The Effect of International Sport Events on the Capacity for and Use of Digital Repression

a quantitative analysis of autocratic host countries between 2000-2022

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Master thesis in Political Science
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Autumn 2023
Word count: 22 316

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Abstract

International sport events, such as the FIFA World Cup in football and the Olympic Games, capture the attention of millions of people worldwide. Autocratic regimes may view hosting such events as an opportunity to enhance their international and domestic standing, but they also face an increased risk of international media exposing their human rights violations. The potential momentum generated by criticism and scrutiny from the international community can be leveraged by the opposition, ultimately threatening the survival of the regime. While previous research has focused on how autocrats use overt forms of physical repression to navigate this scrutiny-publicity dilemma, the 21st century presents a new era with the rise of modern communication technologies enabling covert forms of digital repression. Using dynamic panel regressions and data from the Digital Society Project, measuring both the capacity for and actual use of different digital repressive means, I find that autocracies hosting international sporting events increase their capacity for digital repression one year prior to the event, with positive effects lasting for six years afterward. However, my results are mixed concerning the actual use of digital repression - suggesting an increase only in some model specification. Overall, my results suggest that autocracies use international sport events to enhance their ability to censor and surveil their population, thus highlighting a new risk associated with awarding international sporting events to countries that demonstrate a lack of respect for human rights. Finally, it emphasizes the necessity of sustained international monitoring of autocratic hosts in the years following such events.

Key words: international sports events, digital repressive capacity, digital repression, counterfactual estimation, the scrutiny-publicity dilemma

Acknowledgements

First and foremost, thank you to my supervisors Philipp Matthias Lutscher and Jonas Willibald Schmid. Thank you to Jonas who has helped me navigate this research process from start to finish, from R-codes, to finding a research topic according to my interest and in helping me mould this thesis. Thank you to Philipp who joined as a supervisor after I settled on a focus on digital repression and who has been invaluable in providing insights from the digital repression literature as well as introducing me to a new research method. You are both skilled and supportive supervisors that I've enjoyed discussing with over the past year.

I am returning to my studies after a couple of years out of academia. The older I get the more grateful I become for the opportunities available to you as a student. To be able to spend my days learning as well as the opportunity to visit a new country as an exchange student is an immense privilege. Thank you to the Norwegian welfare state.

This thesis is not only the product of my time at the University of Oslo, but also from my time at the American University of Cairo. Thank you to all colleagues and friends for discussions, lunches, and laughs. Thank you to Ingrid, Ina, Eli, and Nina for comments on earlier drafts of this thesis.

Finally, thank you to friends and family who have supported me throughout the process, especially thank you to Mamma, Pappa, Martine, Amalie, and Saif.

All remaining errors are my own.

Mari
Oslo, 2023

Replication files (data and R-scripts) are available upon request.

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1. Introduction

"Fantastic, as awesome as it gets. The organization 10 points, the experience 10 points… the tournament 10 points. Everything was 10 points."

- Football player Zlatan Ibrahimovic on his experience as a visitor in Qatar during the FIFA World Cup 2022

While some applauded a well-organized tournament and enjoyed the first-time arrival of the FIFA World Cup in the Middle East, others accused Qatar of using the tournament to divert attention away from its marred human rights records and boost the country's image – a strategy popularly known as sportswashing. Ever since Qatar won the bid for hosting one of the world's biggest sport events, critical voices have highlighted the poor human rights conditions for its citizens and migrant workers (Amnesty, 2016; Human Rights Watch, 2022). Indeed, Qatar is ranked as the second most authoritarian country ever to host the World Cup, surpassed only by Italy during fascist rule in 1934 (Hellmeier & Zürn, 2022).

The publicity accompanying international sport events is enormous. Media from around the world turn their focus to the host nation who is prominently showcased on the international stage. Successfully organized, and with the added possible bonus of winning at home, international sports tournaments can shift the conversation and boost the legitimacy of a regime both at home and abroad. However, the attention comes with an added risk of being exposed for violating human rights that can also lead to a loss of legitimacy, domestically as well as internationally. The massive focus on LGBTQ- and migrant workers' rights in Qatar is one example of this. This trade-off between attention and criticism, or scrutiny versus publicity as Scharpf et al. (2022) aptly call it, has proven to be something autocrats willingly take on as they increasingly host international sport events (Bowersox, 2016; Grix & Lee, 2013).

While prior studies have focused on how physical repression has been used to navigate the scrutiny-publicity dilemma, I focus on how autocrats use digital tools to mitigate the risks of increased scrutiny. Following the literature on international sport events and repression, I ask:

Do international sport events in autocratic states increase the capacity for and the actual use of digital repression?

The literature on autocratic states show that repression is commonly used to maintain power in such regimes (Gerschewski, 2013). Scharpf et al.'s (2022) research show that repression plays a strategic role in managing the scrutiny-publicity dilemma created by international sports events. By increasing state repression in the form of killings prior to the event the aim is to deter dissidents from protesting while foreign media is present. Yet killing dissidents is a double-edged sword. It is a highly visible and condemned form of repression that needs to be reduced in the presence of foreign media in order for the regime to appear more in line with human right standards. No research to my knowledge has investigated how international sports events affect less visible forms of repression. Digital repression is by its nature more covert than traditional repression and is front and centre in the development of autocrat's repressive strategies (Frantz et al., 2020). How then does the scrutiny-publicity dilemma apply to digital repression, and how does international sport events affect a country's digital repressive trajectory?

By investigating the effect of international sport events on digital repression I contribute to the literature on human rights within the context of international sports events (e.g. Bowersox 2016; Bertoli, 2017; Scharpf et al., 2022) and to the literature on strategic and event-driven repression (e.g. Danneman & Ritter, 2014; Ritter & Conrad, 2016; Sullivan, 2016; Truex, 2019). While the literature on digital repression is mainly composed of case-studies concerning specific countries and/or specific digital tools or platforms (Hellmeier, 2016), I add to the growing literature on digital repression by using aggregated country-year data to investigate broader development patterns and drivers of digital repression (for reviews see Earl et al., 2022; Keremoğlu & Weidmann, 2020; Roberts, 2020). By looking at changes in online censorship I also contribute to the growing literature on authoritarian information control (Beazer et al., 2022; Huang et al., 2019; Paskhalis et al., 2022), particularly in terms of event-driven changes in censorship (Freyburg & Garbe, 2018; Lutscher et al., 2020).

I start, in Chapter 2, with a literature review situating digital repression within the context of traditional repression research. I then move on to focus on what digital repression is, explain the novel features of this type of repression and how it relates to the overall repressive strategy in autocracies. Next, I turn to international sport events, particularly focusing on the scrutiny-publicity dilemma developed by Scharpf et al. (2022) and how this affects physical repression. In Chapter 3, I present my theoretical expectations applying the scrutiny-publicity dilemma to digital repression. Based on this I develop hypotheses for the periods preceding, during and following the international sport event. In Chapter 4, I describe my data before explaining the method of the counterfactual estimator that I will use to test my hypothesis. Next, I present the results of my analysis in Chapter 5. This chapter also includes a number of robustness tests to check the sensitivity of my results. In Chapter 6, I first summarise the main points of this thesis, before moving on to a discussion of the results as well as their theoretical and real-world implications. Lastly, a short conclusion emphasizes the main findings of my analysis.

My findings indicate that international sport events lead to an increase in the capacity for digital repressive in autocratic host countries, although further research is required due to large uncertainty. What impact international sport events have on actual use of digital repression remains inconclusive. My results predicts an increase in digital repressive capabilities one year prior to the international sport event, with effects estimated to last until six years after the event. During this time period the capacity gap between autocratic hosts and non-hosts is estimated to 23 %. Meaning that the capacity for digital repression on average is about one fourth higher in autocratic hosting countries than in non-hosting autocracies. After the effect of international sport events fades, my results suggest that there is no difference between host and non-host in terms of how much or little digital capacity increase. Importantly though, capacity for digital repression does not return to pre-event levels.

While previous research have focused on how international sport events increase physical repression, my finding of an increase in digital repressive capabilities highlights another negative impact of awarding these events to countries that show no to little respect for the human rights of their population. Just two weeks before this thesis was handed in, but three years before its scheduled time, FIFA announced after a shorter than usual bidding process that Saudi Arabia is the sole contender for the 2034 World Cup (Panja, 2023a, 2023b). The continued selection of autocracies as hosts of some of the world's most popular broadcasting events (i.e. international sport events), affirms the importance and relevance of investigating the detrimental consequences international sport events have on domestic populations. This also highlights the responsibility of the international community to monitor and criticise the organizations awarding international sport events as well as the autocracies hosting them. My findings implies that autocratic hosting countries such as Saudi Arabia, will see an increase in capacity for digital repression, and that this development will continue for years after the event. Stressing the importance of continuing to scrutinize autocratic hosts even as new events take place and the world's attention move elsewhere.

2. Literature review

From traditional to digital repression

In his seminal article, Davenport (2007, 2) defines repression as:

> "[T]he actual or threatened use of physical sanctions against an individual or organization, within the territorial jurisdiction of the state, for the purpose of imposing a cost on the target as well as deterring specific activities and/or beliefs perceived to be challenging to government personnel, practices or institutions."

In other words, repression occurs when a state applies coercion against its own citizens in order to maintain power. Not all coercive acts are repressive (e.g. prevention of crime and general governance), actions become repressive when they violate what Davenport (2007, 2) calls "First Amendment-type rights [freedom of speech, association, press etc.], due process in the enforcement and adjudication of the law, and personal integrity and security".

Repression can be categorized and understood in a number of different ways, it can be violent or non-violent, low-intensity or high-intensity, executed by state or non-state actors, aimed to undermine capacity or willingness to dissent, make use of coercion or channelling or be performed in covert or overt ways (Davenport, 2007; Earl, 2003; Escribà-Folch, 2010; Greitens, 2016; Ritter & Conrad, 2016). The overall repressive strategy and what tools are employed can vary between different regimes, but the objective is to secure the regime's survival and power (deMeritt, 2016; Keremoğlu & Weidmann, 2020; Svolik, 2012).

Research into whether repression is in fact the best strategy to pursue this objective, has yielded mixed evidence, causing a phenomenon described as the "punishment puzzle" (Davenport, 2007). Escriba-Folch (2010) finds that repression, defined both as violations of physical integrity rights and restrictions on civil liberties, is effective in reducing the likelihood of a dictator's ouster in a given year. However, when repression is applied in a violent and indiscriminate manner, particularly against peaceful protester, this can cause backlash and regime breakdown (Stephan & Chenoweth, 2008; Sutton et al., 2014). Notwithstanding the mixed effect of repression on regime survival, repression appears as one of the hallmarks of autocratic rule (Gerschewski, 2013; Svolik, 2012).

Research on traditional repression has, as the above cited definition shows, focused on physical repression and the violation of physical integrity rights, often defined as freedom from torture, disappearance, unlawful imprisonment, extrajudicial killings, and mass murder (Gibney et al., 2016; Poe & Tate, 1994) as well as violations of civil liberties (Escribà-Folch, 2010; Weidmann & Rød, 2019). As Guriev and Treisman (2019) show, the late twentieth century brought with it a shift in the repressive strategies of autocrats from totalitarian fear-mongers relying on violence, heavy censorship and ideological propaganda to informational autocrats that use more subtler means of information manipulation to control their population. This shift eventually correspondent and progressed with the advancement of Information and Communication technologies (ICT) in the 21st century that more than ever provide opportunities for information control.

Responding to these changes, the field of repression research has grown to include digital repression, a new term with varying and sometime absent definition (Earl et al., 2022). It most commonly refers to the use of new technologies, such as the Internet, social media, and Artificial Intelligence (AI), to raise the cost of dissent and maintain political control (Frantz et al., 2020). Just as with physical repression, general acts of internet governance does not constitute repression, unless that interference is designed to raise the cost of dissent. Earl et al. (2022, 1) define digital repression as:

> "[A]ctions directed at a target to raise the target's costs for digital social movement activity and/or the use of digital or social media to raise the costs for social movement activity, wherever that contestation takes place."

This definition captures different repressive actions relating to the digital space, it includes physical repression of digital dissidents (e.g. imprisonment of online activists), digital tools to aid in physical repression (e.g., AI surveillance) as well as control of the internet using digital tools and legal regulation.

Digital repression follows and mimics many of the same patterns of control as physical repression, but it is also important to note its novel features (Earl et al., 2022). Most importantly, digital repression has increased effectiveness, requires fewer human agents, has lower costs, and can be applied at a greater scale compared to physical repression (Earl et al., 2022; Feldstein; 2019; Frantz et al.; 2020). A key reason for this is its ability to operate covertly. While parts of the repressive repertoire always has been covert, digital repression in particular is designed to successfully go unnoticed. Both because the average person's knowledge of the internet is limited and because it has the ability to influence citizens without them noticing (Roberts, 2020). Digital information control such as blocking, filtering, and flooding not just prevent citizens from finding information about an issue, but from knowing that an issue even exists. While traditional censorship focused on indoctrination, new ways of censorship directly influence behaviour and beliefs about the information environment (Earl et al., 2022).

The advantages of covert repression does however not mean that autocrats never use overt digital repression. Either as a last resort which was the case when former Egyptian president Mubarak shut down the internet in an unsuccessful attempt to stop the protests in 2011 (Hassanpour, 2014), or to deter dissent (Keremoğlu & Weidmann, 2020) as happened when a number of news websites was blocked a few years later by his successor President Sisi, causing fear and self-censorship amongst the remaining news outlets (Lutscher, 2023).[1] Though it can be easy to notice that a webpage or app does not work, it can be hard to determine if this is the cause of a willing act or malfunction, making the line between overt and covert digital repression blurry (Earl et al., 2022).

Recent debates within the literature discuss whether digital repression substitutes or complements traditional forms of repression. Frantz et al. (2020) find that digital repression increase the regime's information about citizen's preferences, enabling more targeted attacks on dissidents and leading to an increase in use of torture and imprisonment. Furthermore, use of facial recognition, high-resolution cameras, and spying malware aids regimes in effectively controlling the population and pre-empting dissent (Fuchs, 2013; X. Xu, 2021). There does seem to be a substitution effect regarding civil liberties. As restrictions on civil liberties have been lifted, this has corresponded to an increased level of digital repression to create a repressive equilibrium (Weidmann & Rød, 2019). Indeed, research on autocratic information control suggest a symbiosis between censorship and violent repression where the latter serves as a backstop to optimize information flow (Gehlbach et al., 2022).

Aspects of digital repression

While digital repression can augment other types of repression, control of the internet itself is a cornerstone of the digital repressive strategy in autocratic regimes. The internet is an arena where power is distributed highly asymmetrically in favour of the state (Weidmann & Rød,

[1]This does not mean that modern-day autocrats do not use traditional forms of repression anymore. Yet, as documented in Guriev & Treisman (2019), in particular, so-called "informational dictators" appear to apply less physical repression.

2019), it can be controlled through co-opted legal and regulatory means (Earl et al., 2022; Lutscher & Ketchley, 2022; Shahbaz, 2018), physical repression of digital activists (Freedom House, 2022; Pan & Siegel, 2020), and by using digital tools such as online censorship, network outages, social media manipulation, and digital surveillance.

Keremoğlu and Weidmann (2020) conceptualize state control of the internet along three technological levels: the infrastructure layer, the network layer, and the application layer. The infrastructure layer refers to the hardware and cables that make a network possible. Although today most places have access to the internet, research show that governments still allocate access strategically and that most telecommunication providers are state owned (Weidmann & Rød, 2019). For instance, ethnic minority groups are systematically underrepresented in access to the internet (Weidmann et al., 2016). In addition, governments can control (non-) access to the internet temporarily, by complete shutdowns in the country as a whole or certain areas. The government can also manipulate the bandwidth, throttling speed to the extent that the internet or certain applications become impossible to use (Keremoğlu & Weidmann, 2020).

The network layer controls data traffic and ensures that data is routed properly from sender to receiver. Re-routing of messages and deep packet inspection (scanning data as it passes by a checkpoint) enables covert monitoring and surveillance of citizens' internet behaviour (Keremoğlu & Weidmann, 2020). Censorship is also an integral part of this layer. States can choose to block specific websites or filter according to keywords, traffic patterns or relation to unwanted content (Frantz et al., 2020). This may create strongly restricted national intranets like the example of China's "Great Firewall" and Iran's "Halal Net" (Feldstein, 2021; Keremoğlu & Weidmann, 2020) and increases the cost for individuals attempting to search for information (Roberts, 2020). Though access to or dissemination of information might still be possible, users need to spend more time and/or money to complete their intended task. Blocking and filtering webpages also have a negative effect on information production. Lutcher (2023) finds that blocked media outlets in Egypt on average lost approximately half of their global visitors count, and that permanently blocked pages were substantially more likely to close down in the long term. Evidence suggests this is due to the loss in income caused by the blockage. The clamp down on some web pages, has further chilling effects on the digital discourse and information production more generally, causing uncertainty and self-censorship (Beazer et al., 2022; Roberts, 2020; Stern & Hassid, 2012). States can also employ so-called "denial of service attacks" (DoS), a technique that overloads the host server of a website with request so that it becomes unavailable. This is a particularly effective tool of censorship when the server of a website is located outside of the government's control (Lutscher et al., 2020; Villeneuve & Crete-Nishihata, 2012).

