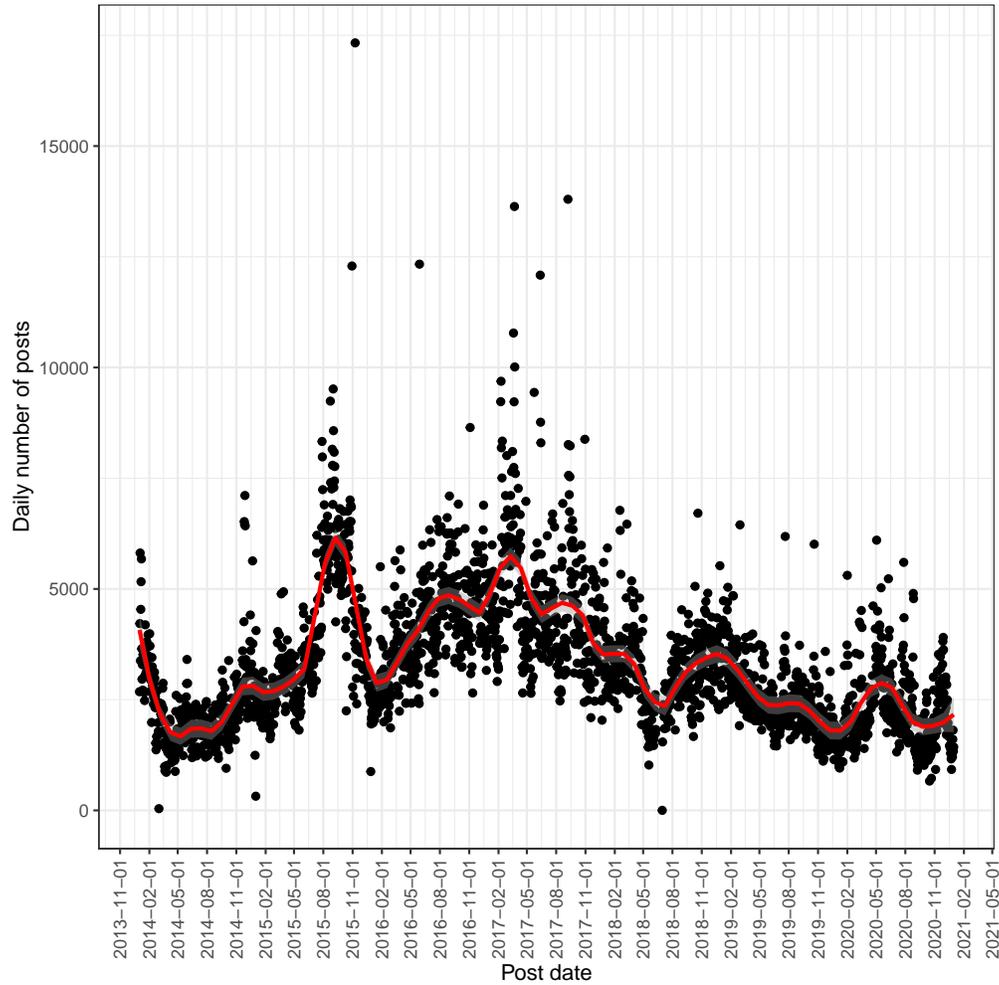
We first start with the overall volume of posts in politics threads on Jamii Forums. If the Cybercrimes Act repressed *all* discussion of politics, we would see a decline in overall volume. Figure 1 shows significant variation in the total volume over time and that the period we are interested in (September-November 2015) actually sees a considerable increase in activity. While the average daily number of posts between 2014-2020 is 3284, it climbs to 5979 between September 2015-November 2015. This period coincides with the election on October 25, 2015, so it is impossible to draw any conclusions on the effect of the law from these aggregate data.