The final technological layer of internet control is the application layer, referring to the software that transmits and receives content. This layer adds another security valve for information control, and it is what most research on autocratic digital repression focuses on (Keremoğlu & Weidmann, 2020). Using big data processing and automated text analysis, and even sometimes manual inspection (Lutscher & Ketchley, 2022; Roberts, 2018), regimes can effectively monitor and remove social media posts, force service providers to surrender user information, and pre-emptively arrest potential dissidents (Frantz et al., 2020; Keremoğlu & Weidmann, 2020). Monitoring of social media posts and other online activities (google searches etc.) also help to mitigate the vertical information problem in autocracies and identify sources of discontent. The enormous amount of data that is generated is a valuable resource for regimes to analyse (Deibert, 2019) that enables targeted repression of dissidents as opposed to costly and indiscriminate co-optation like universal welfare policies to deter mobilization (X. Xu, 2021). Conversely, it can be used to deliver targeted co-optation like The Social Credit System in China to award obedient citizens with privileges (Frantz et al., 2020).

As opposed to coercive actions like surveillance, authorities can facilitate certain forms of expressing discontent (Earl et al., 2022). Governments can introduce and improve e-governance platforms and social media accounts as a venue for citizen feedback to increase actual or perceived responsiveness to citizen's concerns (Keremoğlu & Weidmann, 2020; Martin, 2019). Research on China suggest that autocracies navigate the trade-off between information flow and information control by allowing critical post of the national government as long as it does not instigate collective action or if it displays disagreement to the extent that a common citizen response is highly unlikely (Chen & Xu, 2017; King et al., 2013). Interestingly, online mentions of protest against local government mismanagement is allowed as long as the discontent is directed towards individual and local actors, and not the system or regime as a whole (Huang et al., 2019).

An alternative and complimentary way of exercising censorship is through flooding, a coordinated campaign using bots[2] or human agents to overload a hashtag, conversation or otherwise online space with pro-regime views, entrainment news, or false and/or misleading

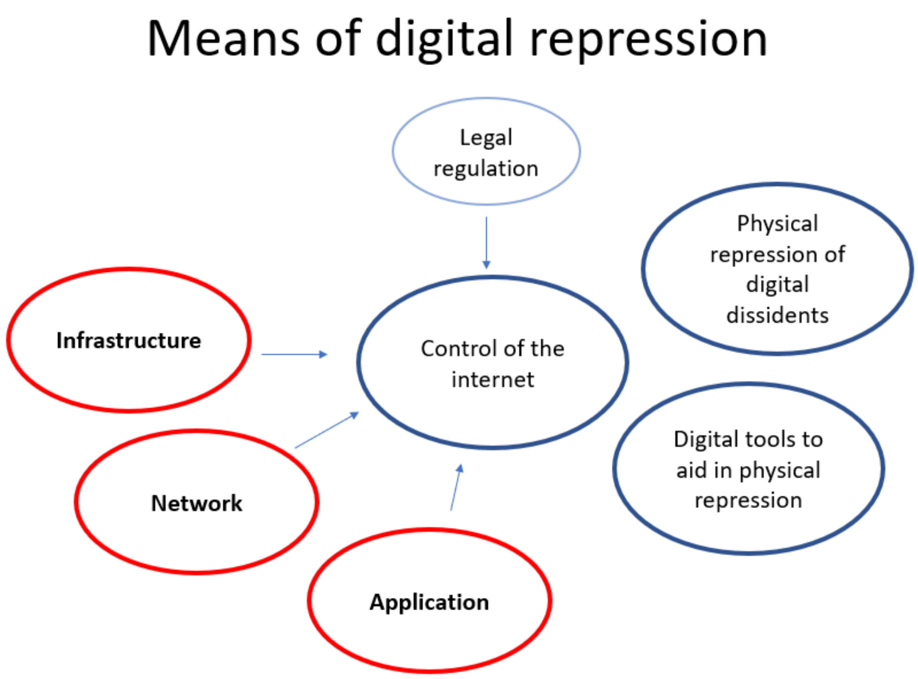
[2] Software that runs automated tasks

information to divert attention away from posts that are damaging to the regime (Roberts, 2018) a strategy with documented use in amongst other Russia (Stukal et al., 2022), Saudi Arabia (Leber & Abrahams, 2019) and China (King et al., 2017). Burgeoning technologies like deep fakes (digitally generated audio or visuals that is hard to distinguish from the real person it imitates) and micro targeting (individual tailored digital messaging) can further be used to create credible alternative narratives or discredit the opposition (Frantz et al., 2020; Roberts, 2020).

Figure 1 summarizes the different levels governments can target when using means of digital repression. Following the previous literature, I will mainly focus on means of digital repression that target the three layers of internet control (as highlighted in red below).

Figure 1 Summary of digital repression.

Highlighted in red are the three technological layers governments can use to control the internet. These are (1) the infrastructure layer, (2) the network layer and (3) the application layer.



Strategic repression

Traditionally, the "Law of Coercive Responsiveness" has influenced the field of repression research, stating that states repress when dissent is observed (Davenport, 2007). However, recent research has questioned this sequencing pattern and argued for strategic anticipation. Ritter and Conrad (2016) convincingly argue that a state's decision to repress and citizens' decision to dissent are endogenous and strategically linked by past and anticipated incidents on both sides. In autocracies with already high levels of repression, dissent might not lead to more repression as this previously has proved ineffective in impeding collective action. Ritter (2022) argues for the same observational challenges on online dissent and repression.

A growing body of literature supports the argument that states repress pre-emptively, seeking to prevent dissent before it manifests. For instance, repressive levels are increased when a neighbouring country experience civil war and unrest (Danneman & Ritter, 2014), a country's youth population is disproportionally large (Nordås & Davenport, 2013), to prevent the formation of an organized opposition (Sullivan, 2016) and on the anniversaries of key historic events, high-level meetings and international sport events that create a predictable opportunity for mobilization (Truex, 2019).

Autocratic regimes think long term about their repressive capacities and strategies, building institutions and infrastructure best suited to deter dissident and avoid global attention. Research on traditional repression show that autocracies build repressive institutions navigating the coercive dilemma (coup-proofing vs. deterring popular protest) (Greitens, 2016), shift from killings to disappearances to avoid proof of their misconduct (Payne & Abouharb, 2016) and intensifies restrictions on monitoring actors like civil society when ratifying human rights treaties (Bakke et al., 2020). Similarly, establishing and maintaining control of the internet is a long-term strategy that requires building platforms for e-governance, centralization of the internet, advanced technical filtering and blocking infrastructure, highly skilled technical personnel, and professional producers of propaganda (Earl et al., 2022; Weidmann & Rød, 2019).

International sport events and the scrutiny-publicity dilemma

Hosting an international sport event, like the Olympics or the men's FIFA World Cup,[3] comes with a large amount of publicity that the regime can use to increase its legitimacy and hold on power. Domestically, tournaments offers regimes the ability to co-opt and distribute wealth to elites and allies via contracts, positions, and other privileges (Scharpf et al., 2022). And, organizing successful events and winning medals can also boost national pride and unity (Bertoli, 2017; Depetris-Chauvin et al., 2020; Manheim, 1990; Steenveld & Strelitz, 1998).

[3] Increasingly also the women's world cup receives more attention and recognition.

Internationally, hosting successful events can increase a country's standing as well as serve as an alternative mean of power rivalry (Brancati & Wolhforth, 2021; Grix & Lee, 2013; Rhamey & Early, 2013). For instance, the 1964 Tokyo Games helped put Japan on the map as an economic force, even though the country had started its growth years before this (Manheim, 1990).

The attention following these events is also a unique opportunity for opposition groups to voice their grievances and mobilize the population. The presence of international media alters the rules of the game as the regime will be hesitant to squash protest violently with the world watching. With fewer constraints than domestic media, international journalists are likely to critically investigate the human rights conditions in the host country and broadcast their findings to a global audience (Scharpf et al., 2022). For an international sport event to have the desired positive effect on co-optation and legitimacy at home and abroad, it is therefore crucial to navigate the scrutiny-publicity dilemma caused by international sport events. Repression appears as the central tool to avoid domestic opposition from using the event as a springboard to catch the world's attention and empathy. Yet, repression needs to be used carefully, so that it deters dissent while at the same time increasing the country's appearance as respecting human rights.

To avoid (further) negative press, Bowersox (2016) find evidence that when autocratic hosts are confronted with reports of their human rights violations, they increase respect for human rights in the time from host selection to event implementation. Conversely, Scharpf et al. (2022) find that autocrats navigating the scrutiny- publicity dilemma, rather than decreasing repression, adjusts it to become more hidden. Using the case of the FIFA World Cup in Argentina in 1978 they find that repression in host cities increased prior to and decreased during the event, became more covert as the tournament approached as well as being timed to collide with the working schedule of international journalists. Using data estimating state killings (Fariss et al., 2020) the results of a global analysis from 1945 – 2020 show that state sponsored killings in host nations increase drastically one to two years ahead of an event and decreases sharply in the year of the event, before returning to normal levels at the end of the event window (+/- 4 years from the year of the event) (Scharpf et al., 2022). In figure 2 below, I replicate their findings to better illustrate this pattern.

The 1988 Olympic Games in Seoul, South Korea serve as a good example of what can happen when a regime mismanages the scrutiny - publicity dilemma. In the run up to the games, the foreign press played a significant role in conveying a negative image of the - then autocratic -

government and bestowing legitimacy on the opposition movement. This caused the opposition to grow stronger and it ultimately yield concession from the government, causing amongst others changes in the electoral law that led to the breakdown of the regime (Manheim, 1990).

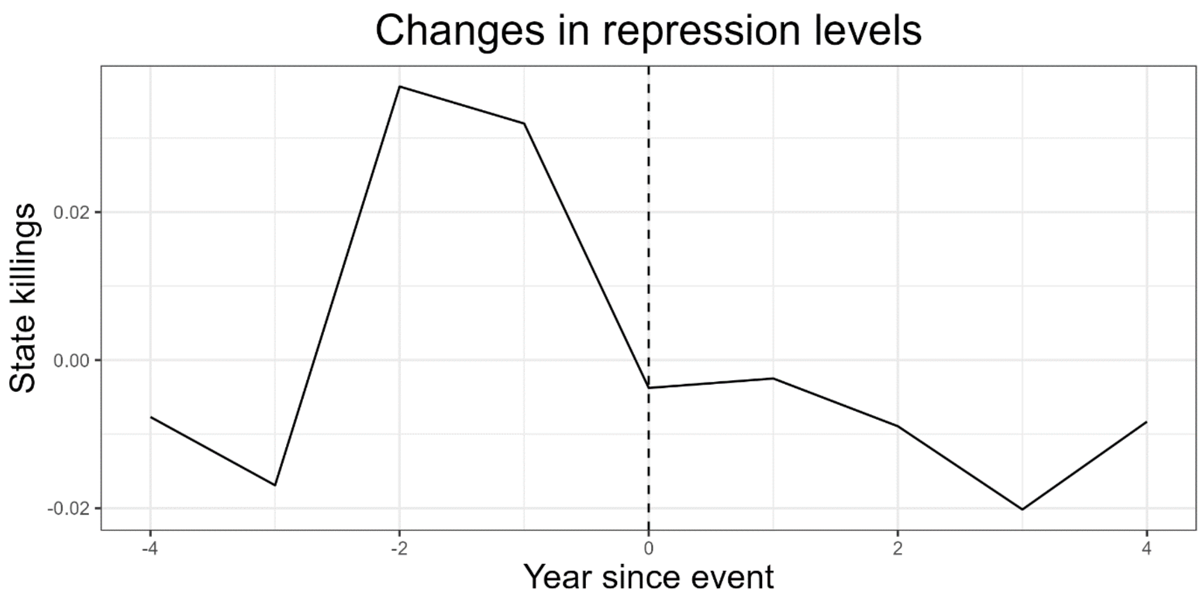


Figure 2 Changes in state killings

Replication of Scharpf et al. (2022) figure 11, showing average killings (1945-2020) by year since the event. Scores are standardized using demeaning to account for structural differences between events and hosts. Tournaments included are the Summer and Winter Olympics, FIFA World Cup, Copa América, Asia Cup and Africa Cup. Tournaments that overlap in the +/- 4-year range are removed from the analysis.

The central mechanism in Scharpf et al.'s (2022) model is that killings must be reduced during the event because of its highly noticeable nature. Yet, because most forms of digital repression goes unnoticed, it can be expected that the scrutiny-publicity dilemma has different implications for digital repression than traditional repression. To better understand the effects of international sport events in the 21st century it is therefore pivotal to investigate whether patterns of digital repression differ from traditional repression in terms of such events.

3. Theoretical expectations

My point of departure is that the scrutiny-publicity dilemma as described in Scharpf et al. (2022) and outlined in the previous chapter, changed in the 21st century with the spread of modern information and communication technologies such as the internet and social media. I develop hypotheses that test the scope of the scrutiny-publicity dilemma by applying it to the capacity for and the actual use of digital repression. The assumptions made by Scharpf et al. suggests that autocrats see international sport events as a chance to increase legitimacy at home and abroad as well as co-opting allies through lucrative contracts and positions. At the same time, the increased attention from international media can reveal human rights abuses and be leveraged by the opposition to gain concession from, and potentially oust, the regime.

As outlined above, I focus on the parts of digital repression that refers to using digital tools to control the internet and will hereby use the two terms interchangeably. I start from the observation that digital repression is frequently used by autocrats to control information flow (e.g. Hellmeier, 2016; Martin, 2019; Roberts, 2020; Stukal et al., 2022) and collect information on dissenters and disgruntled citizens (e.g. Fuchs, 2013; X. Xu, 2021). Both features of digital repression seem to mitigate the risks of foreign scrutiny in ways similar to that of physical repression. Public protest and negative reporting are deterred by manipulating information as well as controlling beliefs about the larger informational environment (Earl et al., 2022). Surveillance and digital crackdowns, like for example blocking of news outlets, have further chilling effects on mobilization and can prevent people from posting and speaking out (Lutscher & Ketchley, 2022; Stern & Hassid, 2012).

I thus expect that digital repression, just as physical repression, is used to minimize the odds of the regime being exposed for its human rights violations, whilst ensuring that the regime reaps the benefits of increased legitimacy and co-opted allies (Scharpf et al., 2022) If, however, the regime is caught using digital repression towards these ends, this could cause the opposite of what they are trying to achieve. The regime is confirmed as a human rights violator on the international stage and the opposition can leverage the situation to yield concessions from the regime. A successful use of digital repression thus hinges on its ability to go unnoticed. Figure 3 provides a simplified illustration of this theoretical mechanism.

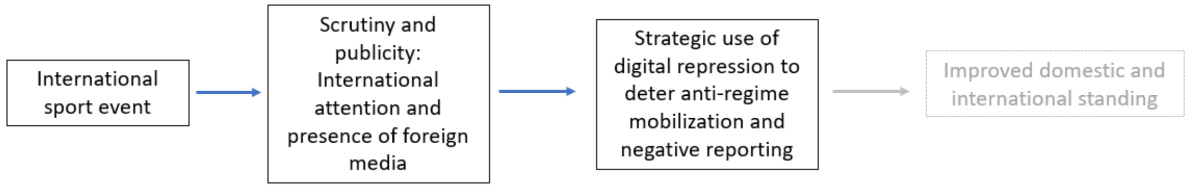


Figure 3 Causal assumptions in the scrutiny-publicity dilemma

Adapted from Scharpf et al. (2022). Grey box indicating the preferred regime outcome.

As the literature on repression shows, regimes repress pre-emptively and build long-term repressive institutions (e.g. Earl et al., 2022; Ritter & Conrad, 2016; Truex, 2019; Weidmann & Rød, 2019). In line with this as well as the finding on increased state killings prior to the event (Scharpf et al. 2022), I expect to see an increase in digital repressive capabilities and actions before the event. For regimes to be able to repress effectively, they need infrastructure and agents that are best suited to the task, this needs to be in place in advance of the event. Better control over the internet will facilitate information collection and control in advance of the event to ensure compliance in the population, discourage dissent, hide online evidence of human rights violations, and impede negative reports from foreign media. I thus expect that:

Hypothesis 1a: Prior to the event the capacity for digital repression increases.