⁹<https://cpj.org/awards/cpjs-2019-international-press-freedom-awards/>

¹⁰<https://cpj.org/2020/11/jamii-forums-founder-maxence-melo-convicted-on-obstruction-charge-release-d-in-tanzania/>

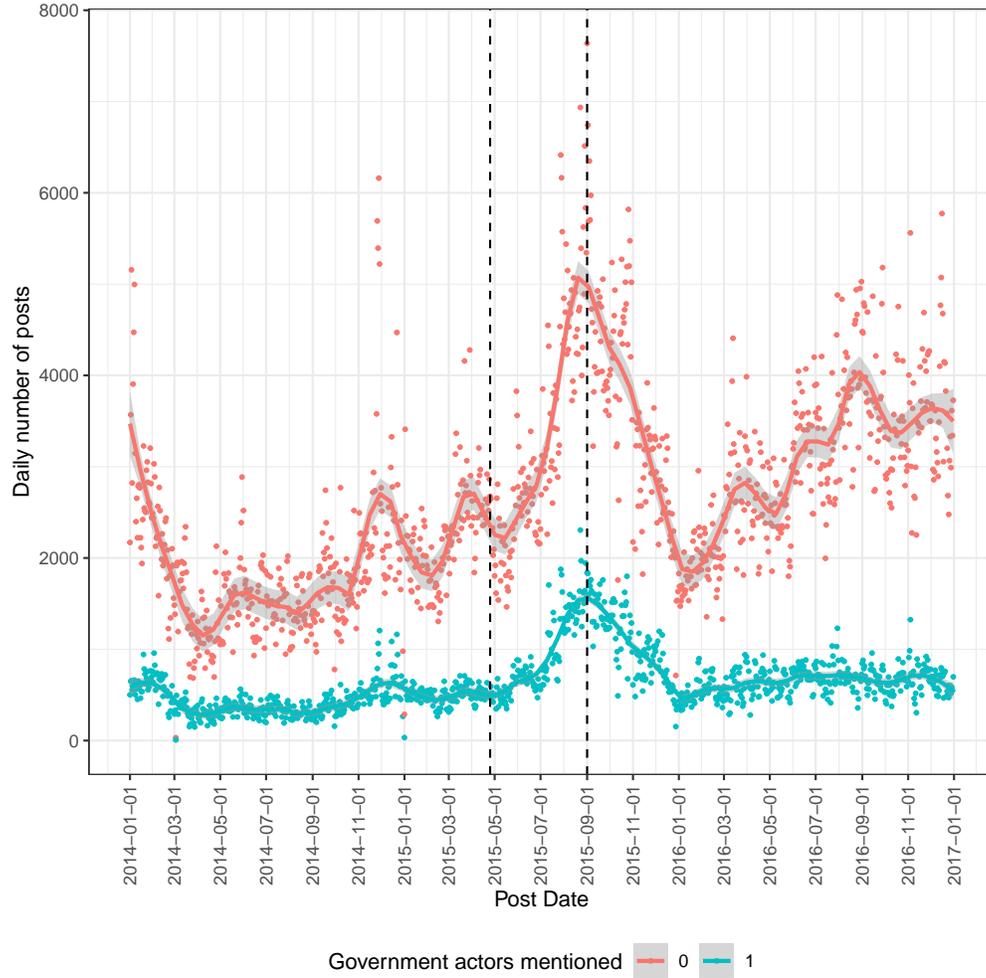
¹¹We used the TweetNLP library (<https://github.com/cardiffnlp/tweetnlp>), powered by a state-of-the-art language model and fine-tuned with social media data, to label posts based on sentiment.

Figure 1: Daily number of posts in politics forums



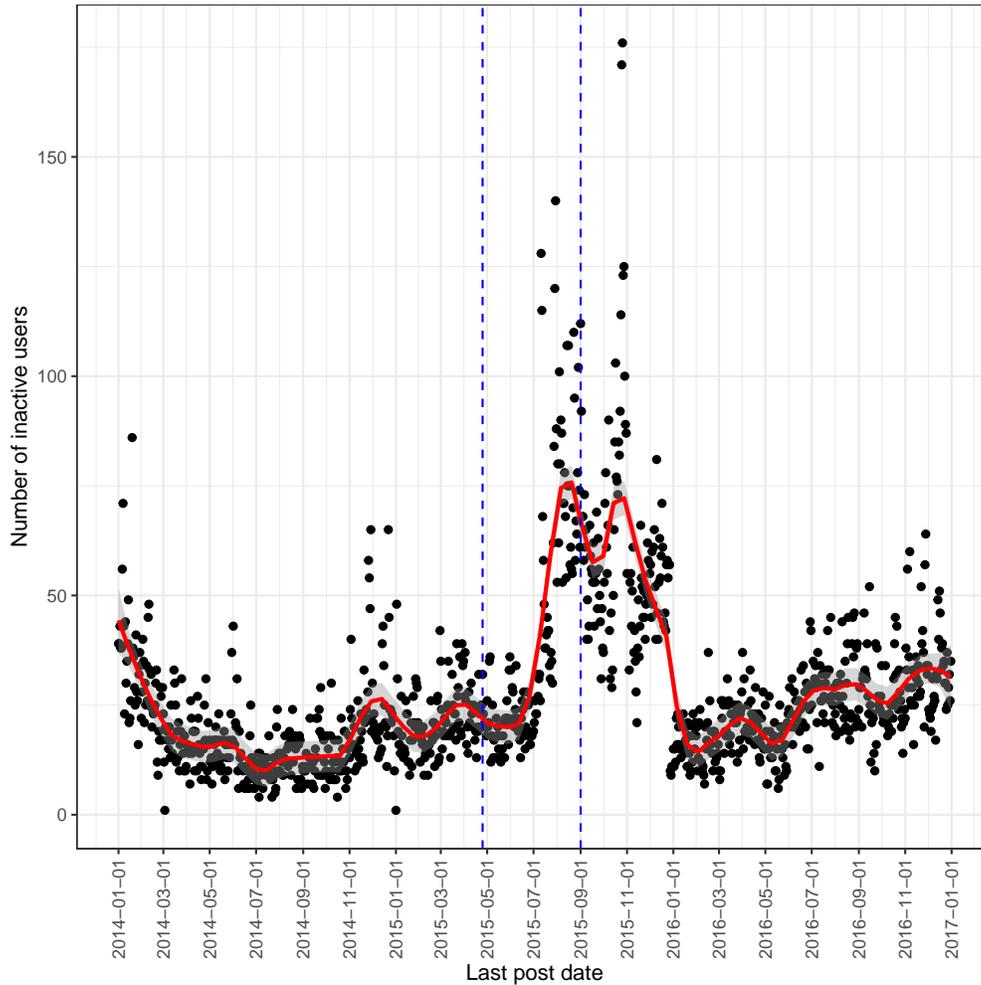
Even if the overall volume of political posting goes up around the 2015 election, it could be that citizens were fearful to explicitly discuss government figures. To see if that is the case, Figure 2 plots the daily number of posts in political threads that explicitly mention and do not mention government actors. The two dotted lines reflect the dates when the law was first passed and then when it went into effect. We observe increased posting on politics that do and do not mention government actors around the month when the Cybercrimes Law took full effect; interestingly, that month's peak in political postings exceeds that of the election month itself, which suggests that online posters were preoccupied with the law. Nevertheless, we see no evidence here that the law repressed citizen posting about the government.

Figure 2: Total number of posts in politics threads



A different way in which the Cybercrimes Law might repress citizen behavior is by dissuading some citizens from using the platform altogether. If that is the case, the increased number of posts above could reflect additional volume by ongoing users, even as some citizens are intimidated from posting on the website. As seen in Figure 3, many accounts do, in fact, go silent on political threads just before and after the law took full effect in September. In the weeks before and after, thousands of users simply stopped posting. We interpret this as initial evidence that the repressive law did change the online behavior of a fairly large number of previously active citizens.