Hypothesis 1b: Prior to the event actual use of digital repression increases.

During the event, attention from international media and audiences are at its peak, this caused a decrease in state killings according to Scharpf et al (2022). The literature on repression highlights the difference between overt and covert repression. I hypothesize that digital repression, as a form of repression that often is performed covertly, does not need to be subjected to the same strategic adjustment as physical repression. This implies that digital repression does not need to be decreased during the event year in order for the regime to achieve the goal of deterring dissent and negative reporting while simultaneously boosting the regime's human rights image. Earl et al. (2022) provide a typology of digital repression according to overt or covert actions. Of the repressive acts pertaining to control of the internet, digital surveillance, online regulations, and filtering disguised as service errors and disinformation are categorized as covert. Conversely, e-governance platforms, limited and blocked access to the internet, content filtering and blocking as well as flooding of online spaces are categorized as overt types of digital repression. However, Roberts (2020) shows that authoritarian regimes have successfully adopted their censoring strategies to diminish both awareness of censorship as well as demand for uncensored information. She argues convincingly that flooding, blocking, and filtering of websites can be viewed as covert forms of censorship.

As Deibert (2019) points out, we daily, but not knowingly, consent to our digital information being sold and exploited. While the public gradually comes to understand the surveillance and influence it is subjected to in the digital arena, it is still difficult to understand the consequences of this. To be caught spying or disseminating false information can be damaging to the regime, as both China during its 2022 Olympic games and Egypt at COP27 experienced when they received harsh criticism for designing event apps that violate conventional privacy standards (Knockel, 2022; Michaelson & Milman, 2022). However, these types of violations appear less grave than killing dissidents. Some of the effect of digital repression thus seems to lie in its ability to cover and augment other types of repression. Nonetheless, the cost of repression seems to be significantly reduced while the benefits are increased when swapping physical for digital repression.

Digital repression thus appears to be less visible and less grave to be caught doing than physical repression. It is unlikely that the scrutiny-publicity dilemma would cause digital capacity to decrease, this is after all not repression per se, but something that might facilitate it. Applying this logic to the case of state killings, I would not expect a regime to reduce its number of agents, but I would expect a reduction in actual killings or other physically repressive actions. Therefore, I expect that the level of capacity during the year of the event does not decrease (as it would be in the case of using physical repression) but increase as it is, in particular, needed during the year when the event is taking place. Concerning the actual use of digital repression, here too, I expect that levels should not decrease during the year of the event but increase. This is because (as discussed above) digital forms of repression are usually much more covert and thus less likely to be seen by domestic and international observers. I therefore expect that:

Hypothesis 2a: During the year of the event, capacity for digital repression will increase.

Hypothesis 2b: During the year of the event, actual use of digital repression will increase.

Finally, as digital repression is cost efficient (both in economical and reputational terms) and covert (e.g. Earl et al., 2022; Feldstein, 2019; Frantz et al., 2020), I expect that the regime will keep its digital repressive capacity in place after the event is over as well as continuing to use this in practice. While Scharp et al. (2022) suggest that killings return to normal levels after four years, international sports events could alter a regime's digital repressive trajectory both in terms of capacity and use in the long term. I therefore expect that:

Hypothesis 3a: After the event is over, the capacity for digital repression will not decrease.

Hypothesis 3b: After the event is over, the actual use of digital repression will not decrease.

4. Method

Data description

Measuring autocracy

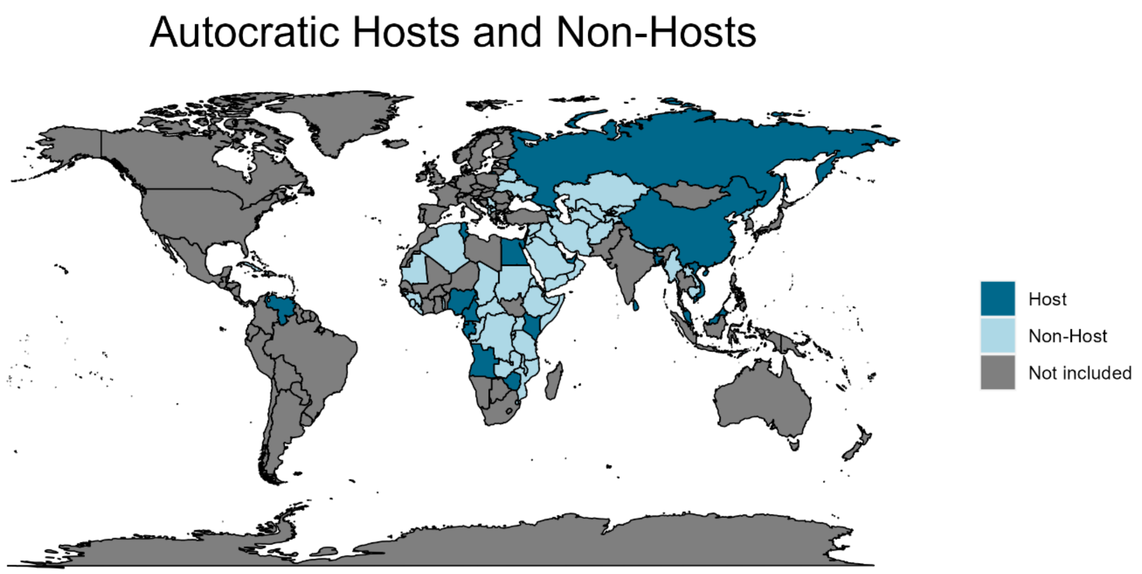
To measure if a country is autocratic or not, I use the Varieties of Democracies Electoral Democracy Index that is based on Dahl's (1971) concept of polyarchy. The index is based on measures of freedom of association, freedom of expression, free and fair elections, if officials are elected and the share of population with voting rights (Teorell et al., 2023). Compared to other minimal measures that focus on elections and voting rights only (e.g. Boix et al., 2013), the polyarchy index adds a measure of what happens between elections and represents a more substantial measure of democracy (Boese, 2019). This matches with the purpose of my analysis, estimating nuanced changes in digital repressive actions and capabilities. The polyarchy index ranges from 0 to 1. To operationalize autocracies, I use the cutoff point of 0.5 as suggested in Lührmann et al. (2018). That is, I consider a country as autocratic in a given year if the polyarchy score is below 0.5. Similar to the original coding, Lührmann et al. (2018) treat the different indicators included in the polyarchy index as partly substitutable. Consequently, weaknesses in one indicator can be compensated for by strengths in another indicator. A total score below 0.5 suggests that the indicators collectively show weak democratic traits, and that the country is more autocratic than not. I later run tests with different cutoff points and measures of autocracy. Data on digital repression is only available from 2000, which is around the same time internet penetration and web applications started to grow exponentially. I therefore limit my analysis to the years 2000 – 2022.

To construct my sample of autocracies, I select all countries that are considered as authoritarian in the year 2000 as discussed above. This produces an initial sample of 91 authoritarian countries. This approach might exclude countries that became authoritarian after 2000 and who have hosted sport events. I therefore check whether there are any hosts that are autocratic in the year of the event that I have excluded in this initial sample. If they have been autocratic for five years prior to the sport event, I choose to include them in my sample of autocratic countries. The five-year range is chosen for theoretical as well as practical reasons. All though such a limit ultimately is arbitrary, an autocratic trend lasting five years suggest a general weakening of democratic institutions and norms, and that the decrease in polyarchy score is not due to the short-run and temporary effect of an abnormal event. In addition, this matches with the minimum number of observations required to estimate my model that I will explain in more detail in the next chapter. Following this criterion, I add the hosting countries Bangladesh, Venezuela, and Sri Lanka to my sample as they were autocratic in the year of the event, as well as the preceding five years. Furthermore, I remove countries that were selected as event hosts and later lost hosting rights due to different security and organizational issues and have not been rewarded another event since. Changes in digital repression in these countries might reflect an expectancy of hosting an event that never was implemented. This could lead to a negative bias in the effect estimates if not controlled for. Following this criterion, I remove Ivory Coast, Libya, Morocco, and Pakistan from the sample. In a final sample adjustment, I remove hosting countries that were recorded as being autocratic in 2000, but became democratic before hosting an international sport event. Changes in the capacity for and actual use of digital repression in these countries might be affected by other constraints than in autocracies. This leads to the removal of Peru who had a polyarchy score of 0.8 when it hosted the Copa América in 2004. In total, this leaves a sample of 89 autocracies or 2047 country-years to be used in the main analysis. Out of these 89 autocracies, 19 have hosted an international sport event during the sampling period.[4] Figure 4 shows the countries included in my sample of autocracies, hosts are indicated by the dark blue colour, and non-hosts by the light blue colour.

[4] See full list of host and non-hosts as well as an overview over international sports events included in Appendix A, table 1. See also individual country plots over autocracies with democratic country-years in figure A1.

Figure 4 Map over countries included in the analysis.

Autocratic hosts are indicated with the dark blue colour, and autocratic non-hosts in the light blue colour. Countries in grey are not included in the sample.



Measuring digital repressive actions and capabilities

To measure the capacity for and actual use of digital repression, I follow Frantz et al. (2020) and construct two indexes using data from the Digital Society Project (Mechkova et al., 2023), a component of the V-Dem project (Coppedge et al., 2023; Pemstein et al., 2023). One index measures the capacity for digital repression (named the digital capacity index) and the other index measures the actual use of digital repression (named the digital repression index).

The digital capacity index is constructed using the variables (1) internet filtering capacity, (2) internet shut down capacity, (3) cyber security capacity and (4) capacity to regulate online content. Internet filtering capacity measures to what extent the government has the technical capacity to block specific websites. Internet shutdown capacity measures the potential share of domestic internet connections that the government is able to cut off or slow down to inhibit functionality. Cyber security capacity measures if a government has sufficiently trained technological staff and the resources to combat cyber-attacks, such as intruders taking control of official websites and social media accounts, stealing information or disrupting functions. Finally, capacity to regulate online content measures if the government has sufficient staff and resources to make sure online activity is in accordance with existing laws (Mechkova et al., 2023). Together the index measures a government's capacity, in terms of both staff and other resources, to intervene in the digital sphere, independent of whether the government does so in practice (Frantz et al., 2020). Higher levels indicate more capacity. The Cronbach alpha score for the different indicators is 0.887 in my sample. This indicates that the index has a good scale reliability, and captures different dimensions of the same overarching concept.

The digital repression index is constructed using the variables (1) internet filtering in practice, (2) internet shut down in practice, (3) social media shut down in practice, (4) use of state controlled social media, (5) social media monitoring and (6) social media censorship in practice. When speaking about the "internet", the creators of the dataset refer to all public and private digital networks worldwide. Social media refers to a subset of internet platforms that people can use to create and share content. This includes both public and semi-public platforms like Instagram, Facebook, Twitter/X and LinkedIn, as well as private messaging and network platforms such as WhatsApp, Signal and Snapchat (Mechkova et al., 2023). Internet filtering is measured as how often the government blocks specific websites that contain critical political content. Internet shutdowns measure how often the government halt or slow down domestic access to the internet at large, and social media shutdowns measure how often the same measures are applied to social media platforms only. Use of state controlled social media measures the share of social media activity that takes place on government controlled platforms. Monitoring of social media measures how comprehensive surveillance of social media content is in terms of both type of content (only political or also more general content) and how often this is done (never, limited, and all the time). Finally, social media censorship measures to what degree the government deletes or blocks induvial social media posts with political messaging (Mechkova et al., 2023).

Overall, the digital repression index includes measures of both frequency and the degree of actual use of different repressive means, however the measure does not tell us how long blocked webpages remain inaccessible. Taken together, the index measures how a government uses friction and fear to raise the cost of consuming and sharing critical information. As there is no data measuring the use of flooding, this type of censorship technique cannot be analysed. To ease interpretation, I have reversed the scale of the index so that higher values correspond to more digital repression (similar to the digital capacity index). The Cronbach alpha in this sample is calculated to 0.948, indicating a good scale reliability. The differences in the scale reliability between the two indexes suggest that measures of digital repression are more correlated than measures of digital capacity, similar to the finding of Frantz et al. (2020).[5]

Together, the indexes measure government manipulation of the internet through the infrastructure layer (e.g. internet shutdowns), network layer (e.g. internet filtering) and the application layer (e.g. monitoring and deleting of social media posts) as referred to above (Keremoğlu & Weidmann, 2020). Table 1 shows summary statistics for the digital capacity index and the digital repression indexes, as well as for the individual index components. The data is originally coded on an ordinal scale from 0 – 4 and then converted to an interval scale using the measurement model (Mechkova et al., 2023; Pemstein et al., 2023).

Operationalization of Digital Capacity and Digital Repression

Variable Name	*N*	*Mean*	*St. Dev.*	*Min*	*Max*
Internet Filtering capacity	2,047	0.194	1.304	-3.057	2.943
Internet Shutdown capacity	2,047	0.288	1.206	-2.700	2.507
Cyber Security Capacity	2,047	-0.414	1.333	-3.249	3.329
Capacity to Regulate Online Content	2,047	0.196	1.285	-3.177	3.618
Digital Capacity Index	**2,047**	**0.066**	**1.109**	**-2.648**	**2.744**
Internet Filtering in Practice	2,047	0.429	1.421	-2.500	3.898
Internet Shutdowns in Practice	2,047	0.073	1.248	-1.989	4.169
Social Media Shutdown in Practice	2,047	0.026	1.318	-1.900	3.980
Use of State-Run Social Media	2,047	0.020	1.307	-2.103	4.043
Social Media Monitoring	2,047	0.590	1.249	-2.177	3.702
Social Media Censorship in Practice	2,047	0.346	1.325	-2.097	4.901
Digital Repression Index	**2,047**	**0.247**	**1.170**	**-1.883**	**4.116**

Table 1 List and summary statistics of indexes and index components

Note that the digital repression index as well as the variabeles used to contruct this index is rescaled.

[5] At the same time, this statistic indicate that experts have a hard time distinguishing different types of digital repression and that the assessment of individual parts are highly correlated.

The two indexes have a positive correlation of 0.6.[6] Figure 5 below shows the relationship between the indexes when regressing digital repression on digital capacity using my sample of autocracies. When the capacity for digital repression increases by 1, actual use of digital repression is estimated to increase by 0.62. Keeping in mind that no controls are added, this suggest that when a country increases its digital capacity by 10 %, the corresponding change in actual digital repression would only be around half of this, with an estimated 6 % increase. As is clear from the figure, North Korea presents as an outlier with capacity for and actual use of digital repression being substantially higher than in other countries.

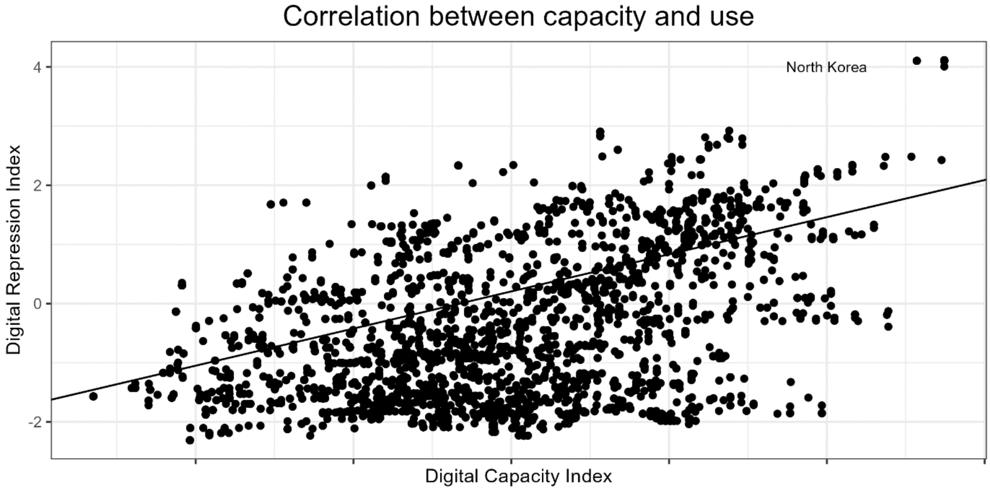


Figure 5 Plot of over the relationship between the digital capacity index and the digital repression index.

Dots are all country-years included. The line is OLS fitted showing the estimated change in digital repression when digital capacity increases. The outliers in the upper right corner are observations from North Korea. The slope is estimated to 0.62, slightly higher than the correlation coefficient (0.6).

Measuring international sport events

Two conditions are necessary to trigger the scrutiny-publicity dilemma: audiences and broadcast reach. For publicity, it is important that the event maximizes exposure by drawing the attention from media and audiences all over the world. For scrutiny, it is important that the event captures the interest of media and audiences that attach a high priority to human rights.

[6] Calculated using Pearsons R

For critical reporting to have a negative impact on the host, it needs to translate into actions and sanctions by relevant actors such as democratic governments and INGOs.

To measure if a country has hosted an international sport event, I have record events from nine types of international sport tournaments in the period 2000 - 2022. Out of these, six event types are in the original analysis made by Scharpf et al. (2022). These are Summer and Winter Olympics, FIFA World Cup, Copa América, AFC Asian Cup and Africa Cup of Nations. These events are held at fixed yearly terms, rotate on host, have a large audience reach and attract attention from all over the world, including in democratic countries. Following these criteria, I add three events that meet similar requirements: the FIBA Basketball World Cup, the World Athletics Championship, and the ICC Cricket World Cup. A concern might arise over the relevance of the Cricket World Cup in Western democratic countries. However, large nations like Australia and Great Britain are keen participators and audiences of this event, and calls to respect human rights have been made as the ICC was lobbied to ban Taliban-ruled Afghanistan from a tournament in 2023 (Sharma, 2023). To control for potential bias stemming from including cricket events, I will later conduct a robustness test removing host of these events.

Data on events was collected through systematic internet searches of open internet sources. My main sources are publications from event owners (e.g. sport federations such as FIFA, FIBA, and IOC) and news articles. It was particularly difficult to find the dates for official host selection as well as a reliable estimate of broadcast reach. Through cross-referencing of sources I have identified the most reliable estimates of dates and reach.

Except for the Olympics and Athletics Championship that host competitions for men and women at the same time, all events are men’s edition due to lower broadcast reach for the women’s editions. Lower broadcast is also the reason why other world cups such as the World Championships in Handball and Volleyball are not included. As table 2 shows, there were a total of 65 events in the time period between 2000 – 2022 hosted by 45 different countries (not taking into account regime type).

List of International Sport Events

Event	*Number of events*	*Number of events co-hosted*	*Broadcast reach early 2000's (in billions)*	*Broadcast reach current (in billions)*
Summer Olympics	6	0	3.7	3.0
Winter Olympics	6	0	2.2	2.0
FIFA World Cup	6	1	-	3.5
FIBA Basketball World Cup	5	0	0.8	3.0
World Athletics Championship	11	0	-	1.0
ICC Cricket World Cup	5	4	-	1.2
CONMEBOL Copa América	8	0	-	1.5*
CAF Africa Cup of Nations	12	2	-	0.8
AFC Asian Cup	6	1	0.65	0.8
Total	**65**	**8**	-	-

Table 2: Overview of international sport events from 2000 – 2022.

Data was collected through systematic online searches and cross-referencing of sources.

**The broadcast reach for Copa América is based on a special 100th anniversary of the tournament in 2016 held in the USA and is most probably higher than the usual reach.*

There is no consistent way that reach through broadcasting and social media is measured between the different event organizers. It is also not reported in a consistent manner where these viewers were located. Nonetheless, the estimates give a clue about the size of the event and the accompanying media attention. Unfortunately, reliable sources for broadcast reach in the start of the sampling period were only available for a few of the tournaments. As shown in table 2, the tournaments included here have a current reach between 800 million to 3,7 billion, with the regional cups drawing considerably less attention than the global events. To control for differences in broadcast reach I will later conduct a robustness test including only hosts of the regional cups.

Eight of the events are co-hosted by different countries, this is the case for tournaments in Cricket, Africa Cup, Asian Cup, and the FIFA World Cup. In some events the number of matches is almost equally distributed between the co-hosts, while in others, the main bulk of the tournament is hosted by only one of the co-hosts. For example, the 2003 Cricket World Cup was co-hosted by Kenya, Zimbabwe, and South Africa. Only a few matches was played in Kenya and Zimbabwe, while the majority of the matches was hosted in South Africa. This could have possible effects on the media attention a host receives, and reduce both the risks and rewards associated with hosting the event. To control for the hosting of shared events, I will conduct a robustness test removing co-hosts from the sample.

Of the autocracies hosting an event, six have hosted more than one event.[7] To analyse changes in the capacity for as well as the actual use of digital repression, I will only include the first event hosted in my main analysis. This is in line with my hypotheses of an increase before as well as after the event (suggesting that events serve as a trigger for governments to increase investments in and use of digital repression). For subsequent events within near temporal proximity, I expect digital repressive levels and capabilities to be already heightened, leading to a potentially negative bias in effect estimates. To control for this, I run a robustness test with treatment coded according to the biggest event. For countries that host only one event, there is no change in treatment. For hosts of several events, treatment is coded based on (1) which event had the largest broadcast reach or (2) if a country previously was a co-host and then hosted an event on its own, the latter is automatically coded as the biggest event. This means, for example that Russia's 2007 World Cup in Athletics is included in the sample containing the first event hosted and that this event is switched out with the 2018 FIFA World Cup in the sample containing the biggest event hosted.[8] For countries that were selected as a host for several events around the same time, increases in digital repression could also reflect an expectation of more events, leading to a potential positive bias in the estimates. Additionally, for events hosted in close temporal proximity of each other, estimates of the effect could capture the effect of two events at the same time biasing estimates one way or the other. I therefore also run a robustness test removing all countries that have hosted more than one event.

Figure 4 shows the distribution of sport events between regime types for all events in both democracies and autocracies from 2000 – 2022. The solid red line indicates the 0.5 threshold between autocracy and democracy, and the blue dashed line shows the average polyarchy score (0.57) among all host countries. Though the sample average indicates that most events

[7] These are (number of events): China (5), Qatar (3), Russia (3), Egypt (2), Equatorial Guinea (2) and Gabon (2)
[8] See list over all event specifications in Appendix A, table 1.

were hosted by democracies, the events are almost equally distributed between the two with 31 out of 65 events being hosted in a country that was autocratic that year. The median score for each event type is indicated by the thick black line in each box. The Africa Cup and Asian Cup stand out as having significantly more autocratic hosts than the other tournaments.[9] Whilst the other event types have a median well over the 0.5 cutoff, the plot shows that all tournaments have some events that have been hosted in far more autocratic countries than the group median.[10]

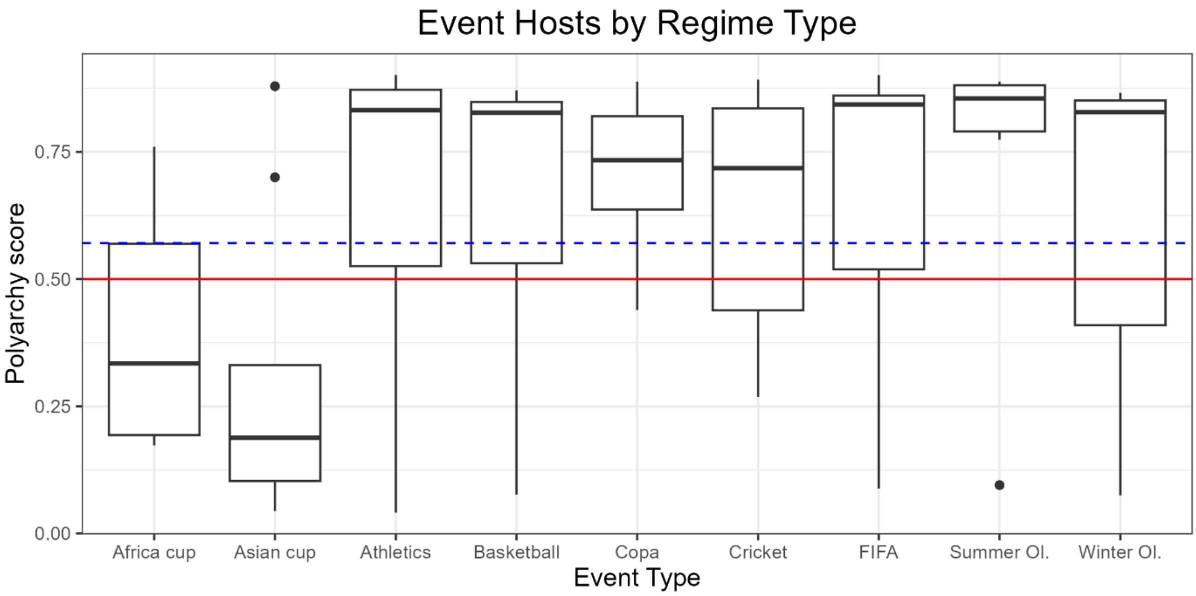


Figure 6 Event hosts by regime type.

The boxplot shows the distribution of polyarchy scores amongst hosts in the year of the event, grouped by event type. The box contains the interquartile range (IQR, equal to the 25th – 75th percentile) with the median represented by the thick black line. Whiskers captures observations within a 1.5 times range of the IQR. Observations outside of this range are marked as outliers. The red line indicate the 0.5 cutoff between autocracies and democracies, and the blue dashed line indicate the average polyarchy score of 0.57.

[9] Which is not unexpected as the share of autocracies are higher in these world regions.
[10] See Appendix A, figure A2 for plots of the polyarchy score by each event type.

Model

To estimate changes in the capacity for and actual use of digital repression when hosting international sports events, I draw on recent advances within the political science literature by using the interactive fixed effects counterfactual (IFEct) estimator (Liu et al., 2022a). The IFEct builds on previous work estimating counterfactuals such as the synthetic control method (Abadie et al., 2015) and generalized synthetic control method (Y. Xu, 2017) and improves on the weaknesses traditional estimators suffer from when applied to data like mine. In short, the IFEct constructs counterfactual outcomes for each treated unit predicting how capacity for and use of digital repression would develop if the country had not hosted an international sport event. These counterfactual estimates are based on data on the outcomes in other autocracies that have not hosted events, while controlling for known covariates. The reliability of my estimates depends on how good the model is at predicting accurate counterfactuals.

Heterogenous treatment effects and time-variant unobservables

When using time-series cross sectional data, it is common to use the traditional Two-Way Fixed Effect (TWFE) estimator. However, the unbiasedness of this estimator have recently been questioned (e.g. Blackwell & Glynn, 2018; de Chaisemartin & D'Haultfœuille, 2020; Goodman-Bacon, 2021). The TWFE estimator assumes that unobserved unit and time effects are stable over time. When this is the case, the estimator is able to partial out these effects from the outcome, producing unbiased estimates of the average treatment effect on the treated (ATT). The estimator also assumes homogenous treatment effect across time, meaning that treatment effect is constant and does not take time to mature or decompose (Stock, 2012; Worrall, 2010).

The TWFE estimator becomes biased when treatment effect varies over time and treatment is adapted at different times for different units. Average treatment effects are calculated within each timing group before a weighted average estimates the overall ATT. In a staggered treatment design, already-treated units is used as controls for later treated units along with never-treated units. In my case, this means that countries that have hosted an event at an earlier point in time, would be used to estimate the effect of international sports events in countries that have hosted an event at a later point in time. The problem arise when treatment increase over time, using the treated outcome of early treatment adaptors as controls risks subtracting "too much" from the outcome on the just treated units. This means that while the actual ATT is positive, the calculated outcome is negative (de Chaisemartin & D'Haultfœuille, 2020). The weights in each timing group is then based on the actual size of the subsample as well as the difference in treatment effect as compared to the control groups (Goodman-Bacon, 2021). Units treated early and late in the sampling period are more likely to get negative weights, and units in the middle of the sampling period is likely to get higher weights. However, this does not automatically make the TWFE estimator biased. If a heavily weighted group reflects the correct ATT, this still leads to unbiased estimates, but caution is required when using TWFE in a staggered treatment design (de Chaisemartin & D'Haultfœuille, 2020; Goodman-Bacon, 2021).

Figure 7 shows the staggered treatment adaption in my sample, the dark blue cells indicate treated periods. In my event-study, the treatment is assumed to "not switch on and off". Once a country has hosted an event, the level of digital repressive capacity and actions is assumed to be affected and the treatment dummy is coded as 1. As the plot shows, some units spend all or most of their time under treatment, for example Lebanon and Egypt. Other countries spend only a few periods under treatment, for example United Arab Emirates and Cameroon. Since it is possible that the effect of international sport events is heterogenous (i.e. change over time), using the TWFE estimator risks introducing bias in the effect estimates.

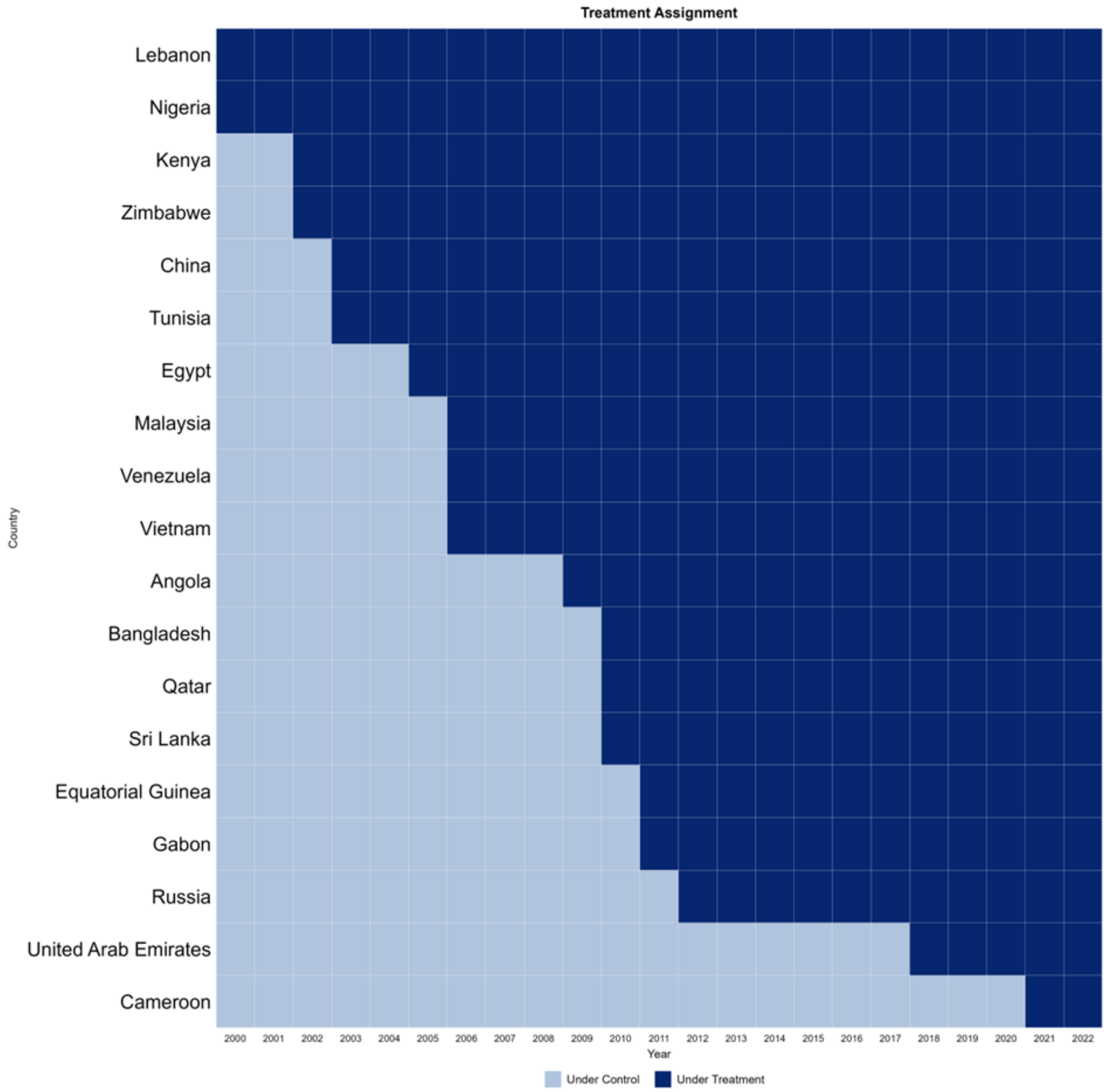


Figure 7 Overview of treated countries and time periods.

Dark blue cells indicate treated periods and light blue cells indicate pre-treatment periods.