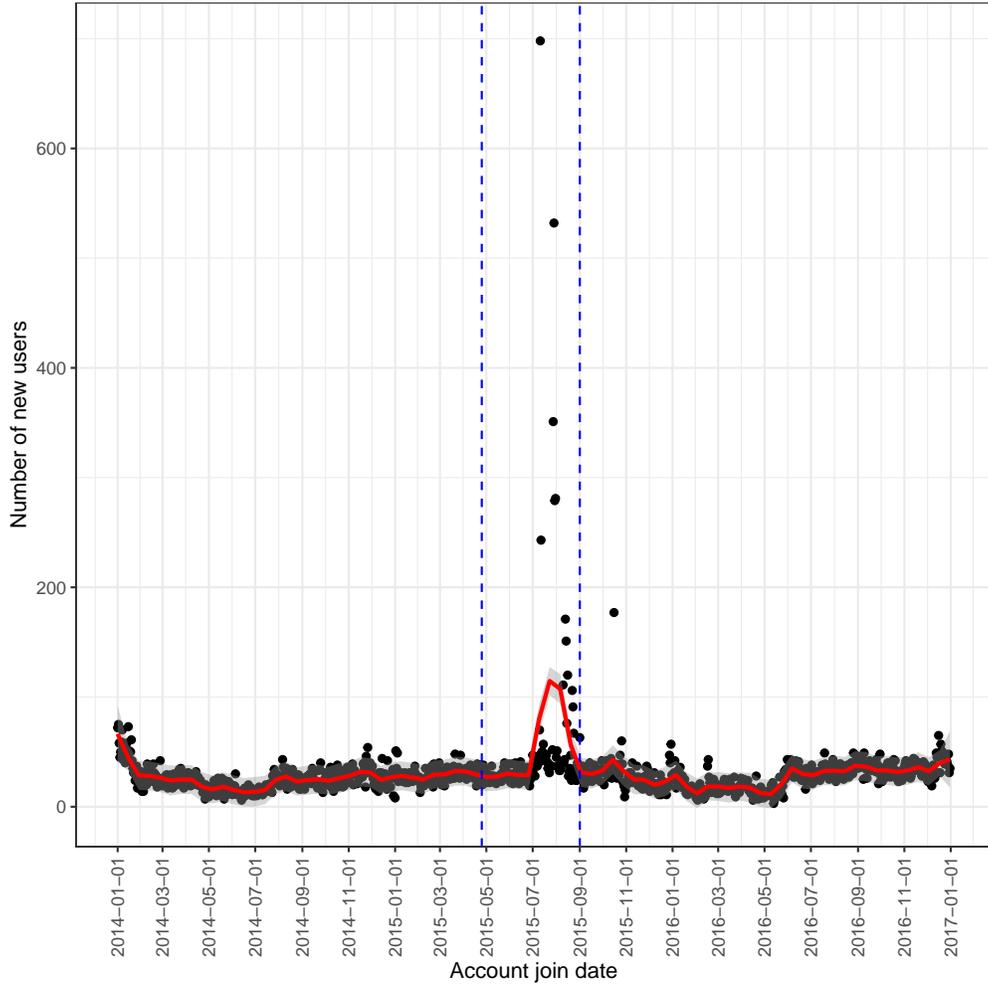
Figure 3: Number of inactive accounts on Jamii Forums



Yet as seen in Figure 4, during that same period we also see a significant increase in brand new users who post on the website’s political threads. For instance, while there are 30 or so new users posting on political threads on a typical day, there were 698 new users posting on July 11, 2015, shortly before the Cybercrimes Act went into full effect. Indeed, from the time the law is passed until it takes effect, the number of new users (7,026) exceeds those who went silent (5291). That surge in new user activity immediately stops as soon as the Cybercrimes Act took effect on September 1, 2015.¹² In the following months, the number of lapsed accounts doubles the number of new accounts, despite the ongoing election season.