The TWFE estimator can also be biased in the presence of unobserved variables that vary over time. Since the effect of such variables is unstable, this type of unobserved time effects cannot be controlled for by using time fixed effects. I expect potential unobserved time-shocks like technological development to affect my outcome variables. To be able to control for this, several researchers have proposed using factor-augmentation to model latent traits that vary over time and affect all units (Bai, 2009; Gobillon & Magnac, 2016; Y. Xu, 2017)

The interactive fixed effects counterfactual estimator

Building on work using factor-augmentation to model time-variant unobservables and constructing counterfactuals to avoid bias in the case of heterogenous treatment effects, Liu, Wang and Xu (2022a) propose a counterfactual estimator framework called the interactive fixed effects counterfactual estimator (IFEct). Here, the potential (counterfactual) outcomes of treated units are seen as a case of missing values. Units under the control condition (never-treated units as well as treated units prior to treatment) are used to build a model and predict counterfactual estimates. By not using already-treated units as controls for later-treated units, and instead matching the treated outcome with the predicted counterfactual (weighted sum of all untreated countries), uniform and positive weights are imposed for all group ATTs, thus circumventing the negative weights problem (Liu et al., 2022a).

In addition, the model allows for visualisation of dynamic treatment effects. This means that I can analyse the effect of international sport events over time, allowing maturing and decomposing of the estimated ATT in line with my proposed hypotheses. By avoiding potentially negative weights in group ATTs and controlling for time-variant factors, the IFEct estimator thus appear to be best suited for identifying the effect of international sport events on the capacity for and actual use of digital repression.

The data generation process assumed by the IFEct estimator is as follows:

$$Y_{it} = \delta_{it}\, Event_{it} + X'_{it}\, \beta + \mu_i + \alpha_t + \lambda'_i\, f'_t + \varepsilon_{it}$$

For i = 1,…, I countries and t = 1,…, T years. The outcome Y_{it} is either capacity for digital repression or actual use of digital repression in country i for year t. δ is the dynamic and changing effect of international sport events in year t for country i. X′ is a vector of observed control variables and β is a vector of parameters to be estimated. Country specific effects are given by μ and year fixed effects by α. Unobserved time-varying confounders for each country i in time t is given by f as a vector of unobserved common time varying factors in year t and λ as a vector of unit specific factor loadings to be estimated (Wang & Liu, 2023), ε is the individual error term.

Since the treated outcome, Y_{it} (1), is given by the data, the key estimand to obtain is the counterfactual outcome Y_{it} (0). Using untreated country periods to fit a model, estimates are obtained by using the expectation-maximum (EM) algorithm. Using probability distributions, the EM algorithm obtains the maximum likelihood function and estimates parameters that have the highest likelihood of describing the observed outcome. For the actual calculation the cross validation is by default set to 10 times when using the *fect* package in *R* (Liu et al., 2022b).

After the model estimates the parameters of β, the number of factors is chosen based on the criteria of minimum mean squared prediction error (Liu et al., 2022a). This means that factors and factor loadings are estimated to minimize unexplained variance and predict the regression line that best describe the observed data. After obtaining these parameters, potential outcomes for treated units are calculated and the ATT is simply the sum of all individually estimated ATTs (Y_{it} (1) - Y_{it} (0)) divided by the number of treated units. When number of factors = 0, the IFEct is equivalent to the Fixed Effects counterfactual (FEct) estimator. To obtain uncertainty estimates, I use block bootstraps (N = 10 000) clustered at the unit level as recommended to account for autocorrelation within countries (Liu et al., 2022a).

Model assumptions

The reliability and validity of the estimates obtained from the IFEct estimator rests on three key assumptions. The model assumes (1) a linear functional form and additive separability of the right-side terms to identify parameters (Liu et al., 2022a). This means that the real-life relationship between the covariates and outcome can be described as linear, and that the model must be able to separate the effects from each covariate to estimate correct parameters (i.e. no multicollinearity). Furthermore, (2) the model assumes exogeneity when controlling for observed and unobserved covariates, meaning that average changes in the predicted counterfactual outcome is the same for all units (Liu et al., 2022a). This means that all variables that affect the outcome are controlled for and included in the model either as observed control variables or as estimated factors. Finally, (3) the model assumes that it is possible to perform a lower rank approximation in order to control for unobserved time-variant factors, labelled by the authors as a feasibility assumption (Liu et al., 2022a). This means that it must be possible to reduce unobservable traits that affect the outcome to one or a few common dimensions that can be represented by as set of factors.

When the assumptions hold, there is no feedback (outcome Y_{t-1} does not affect treatment $D_{t)}$ and estimates are unbiased. It seems plausible that once an event is awarded (treatment assigned) the capacity for and use of digital repression does not affect the occurrence of the event (there are no recordings of events being withdraw due to other than general security concerns in the sampling period). To help fulfil the exogeneity assumption, I will further control for likely confounding variables such as a country's macro political and economic factors.

While common TWFE models assume no anticipation and carryover effects (D_t does not affect Y_{t-1} or Y_{t+1}), I explicitly model carryover effects to estimate the cumulative treatment effect of international sports events. In my theoretical section I have described that we should expect an anticipation effect, with increase in capacity building and the use of digital repression prior to the event. Supporting this expectation, descriptive results show large increases in digital capacity and repression in the year prior to the event (see figure 9 and 10 in Chapter 5). I therefore assign my treatment (international sport event) to countries in t-1, assuming an anticipation effect of one year (D=1 for t_{-1}, t_{0+1}…. T). That having been said, this decision is still rather inductively derived, and there may still be potential anticipation effects present. Yet, if at all, they should adjust potential positive effects downward, making my estimates more conservative. I will conduct tests with treatment assigned to earlier years to check for anticipation effects in the robustness test section.

Potential confounding variables

Research into what characterize winning bids for hosting international sport events shows that events are awarded based on economic, political, demographic, geographic and sports cultural variables.[11] Research suggests that high levels of GDP per capita, growth rates, human development as well as a focus on sustainable development (particularly emission mitigation) improve winning chances (Lee & Chappelet, 2022; Maennig & Vierhaus, 2017; Poast, 2007). A positive trajectory and strengthening of political rights ahead of the event can also increase chances of being selected (Maennig & Vierhaus, 2017). A country's sport culture also plays into the decision in terms of existing available infrastructure, previous experience with hosting international sport events, general interest and international success in the sport as well as support for the event in the population (Lee & Chappelet, 2022; Maennig & Vierhaus, 2017). For events like the Olympics, a large urban population also show a positive

[11] The following characteristics are based in large parts on research on winning Olympic bids. I consider this a maximalist option that includes the necessary characteristics of winning bids in smaller tournaments. While countries self-select into bidding for events, the decision of whom is awarded an event is based on the characteristics listed. When controlled for, these should level out biases within treatment assignment.

relationship with host selection (Maennig & Vierhaus, 2017). In addition, continental diversity and rotation on hosts is important in the international tournaments (Poast, 2007).

Traditional repression research has identified several variables that affect repression. GDP per capita and economic growth have a consistent negative relationship with repression, meaning that poorer countries tend to use more repression (Davenport, 2007; Fearon & Laitin, 2003; Poe & Tate, 1994). There is disagreement about the causal mechanisms behind this. Some authors argue that fewer resources increase social grievances and limit the regime's ability to use other means of control (Davenport, 2007), while others see it as a proxy for inefficient and less competent governments (Fearon & Laitin, 2003). Other economic factors like level of inequality and conditional trade agreements have also been shown to affect repression (Davenport, 2007; Henderson, 1991).

Another consistent finding in the literature is that democracies repress less. By promoting civil liberties, providing horizontal accountability, and punishing ill-suited leaders at the polls, more restraints are placed on executives in power (Davenport, 2007; Henderson, 1991; Poe & Tate, 1994; Ritter & Conrad, 2016). However, movement up and down the democratization ladder can cause instability and have given grounds to the "more murder in the middle" hypothesis, suggesting a non-linear relationship between repression and democracy (Davenport, 2007; Fein, 1995).

Furthermore, population size appears to have a positive effect on repression while researchers disagree if population growth affect levels of repression (Fearon & Laitin, 2003; Henderson, 1991; Poe & Tate, 1994). In addition, countries that experience civil or international war have an increased probability of violating physical integrity rights (Poe & Tate, 1994).

As digital repression acts as an extension of an already existing repression strategy, there is good reason to assume that the same drivers for traditional repression affect digital repression (Earl et al., 2022). Indeed, Hellmeier (2016) finds that conflict and regime changes in neighbouring countries as well as restrictions on oppositional activity increased use of internet filtering in autocracies. Certain characteristics might drive different forms of digital repression and influence its development. For example, research has shown that dependence on international trade reduce the opportunity the government has to shut down the internet (Feldstein, 2021) and the availability of VPNs and secure servers might increase the use of flooding techniques (Roberts, 2018). However, research suggest that some common and additional factors might be shaping digital repression in autocracies (Earl et al., 2022).

Importantly this includes the availability and use of the internet in the population, as well as an added focus on demographics in terms of age and educations levels. Recent research suggests that people with higher education are more likely to be the victims and perpetrators of Denial of Service-attacks (Asal et al., 2016) as well be more likely to evade censoring attempts (Roberts, 2018). Furthermore, while government's have always been wary of youths (Nordås & Davenport, 2013), generations of more digitally adapt people might cause digital repression to increase more in countries with a high proportion of youth as opposed to countries with an even demographic distribution (Earl et al., 2022).

Repression researchers emphasise the need to analyse digital repression within the broader repression context of a country (Earl et al., 2022; Hellmeier, 2016). Indeed, Feldstein (2021) finds that regimes that depend on traditional repression to maintain power are more likely to engage in digital repression. Similarly, countries where the opposition and mobilization against the regime is considered more of a threat will tend to use more digital repression (Earl et al., 2022; Feldstein, 2021; Hellmeier, 2016).

To sum up, GDP per capita, democracy level, and conflict appear as potential confounders that affect both international sport events and digital repression. Therefore controlling for these variabels are necessary to avoid omitted variable bias. Internet usage, level of education, population size, and share of youths are highligted in the literature as drivers of digital repression (and it is likely that they also affect hosting international sport events in the 21st century). Finally, physical and civic repression as well as protest affect both each other (Ritter & Conrad, 2016), the outcome digital repression, as well as being affected by several other controls. I therefore consider them to be potential confouding variables but also potential colliders (e..g, digital repression affect traditional repression, similalrly hosting an event affect traditional repression). See the full list of control variables in the Appendix B, table 2.

Limitations of the data

I use V-Dem data for both dependent variables as well as for some of the controls. This data is constructed based on country expert's ratings of unobserved country characteristics in a given year. Each observation is based on several different expert ratings and converted to point estimates using item response theory models to systematize difference in opinions amongst the coders as well as random errors (Pemstein et al., 2022). Nonetheless, the reliance on subjective perceptions of a latent concept leaves room for error. Especially so for the dependent variables, as digital repressive capacity and actions, are not only latent, but covert of nature. Governments have a vested interest in hiding levels and use of such tools. Use of digital repression can be hard to discover and document, but digital capacities might be even harder to detect, as a government might seek to hide purchases and developments within its repressive apparatus. Therefore, it can be hard to know a governments capacity before this is manifested in specific digital repressive actions. Additionally, one potential bias that now may arise when exploring the relationship between international sport events and these outcomes is that experts rate the capacity and use of digital repression as higher only because there are more reports about such uses during event years (as the country is in the centre of attention).[12]

The data is further limited to aggregated estimates on a year level. This suits the objective of the analysis as I am interested in the development of the capacity for and actual use of digital repression over several years. However, measuring development in the year of the event, repressive episodes might be overlooked or lose its significance in the overall year-estimate if the country in general show no or little sign of changes in digitally repressive capabilities or actions. There is no way of analysing changes specific to the tournament period (typically a couple of weeks). The onset period is also potentially biased by the year-aggregate if the ramp up happens towards the end of the calendar year. Despite this, V-Dem appears to be the best data available to estimate drivers of digital repressive capabilities and actions on a general level, comparing autocracies from around the world.

Finally, there are unfortunately only a few treated countries in the sampling period (N=19). This makes the analysis prone to potential outliers and limits the exploration of heterogenous treatment effects. Moreover, it limits the statistical power of the analysis, making it more difficult to identify effects, and reducing the information conveyed by potential null-findings. As the years go by and more international sports events take place, future research would benefit from an increase in the number of events hosted.

[12] Future studies could try to include data on how often a country is mentioned in the international press per year to somewhat control for this bias.

5. Evidence and supporting arguments

Descriptive evidence

Figure 8 shows the average capacity for and use of digital repression by calendar year.[13] First note that the red line indicates autocracies that at some point have hosted an event, and that the blue line indicates non-hosting autocracies. The grey line indicates democratic countries that have hosted the same international sport events during the sampling period. This line is cut out in the plot showing digital repression, due to the fact that actual use of digital repression is significantly lower in democracies.[14] Thus, including democratic host countries as a reference line would increases the scale in such a manner as to conceal the difference in use of digital repression between autocratic hosts and non-hosts. However, in the capacity plot, democratic hosts are added as a reference line showing much more similar levels to autocracies, a finding similar to Frantz et al. (2020). The top plot shows that both autocratic hosts and non-host increase levels of digital repressive capacity in the time period, however, hosts generally display higher levels. The bottom plot showing actual use of digital repression displays a bigger divergence between autocratic hosts and non-host. While both groups seem to increase use of digital repression, the hosting group does not display one smooth trend of increase and there is a marked decrease from roughly 2010 – 2013. Also here, autocratic hosts have in general a higher levels than autocratic non-hosts.

[13] See plots for individual countries in Appendix C, figure C1.
[14] Digital repression levels range from -1.4 to -1.2 in democratic host countries.

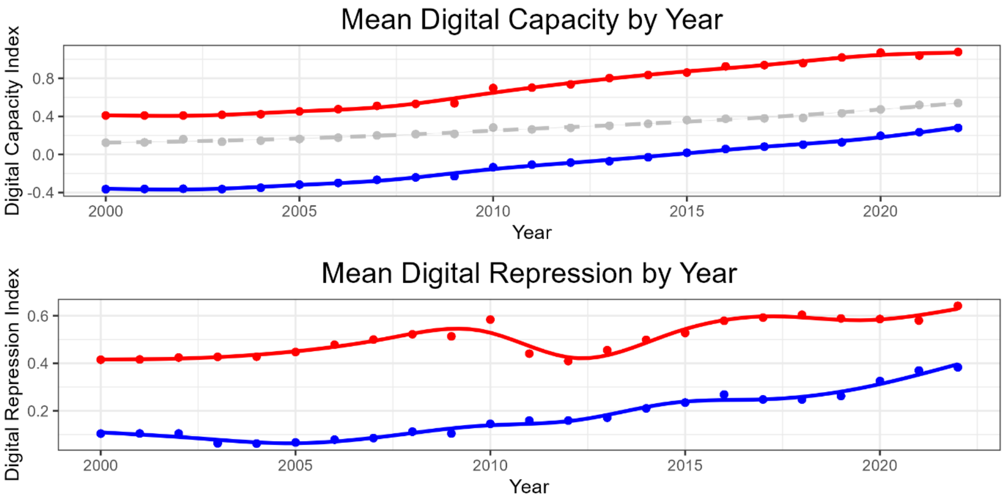


Figure 8 Mean capacity for and actual use of digital repression.

The above plots show mean capacity for digital repression (top plot) and mean use of digital repression (bottom) grouped by hosts (red line) and non-hosts (blue line). The grey line in the capacity plot indicate democractics hosts. This is removed in the repression plot due to signficantly lower levels of repression in democratic countries.

How do these general trends in digital repression look when taking into account international sport events? Following Scharpf et al. (2022) I look at how capacity for and use of digital repression change in relation to the event within a time window of +/- 4 years. Changes are standardized using demeaning to account for structural differences within each country. The mean score for each year in the event window is then calculated producing the plots below. The plots are constructed using two different samples, the first sample calculates changes in relation to the first event hosted in all 19 hosting countries. As an initial robustness test, the second sample calculates changes in relation to the biggest event hosted. Only six countries have hosted more than one event, so the sample switches out approximately one third of the events from the first sample.[15]

[15] See an overview of events included in the different samples in Appendix A, Table 1.

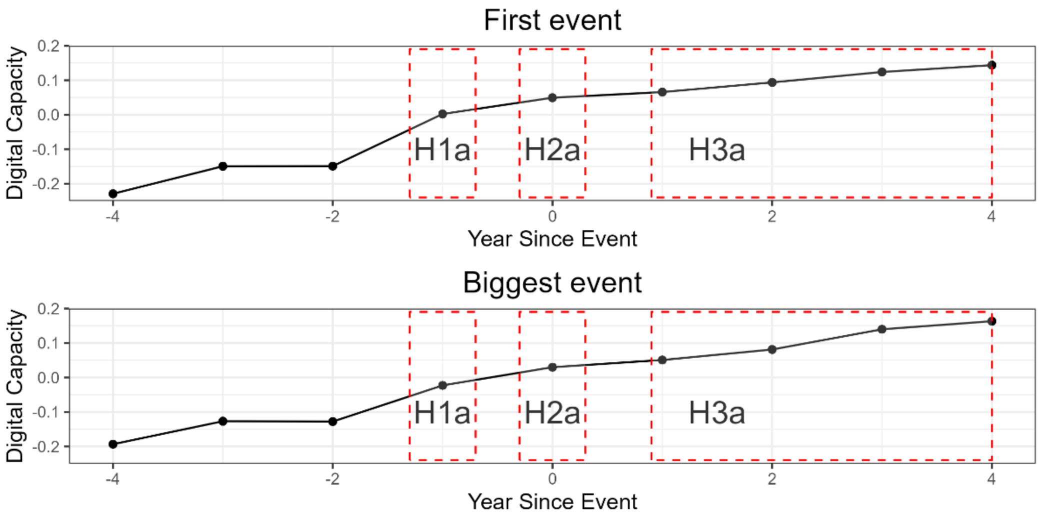


Figure 9 Average yearly changes in the digital capacity index in autocratic hosting countries.

The top plot shows changes in relation to the first event hosted, and the bottom plot shows changes in relation to the biggest event hosted. The red dotted squares indicate time periods in accordance with my hypotheses.

Figure 9 shows, as expected, an increase in digital repressive capabilities throughout the event window. Starting with the plot showing changes in relation to the first event hosted, a particularly steep increase is apparent in the year before the event, lending initial support to hypothesis 1a. Capacity continues to be high during the year of the event, supporting hypothesis 2a that digital capacity continues to increase during the event. Lastly, capacity continues to slightly increase throughout the 4-year post-period, in support of hypothesis 3a. The changes are similar in the plot showing changes in relation to the biggest event, however, capacity starts at a marginally higher point, and the increase in the year before the event is slightly less. When measuring changes using the biggest event, the year of the event is moved at a later point in time for some of the countries, this could mean that the plot picks up levels of digital capacity that are already heightened due to a previous event. Alternatively, it picks up general time trends that would increase digital capacity regardless of whether a country hosted an international sport event or not.

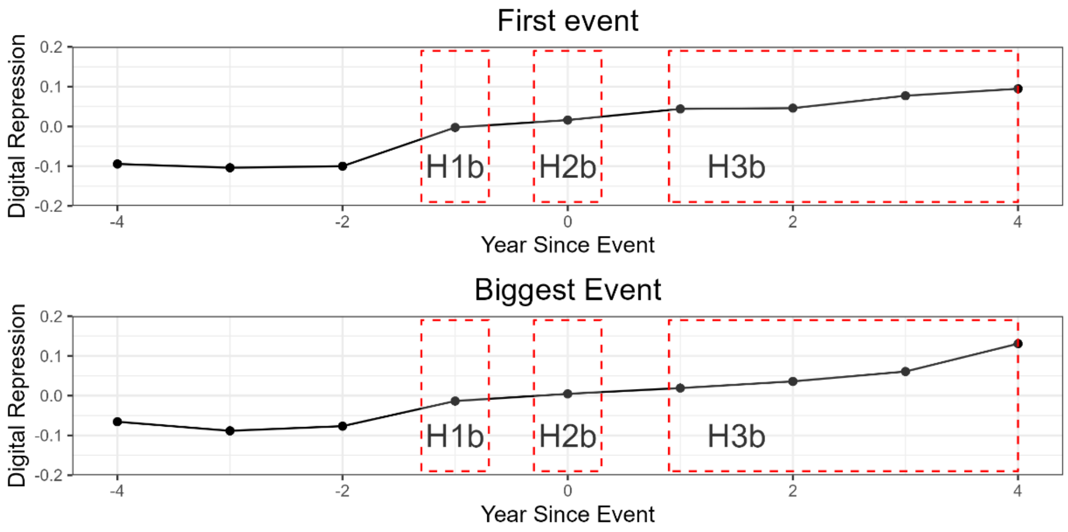


Figure 10 Average yearly changes in the digital repression index in autocratic hosting countries.

The top plot shows changes in relation to the first event hosted, and the bottom plot shows changes in relation to the biggest event hosted. The red dotted squares indicate time periods in accordance with my hypotheses.

Figure 10 shows similar trends for digital repression and supports the hypotheses outlined in my theoretical framework. Again, there is a stark increase in digital repression in the year before the event and this continues to stay at high levels throughout the event window. However, the increase appears smaller than for digital repressive capacity. Also here, the difference between the plots indicate that the increase in actual use of digital repression is largest for the first event a country hosts and slightly less for the subsequent event they host.

To sum up, comparisons of autocratic hosts and non-hosts show that the general levels of capacity for and use of digital repression are higher for hosts. Furthermore, the descriptive analysis focusing on hosting countries suggests that autocracies ramp up capacity for digital repression and actual digital repression one year before the event and continue on an increasing trend after this. To explore the effect of international sport events more systematically, I present the results of my statistical models in the next section.

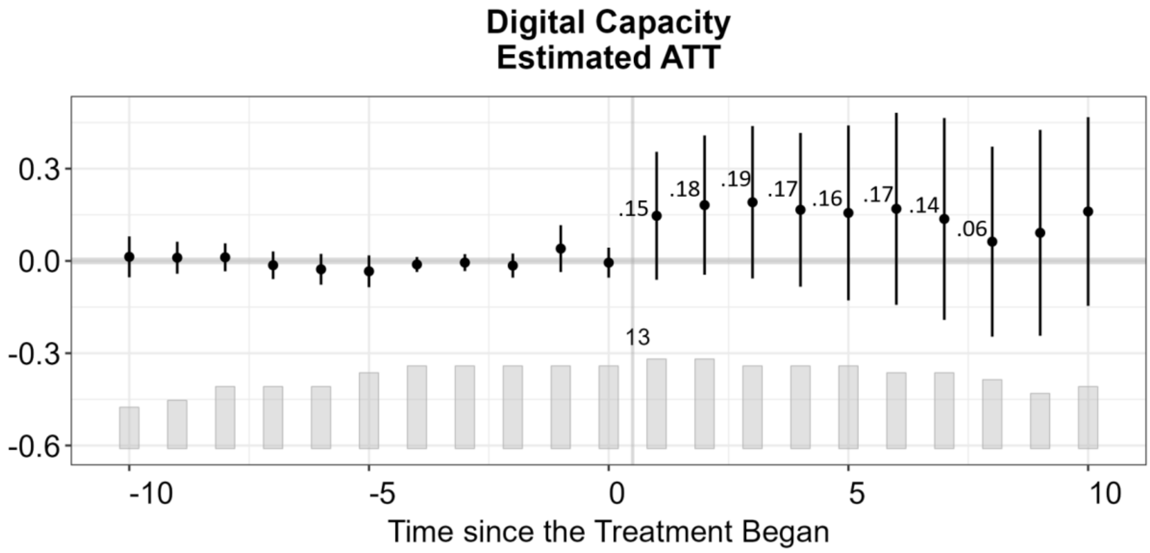
Main results

When estimating the average treatment effect on the treated (ATT), the IFEct estimator automatically removes observations with less than 5 untreated periods. This applies to Lebanon and Nigeria (event in 2000), Kenya and Zimbabwe (event in 2003) and China and

Tunisia (event in 2004), leaving a total of 13 treated units for the analysis. The models control for country and year fixed effects as well as latent factors.

For my main model I control for GDP per capita, polyarchy score, conflict, percentage of internet users, population size and percentage of youths. This model thus includes potential confounders that affect both the treatment (international sport events) and the outcomes, as well as variables that have been identified to affect digital repression in particular. Education is also identified as affecting digital repression, but due to a large number of missing values, including this variable reduces both treated and control units considerably. I will therefore conduct a separate robustness test adding education as a control.

To best describe and compare the estimated treatment effects in the different models I will look at both the overall pattern of effect (increases and decreases) as well as effect sizes (point estimates and averages). Following my hypotheses on periods before, during and after the event, I focus on changes in the year prior to and during the event as well as the consecutive "wave" of effect following the event. A wave ends in the year before a change in the opposite direction occurs or when the effect is flat for two consecutive years. This measures how long the effect lasts. The overall ATT is then calculated based on this period, meaning that for some models the estimate is an average of, for example, eight years and for others five years. This makes cross-model comparison more difficult, but captures more thoroughly the estimated effect in a specific model. The focus on these initial years is also a more robust measure than simply averaging across the whole time period, as the number of treated units is bigger when looking at a shorter time span and changes in later periods could be driven by a few countries. The number of treated/to-be treated countries (observed outcomes) included in the analysis are indicated by the grey bars at the bottom of the dynamic treatment effect plots.



N = 75, f = 1

Figure 11 Estimated effect on the capacity for digital repression.

Showing the estimated ATT for each year since the treatment began with 95 % confidence intervals. As indicated in the plot, 13 out of 75 countries included in the analysis have hosted an international sport event. F indicates the number of factors estimated.

Figure 11 shows the estimated ATT for digital repressive capacity with 95 % confidence intervals based on 10 000 block bootstrap draws. Recall that treatment is coded from one year prior to the event and does not switch back after this. The model is based on 75 countries in total, out of which 13 have hosted an event. The model estimates one latent time-varying factor that is assumed to cause heterogeneity in the outcome. The estimated ATTs shows the average difference between the observed outcome and predicted counterfactuals, indexed according to treatment onset. Caution is needed for interpreting the results as the confidence interval passes zero. As there are few units that have been treated more than 10 years, these observations are dropped from the plot due to even larger uncertainty estimates.[16]

With this in mind, the plot shows a quite large increase in the capacity for digital repression in the first year of the treatment. This increase continues until the year after the event, meaning that compared to their predicted counterfactuals of being non-hosts there is an increase in the capacity gap. The effect then gradually becomes smaller, and is close to zero six years after the event (eight years into treatment). This does not mean that a country stops increasing its digital capacity, but that hosts converge to the predicted pattern of non-hosts. Or, to put it

[16] See plots with full time range in Appendix D, figure D1.

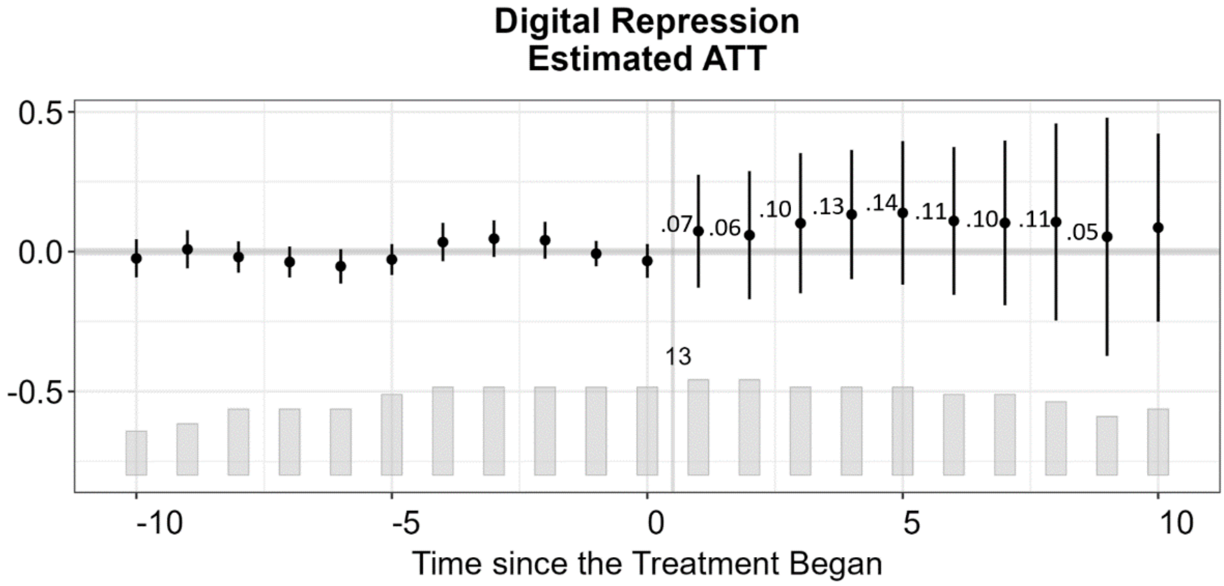
differently, that the sport event did not have an additional effect anymore in increasing digital capacity.

The annual ATT for the first eight years is estimated to an average of 0.15 with point estimates from 0.06 to 0.19. The minimum value of the digital capacity index is -2.7 and the maximum value is 2.7, a change of 0.15 in a year equals an increase of 2.9 %. Over the eight-year period this equals to an estimated total increase of 23 %, a substantial increase compared to the predicted counterfactuals.

Interestingly, there is another wave of increase in capacity towards the end of the period. This could be driven by developments in countries that host more than one event, or caused by some other explanation outside of my theoretical framework. To test this theory, I will conduct a robustness test removing countries with more than one event.

Although the model comes with relatively high levels of uncertainty, the findings support my hypothesis of an increase in digital capacity the year before the event (H1a) as well as during the event (H1b).[17] Moreover, and as suggested in Hypothesis 3a, the model does not show any decrease (negative values) in the years following the event. A first inspection of the pre-treatment period shows residuals close to zero, suggesting that there is no omitted variable creating a pre-trend and that changes in the outcome are caused by the treatment.

[17] See plot with estimated 90 % confidence intervals in Appendix D, figure D2. Uncertainty estimates for the first three to four years are reduced, but still slightly cross zero with lower limits between -0.04 and -0.01.



N = 75, f = 1

Figure 12 Estimated effect on the actual use of digital repression.

Showing the estimated ATT for each year since the treatment began with 95 % confidence intervals. As indicated in the plot, 13 out of 75 countries included in the analysis have hosted an international sport event. F indicates the number of factors estimated.

Figure 12 shows the estimated ATT on actual use digital repression using the same base model. A first observation is the generally smaller effect sizes as compared to the capacity model. This suggests that international sport events do not have the same impact on the actual use of digital repression as it has on building capacity for digital repression. The plot shows a small increase in repression the first year of treatment with a marginal decrease in the year of the event. The effect then increases, reaching its top three years after the event (five years into treatment). Afterwards, the effect decreases again and reaches its lowest point nine years into treatment. The annual ATT for the first nine years of treatment is estimated to an average of 0.10, with point estimates ranging from 0.05 to 0.14. With a minimum value of -1.9 and a maximum value of 4.1 on the digital repression index, this translates to an average annual increase of 1.7 %. Over a nine-year period this aggregates to a 15 % increase in use of digital repression. Yet, as evident from the figure, the results come with very large confidence intervals (even if we consider less restrictive 90% confidence intervals).[18] My hypotheses that are concerned with the actual use of digital repression can thus not be supported.

[18] See Appendix D, figure D2.

Disaggregated indexes

To find out whether there are particular types of digital repression that drive my results, I disaggregate the indexes into its individual components. Starting with the variables included in the digital capacity index, it is clear that the estimated increase in capacity in large parts is driven by an increase in the capacity to shut down the internet (figure 13). Compared to the results from the index model, the effects are larger and with significant effects at a 95 % level for the event year as well as the two following years. The effect becomes especially pronounced a few years after hosting the international sport event. The point estimates range from 0.10 to 0.44, averaging on an annual ATT of 0.31 for this nine-year period. This corresponds to an annual increase of 5.7 %, aggregating to a total increase in internet shutdown capacity of 51 % more than when comparing to the predicted counterfactual outcome. That constitutes more than a doubling of the estimated total effect in the index-model (estimated to 23 %). What does an increase in the capacity to shut down or throttle the internet mean in substantial terms? The internet can be shut down or speed decreased either physically by disconnecting equipment or through software that disrupts packet forwarding or routing (Dainotti et al., 2014). Increasing capacity might then be to centralize equipment to disconnect equipment more effectively or to invest in new software. State ownership of internet infrastructure and internet service providers (ISP) has also been shown to increase control over internet provision (Freyburg & Garbe, 2018), as such, a buy-in or take-over of ISPs could also increase capacity for internet shutdowns.