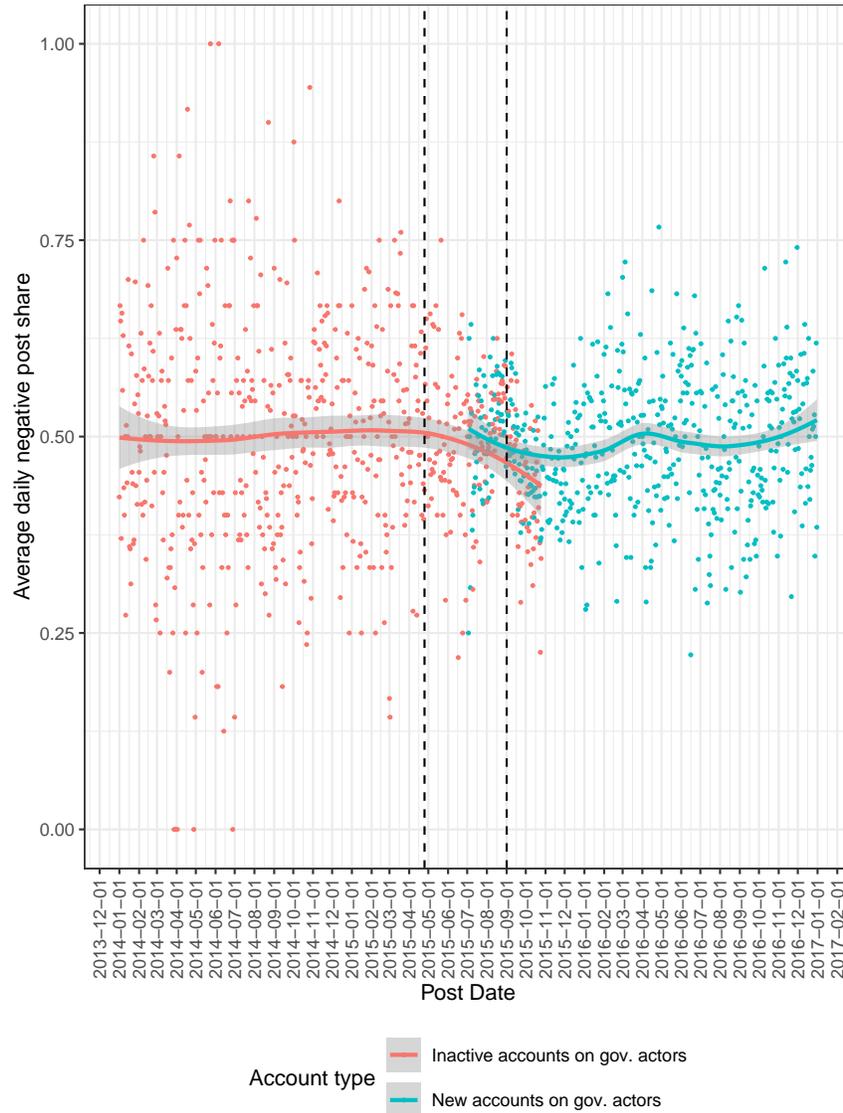
¹²This unusual activity was noted by Jamii’s founder, Maxence Melo: <https://www.thedailybeast.com/tanzanias-election-crackdown-on-dissent>

Figure 4: Number of new accounts on Jamii Forums



Do inactive and new accounts have different stances toward the government? It could be that the Cybercrimes Act demobilized critical citizens who most feared prosecution under the law, and they were replaced by less critical citizens. Alternatively, critical citizens might let their old accounts lapse and open new ones under pseudonyms to evade the law. In the former case, new users should be less critical than lapsed users; in the latter case, new users and lapsed users should adopt similar sentiments toward the government. Figure 5 shows the average daily negative posts towards government actors by inactive and new accounts. About half of the posts on government actors by both inactive and new accounts are negative, indicating that the two groups are very similar. This result suggests that the repressive law did not bring about a change in the incidence of critical posting against the government, but that probably results from the strategic behavior of more critical citizens who open new accounts and old ones lapse as a means of evading censors.

Figure 5: Inactive vs. new accounts: sentiment on gov. actors only



Conclusion

Our analysis of the 2015 Cybercrimes Act shows that the law did not repress overall political posting by citizens on Jamii Forums. On the other hand, many accounts went silent, and many new users started posting on political threads in the weeks leading up to the implementation of the Cybercrimes Act. Sentiment analysis shows that new accounts are not significantly different from inactive accounts that went silent, which is suggestive of strategic citizens closing and opening new accounts to avoid censors. Nevertheless, once the law went into effect and the government began using it to prosecute everyday citizens and the opposition, the thousands of accounts go silent, and they are not matched by the creation of new accounts. This suggests that the government's aggressive use of the law succeeded in

demobilizing some citizens from engaging in online discussion.

Our results provide evidence on the adaptive behavior of online citizens, the limits of legal repression (i.e. overall criticality toward the government does not change), and also suggests ways in which legal restrictions at least partially work to demobilize some citizens. In future work we will more closely examine the nature of accounts that close in response to legal restrictions as well as the content of citizen posts (i.e. *what* they are posting about) to get a more nuanced picture of how the legal restriction reverberated through citizens' digital behavior.

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