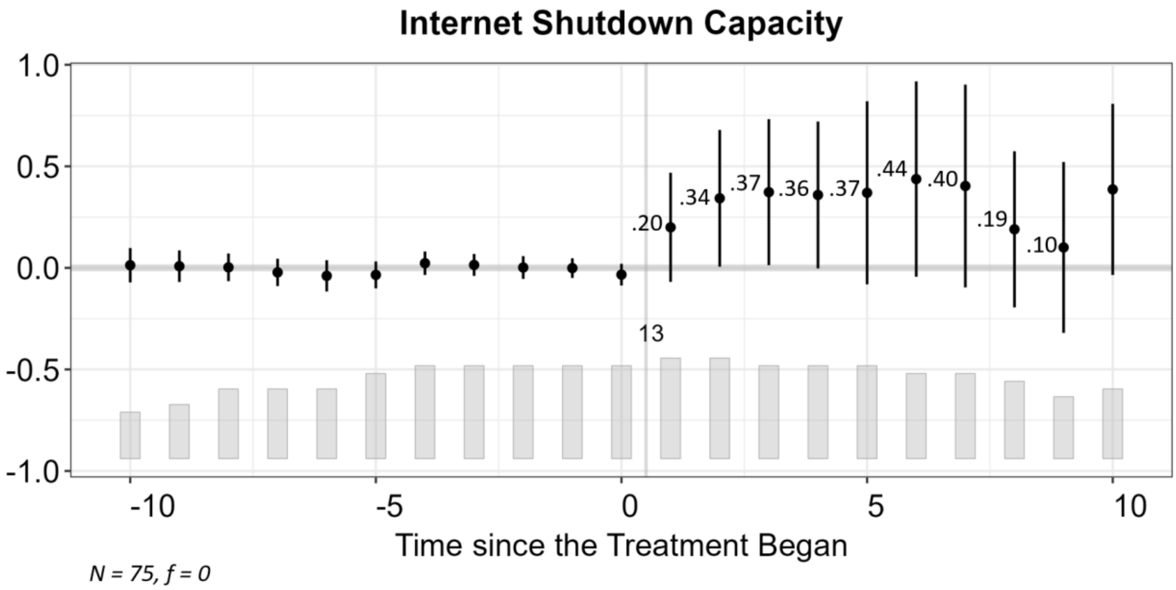


Figure 13 Estimated effect on the capacity to shut down the internet.

Showing the estimated ATT for each year since the treatment began with 95 % confidence intervals. As indicated in the plot, 13 out of 75 countries included in the analysis have hosted an international sport event. F indicates the number of factors estimated.

The effect on the other components in the digital capacity index appear to be less pronounced, with similar or reduced estimated ATTs (see figure 14 - 16).

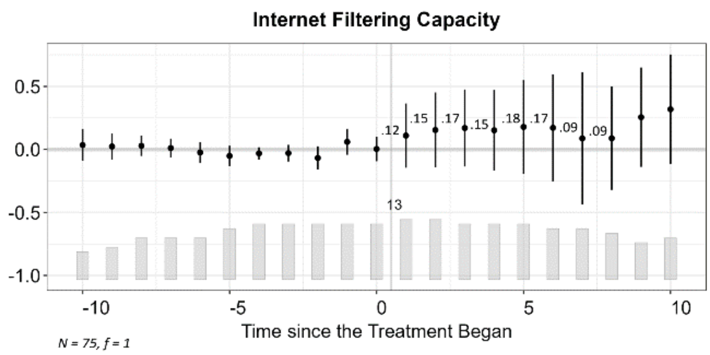


Figure 14

Estimated effect on the capacity to shut down the internet. Showing 95 % confidence intervals, and including 75 units out of which 13 are treated.

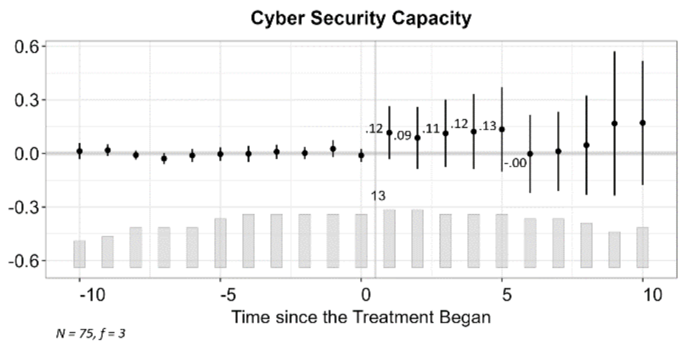


Figure 15

Estimated effect on cyber security capacity. Showing 95 % confidence intervals, and including 75 units out of which 13 are treated.

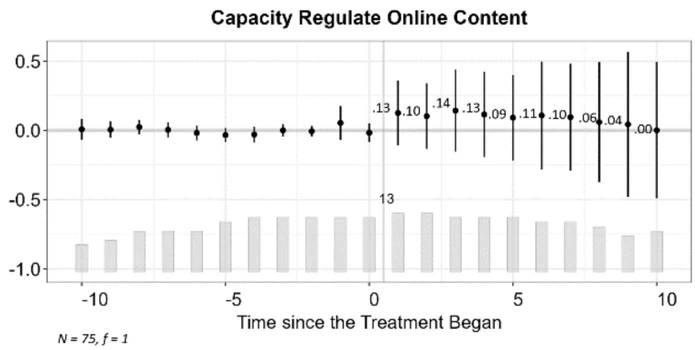


Figure 16

Estimated effect on the capacity to regulate online content.

Showing 95 % confidence intervals, and including 75 units out of which 13 are treated.

The plots for the components in the digital repression index show mixed results compared to the index model, with various changes in the pattern (timing of increases and decreases) as well as the effect estimates (see figure 18 – 22, all plots show 95 % confidence intervals and includes 75 units out of which 13 are treated). Yet, with uncertainty estimates remaining large, I observe some tendencies that authoritarian governments ramp up monitoring of social media. Figure 17 suggests that international sport events have a bigger impact on social media monitoring than on the general index measure of actual digital repression. Point estimates range from 0.1 to 0.26, with the first wave of effect reaching bottom five years after the event. The annual increase in this seven-year period is estimated to average on 0.18, corresponding to a 3 % annual increase. That aggregates to a total increase of 27 % in social media monitoring, almost a doubling of the effect estimates in the index-model (estimated to 15 %). The overall effect estimates remain the same if I calculate the effect of the nine-year period (including the second wave of effect from year 8-9 of the treatment). An increase in social media monitoring suggests that government surveillance becomes more comprehensive, in terms of both how often and what type of content is being surveilled (Mechkova et al., 2023). In the case of the most repressive countries, this means that a government expands monitoring from being applied only to political content to more general content, and that this goes from happening in limited time periods to practically all the time.

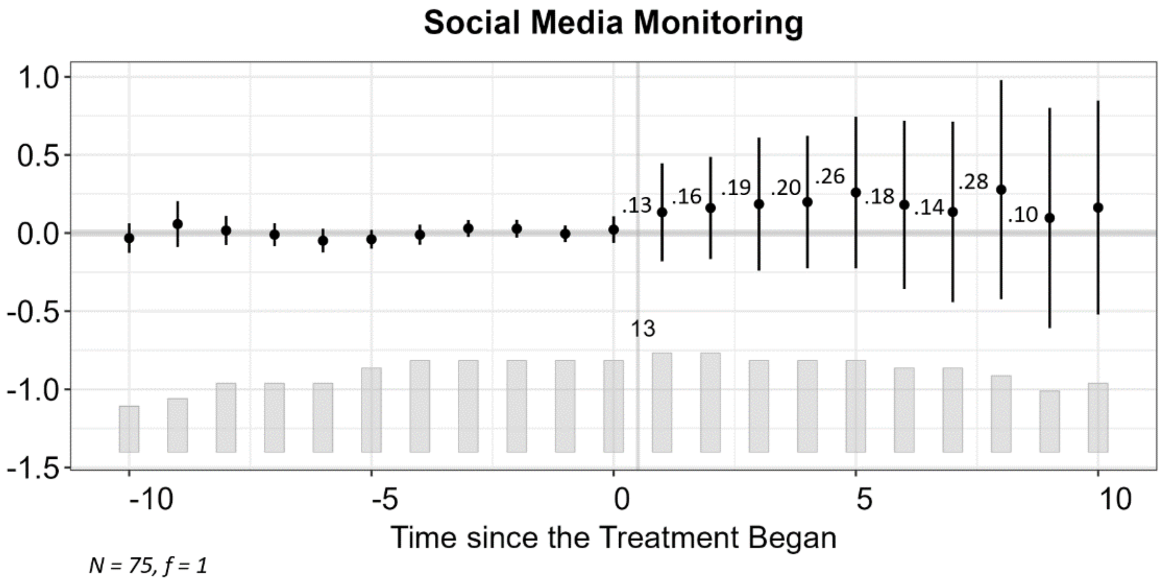


Figure 17 Estimated effect on monitoring of social media.

Showing the estimated ATT for each year since the treatment began with 95 % confidence intervals. As indicated in the plot, 13 out of 75 countries included in the analysis have hosted an international sport event. F indicates the number of factors estimated.

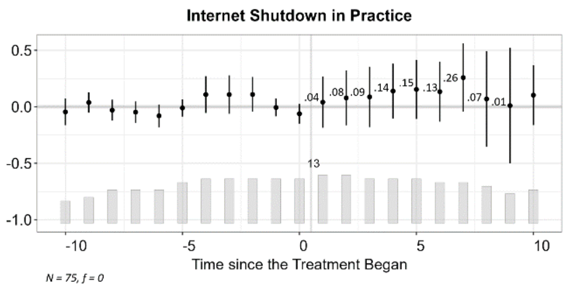


Figure 18 Estimated effect on internet shutdowns.

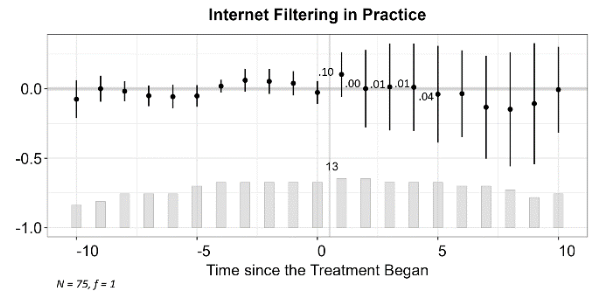


Figure 19 Estimated effect on internet filtering

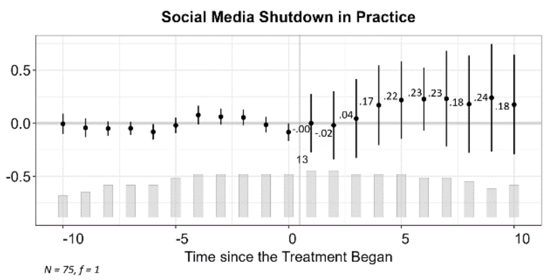


Figure 20 Estimated effect on social media shutdowns

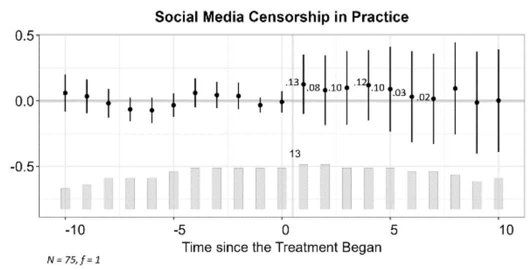


Figure 21 Estimated effect on censorship of social media

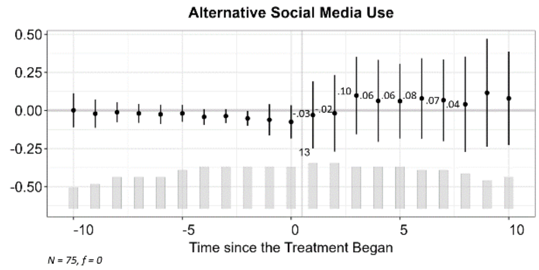


Figure 22 Estimated effect on use of government controlled social media.

Showing 95 % confidence intervals, and including 75 units out of which 13 are treated.

Diagnostics test

As recommended by the authors, I conduct two diagnostics tests to probe the validity of the model assumptions (Liu et al., 2022a). These are (1) a placebo test to check for anticipation effects and (2) a test for no pre-trend to check the validity of the counterfactual estimates.

Placebo tests

First, I conduct the temporal placebo test, with placebo periods set to -2 to 0 years (corresponding to 2 - 4 years ahead of the event). To test if the effect of the placebo treatment is significant two tests are applied. A difference in means test (DIM) and an equivalence test. The DIM test takes as a null hypothesis that there is no difference between the placebo and observed outcomes. The test uses conventional significance levels to determine if there are significant differences between the observed and predicted outcome. If the estimated ATTs for the placebo periods are statistically different from 0, this indicate a model misspecification and possible anticipations effects.

The equivalence test starts with the assumption that there is a difference between the observed and predicted outcomes, and that an alternative hypothesis needs to be significant in order to disprove this (Hartman & Hidalgo, 2018). The equivalence test is based on an equivalence range that determines within what range estimated values are deemed inconsequential. To perform this test, it is recommended to use a two one-sided test (TOST). The null hypothesis of a significant difference between observed and predicted outcomes is rejected if the TOST test shows that the 90 % confidence intervals of the estimated ATTs are within the equivalence range. The equivalence range can be set substantively based on theoretical grounds or defined parametrically (Hartman & Hidalgo, 2018). Following Hartman and Hidalgo, Liu et al (2022a) set the default equivalence range in the *fect-package* to +/- 0.36σ, where sigma is the standard deviation of the residuals of untreated observations when controlling for TWFE.

Using this approach the equivalence range is estimated to be 1 in my case. This means that predicted estimates must have a 90 % confidence interval greater than 1 for the equivalence test to fail. As this sets a rather weak test metric (taking into account the scale of the outcome variables), I reduce the equivalence range to 0.5. Meaning that confidence intervals that fall within a +/- 0.5 range of the observed outcomes are considered to pass the equivalence test.

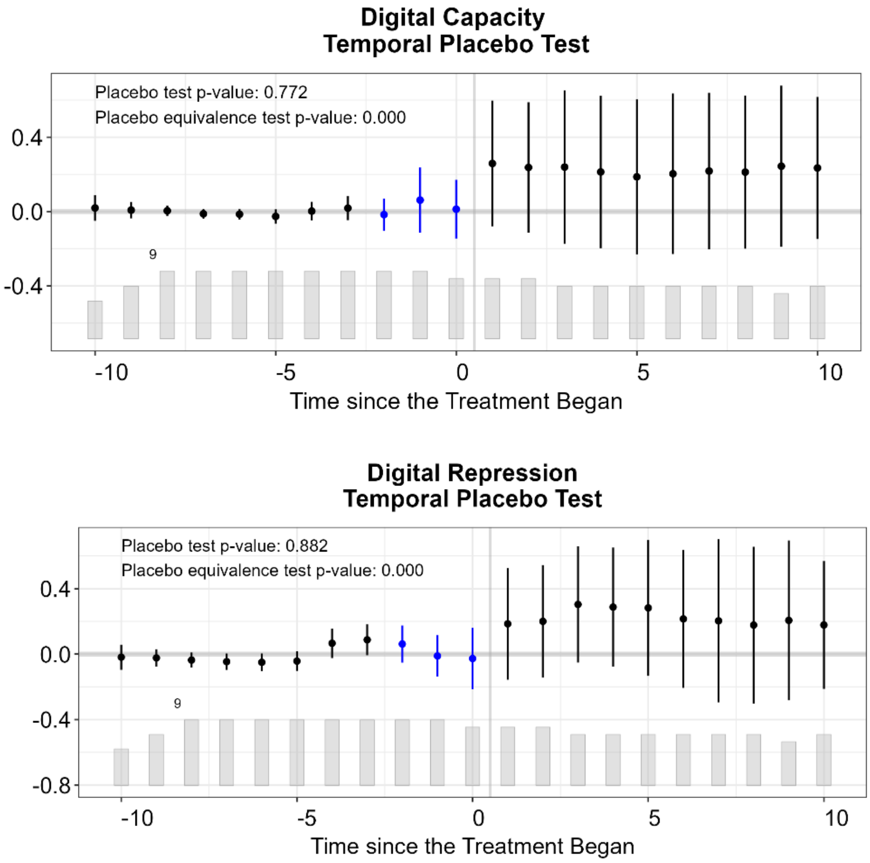


Figure 23 Temporal placebo test

Showing results for the capacity for digital capacity (top) and actual digital repression (bottom). Blue periods indicate observation under placebo treatment. Result of the DIM test is indicated by the placebo p-value, and the result of the equivalence test by the corresponding p-value.

The plots in figure 23 show that both models pass a normal difference in means test. This means that the difference between predicted and observed values in the placebo periods is not significantly different from 0. The equivalence test is also significant and thus supports the findings of the DIM-test. When comparing the two tests, it adds confidence to the results if the p-value of the DIM test is bigger than the p-value of the equivalence test (Liu et al., 2022b). All in all, the temporal placebo tests for both the capacity and repression model point to correct model specification and that there are no anticipation effects biasing the estimated ATTs. Although effect estimates are small in the repression model, the model assumptions so far seem to hold.

Pre-trend

A test for no pre-trend follows similar logic as the temporal placebo test and expands on this by testing for the model's "goodness of fit" in the pre-treatment period (Liu et al., 2022a). Remember that the model's estimates of ATTs are based on the difference between observed treated outcomes and the predicted counterfactual outcomes.

If the difference between the predicted and observed outcomes is small, this suggests that there are no differential pre-trends and that the predicted estimates closely match the observed outcomes in the pre-treatment period. This increases confidence in the accuracy of the predicted counterfactual outcomes in the post-treatment period, and consequently the estimated ATTs. If there is a pre-trend, this suggests that the predicted outcomes does not accurately describe the treated outcomes in the post-treatment period, consequently reducing the confidence in the estimated ATTs.

For the pre-trend test the minimum range is added as a test-metric (indicated by the grey dotted lines in the plots). The minimum range is set by the largest absolute value that falls within the 90 % confidence interval of the ATTs in the pretreatment period. When the minimum range is smaller than the equivalence range, this means that the 90 % confidence interval of the estimated ATTs are within the equivalence range (as described above), and the test is considered passed. The test period is set to 0-10 years prior to treatment. Figure 24 shows that the test for no pre-trend holds for both models. The F-test shows that the difference in means between predicted and observed data is not significant. All residuals are within both the minimum range and the equivalence range adding confidence to the results.

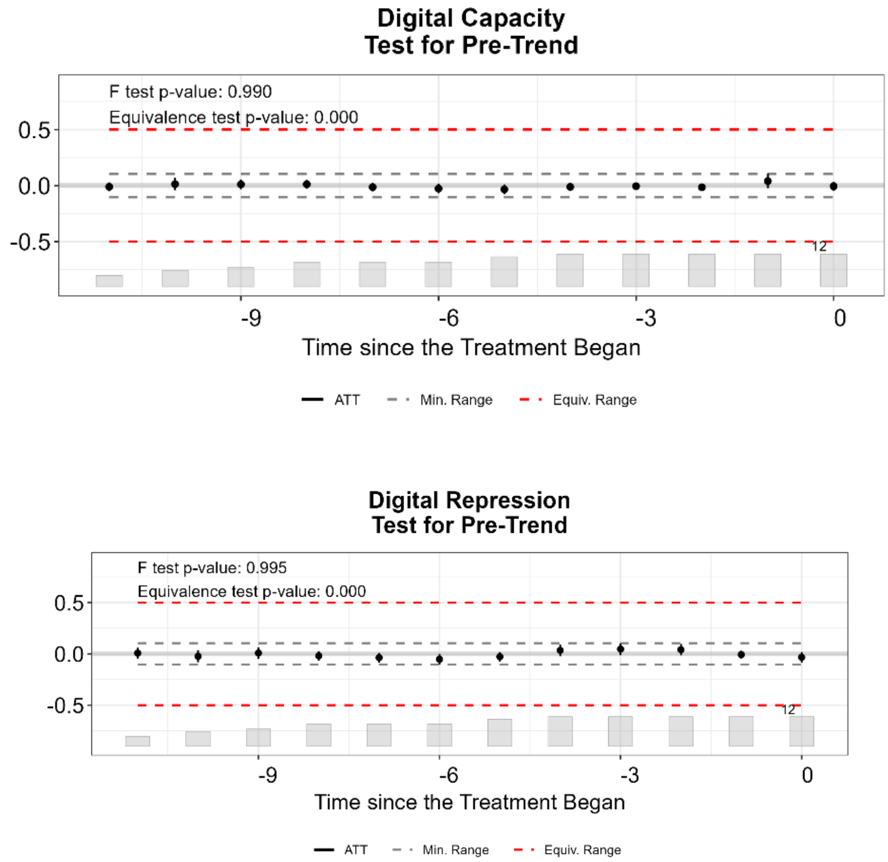


Figure 24 Test for (no) pre-trend

Showing results for the digital capacity-model (top) and the digital repression-model (bottom). Red dotted lines indicate the equivalence range (at 0.5), and grey dotted lines indicate the minimum range. Estimated ATTs are indicated by the black dots. Note that the plots only displays period pre-treatment.

After assessing the diagnostics tests the model assumptions appears to be valid. There is no detected pre-tend or anticipation effect, indicating that the models have the correct functional form (assumption 1), increasing confidence in the assumption that there are no exogenous variables driving the result (assumption 2), and that the latent factor estimation has removed bias (assumption 3). However, the large uncertainty estimates indicates that the model is underpowered with its 13 treated units used to estimate the ATT. In the next section, I will check the sensitivity of these result by running a number of robustness test.

Robustness test

In this section, I will present the results of robustness tests comparing my results to a conventional TWFE model, including more controls in the model, conducting a spatial placebo test, running a number of tests with different host and event inclusion as well constructing samples with alternative measures of autocracy.

When it comes to testing the sensitivity of my results to different host and event inclusion, I will specifically test for bias stemming from countries hosting multiple events, events being co-hosted, cricket events, potential outliers and from regional (as opposed to global) events. I also run tests assigning treatment to the year of the biggest event as well as the year of host selection. Overall, my findings of an increase in capacity for digital repression appears robust, although it is sensitive to outliers. The results measuring actual use of digital repression appears sensitive to different specifications and samples.

Two-way fixed effects as a robustness test

I start by comparing the estimated ATT from the IFEct estimator with the results of a conventional TWFE estimator, using the same base model as in my main analysis (see table 3). As mentioned, the TWFE estimator may create biased estimates due to negative weighting in a staggered treatment adaptation with heterogeneous treatment effects (Goodman-Bacon, 2021). Nonetheless, I choose to compare the results of my main analysis to test if this shows similar or divergent results.

Table 3 Results of a panel regression with two-way fixed effects.

Panel Regression with Two-Way Fixed Effects

	Digital Capacity Index	*Digital Repression Index*
International Sport Events	0.10 (0.03)***	0.00 (0.04)
Internet users	0.00 (0.00)	0.00 (0.00)*
Population	-0.01 (0.00)***	0.00 (0.00)
Youth population	0.38 (0.04)***	0.27 (0.06)***
GDP per capita	0.47 (0.02)***	0.26 (0.03)***
Polyarchy score	-0.49 (0.07)***	-2.22 (0.10)***
Conflict	0.01 (0.02)	-0.02 (0.03)
R^2	0.52	0.27
Adj. R^2	0.49	0.23
Num. obs.	1737	1737

***p < 0.001; **p < 0.01; *p < 0.05

First note that when relaxing the assumption of heterogeneous treatment effects, the estimates are significant at a 0.01 level for the capacity model, but not significant for the repression model. This adds confidence to the results in my main analysis, international sports events are likely to increase capacity for digital repression. The non-significant finding in the repression model also mirror the finding in my main analysis, with small effects close to zero.

To compare the results from the IFEct estimator with those from the TWFE estimator, I use the average annual ATT as measured across all time periods. This means that all group ATTs estimated in the IFEct are included when estimating an average, not just the first 8-9 years as highlighted in my main analysis. Starting with the digital capacity model, the estimated average ATT for all time periods in the IFEct model is 0.11. Comparing this to the result of the TWFE model, it appears that the two models produce quite similar estimates with a difference of 0.01. Noticeably, the standard errors are substantially smaller when pooling effects estimates as in the TWFE estimator, as opposed to estimating period specific estimates before averaging as in the IFEct estimator (with standard errors estimated to 0.13).

For the regression model, the difference between the two is bigger, estimating an average ATT for all time periods of 0.05 in the IFEct model and 0 in the TWFE model. While the TWFE estimator is unable to pick up effects in the base model, the IFEct produces small effect estimates, albeit with large uncertainty estimates. The TWFE estimator assumes no heterogeneous treatment effect, as a result treatment, effect in the immediate years surrounding the event is likely underestimated (compared to the results of my main analysis). As so, a TWFE model runs a heightened risk of producing a type 2 error suggesting that the IFEct estimator is better suited to pick up time-dependent effects. Switching out time fixed effects with year dummies could perhaps produce similar results as in the IFEct-models.

Adding controls

To check the robustness of my findings when adding more controls, I run an alternative model specification with controls for physical and civic repression as well as protest. As discussed above, these are potential colliders that can introduce bias by opening up causal paths that are not controlled for (creating omitted variable bias through "open backdoors"). The results for both the capacity and repression model remain roughly the same and diagnostic tests show that both models pass the temporal placebo test as well as the no pre-trend test (Appendix E, fig. E1 - E2). I also run a model adding only a control for average years of education to my base model. Due to missing values this model is based on just 49 units, including only 9 hosts. Adding education as a control increases effect estimates, and both models passes the diagnostic test (Appendix E, fig. E3 - E4). This suggest that improvements in data collection on education levels could be important to strengthen analyses of digital repression. Overall, my results appear robust to the inclusion of different controls.

Spatial placebo test

To test that it is international sports events that drive the changes in capacity for and actual use of digital repression, I run a spatial placebo test. The test is constructed by randomly assigning an event to a country in the sample that has not hosted an event during the sampling period. Treatment is assigned so that the number and year of treatments equals the actual number and timing of real events. Treated units are included but coded treatment = 0. The spatial placebo test produces negative estimates of the ATT, in support of my main findings.

Non-hosting autocracies appear to have a lower capacity for and use digital repression less than hosting autocracies (Appendix E, fig. E5).

Alternative host and event inclusions

Next, I test the sensitivity of my results to a battery of different event and host inclusions. Hosting multiple events in close temporal proximity might bias the results by increasing repression in preparation for more international attention over a longer period of time. Alternatively, it can decrease the estimates if the attention cycle of the different events overlap, and autocratic hosts do in fact decrease digital repression to avoid negative reporting. Effect estimates are increased when removing host of multiple events and, furthermore, the second wave of increase as identified in my main analysis is removed (Appendix E, fig. E6). This suggest that my results are not driven by changes in countries that host multiple events, and that my finding apply to one-time hosts as well as for host of multiple events.

When an event is co-hosted by several countries this might influence the amount of attention a host receives, this could either increase repression because the risk of being caught is reduced, or decrease the overall need for repression. Conducting a test with only co-host included in the sample increases the estimated ATT (Appendix E, fig. E7). Due to the small number of treated units included for this analysis, caution is needed when interpreting the results.[19] Yet, the results indicate that co-hosts too are subjected to the scrutiny-publicity dilemma, suggesting that capacity for and use of digital repression increase even when attention is divided between several hosts.

Due to concern that the World Cup in Cricket does not attract enough democratic audiences to trigger the scrutiny-publicity dilemma, I remove countries hosting this event from the sample. The models estimate a quite large reduction in treatment effect (Appendix E, fig. E8). If Cricket events are not subjected to the scrutiny-publicity dilemma, I would expect that these countries maintained similar levels of digital repression and capacity regardless of hosting an event or not. That effect estimates are reduced when removing host of cricket events from the sample, suggest that cricket hosts too are affected by the scrutiny-publicity dilemma, and therefore contribute positively to the estimated ATT. It thus appears that either cricket attains

[19] There are only six countries included in this robustness test (Bangladesh, Vietnam, Gabon, Sri Lanka, Equatorial and Malaysia).

enough coverage in democratic countries to trigger the scrutiny-publicity dilemma, or that this dilemma is also triggered when audiences reside in mainly autocratic countries.

Since the estimated ATTs are decreased quite substantially when removing hosts of cricket events, I suspect that an outlier is driving the results. A look at individual country descriptive plots show that Bangladesh had a particularly steep increase in both digital repressive capacities and actions one year prior to the event (hosted in 2011).[20] Conducting a robustness test removing Bangladesh shows that changes in this country appears to be driving much of the results, with effect sizes reduced substantially (Appendix E, fig. E10).

The importance and use of the internet and other digital tools have changed since the start in the late 20th century. A shift labelled the "Web 2.0" occurred in the early 2000's when the internet became characterized by more participatory behaviour and user-generated content, such as blogs and social networking platforms (Fuchs, 2011). The term was popularized in 2004, describing a developing trend. To test for the effect of international sports events in this era I conduct a robustness test sampling events that occurred after 2005. This facilitates the inclusion of China as a host for the 2008 Olympic games (in the original sample the first event hosted by China is the 2004 Asian Cup).[21] In the literature on digital repression, China is considered to be a leading country within the development and use of digital repression. The estimated effect when adding China remains roughly the same as in my main analysis, indicating that my findings are robust to adding such a major actor (Appendix E, fig. E11). However, the estimation is based on the 2008 Olympics, and there has been a huge development in digital repression since the early 2000's. It is possible that the results would be different if the analysis was based on a later event, such as the 2022 Winter Olympics.

I also test the effect of international sports events on only the regional cups (Copa América, Asian Cup and Africa Cup). The estimated ATT is substantially decreased for the capacity model and mostly negative for the repression model (Appendix E, fig. E12). Since these events also have a lower broadcast reach than the other tournaments, this suggests that the scrutiny-publicity dilemma might have a bigger effect on countries that host events with a higher broadcast reach. However, due to the already limited inclusion of global (as opposed to

[20] See country plots in Appendix E, figure E9.
[21] The hosting countries Lebanon, Nigeria, Kenya, Zimbabwe, and Tunisia have not hosted an event post 2005 and are thus still excluded from the analysis.

regional) events in the main analysis,[22] as well as sensitivity to outliers, more research is required to determine a lower threshold for triggering the scrutiny-publicity dilemma.

Finally, I run two robustness tests where I assign treatment to different time periods.[23] First, I assign treatment according to the biggest event hosted in a country.[24] This produces slightly smaller effect estimates than in my main analysis, mirroring the findings in the descriptive plots (fig. 9 -10). The capacity for digital repression and actual use of this appears to increase the most for the first event (Appendix E, fig. E13). Next, I assign treatment according to when a country was selected as host for the first event awarded. On average, the hosts in my sample were selected 4.5 years prior to the event.[25] Figure 24 and 25 show increased effect estimates and suggests that the largest increase in capacity and use of digital repression happen in the year before the event takes place (year 5) as well as the event year (year 6), when most countries host the event. In fact, figure 25, show signs of a significantly positive increase of actual use of digital repression in this time period, and estimates become significant when applying 90 % confidence intervals (Appendix E, fig. E14). Assigning treatment to the year of host selection support my findings, autocracies appear to increase capacity and use of digital repression when hosting international sport events.

[22] Included in the initial sample are Russia with the 2013 Athletics Championship and Bangladesh and Sri Lanka as co-hosts of the 2011 Cricket World Cup

[23] In addition to the temporal placebo test conducted to test the validity of my model assumptions.

[24] See Appendix A, table 1 for an overview of the events this includes.

[25] See Appendix F for an overview of selection processes and the different preparation time (time from host selection to event implementation).

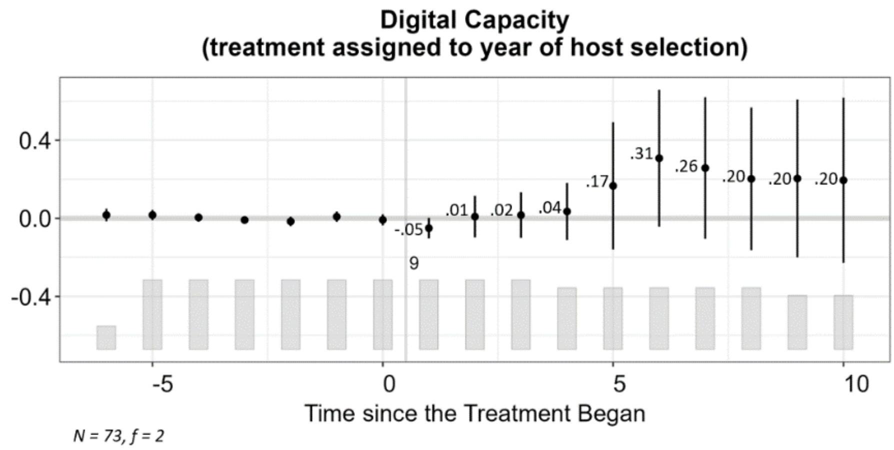


Figure 25 Estimated effect on the capacity for digital repression when treatment is assigned to the year of host selection.

Showing the estimated ATT for each year since the treatment began with 95 % confidence intervals. As indicated in the plot, 9 out of 73 countries included in the analysis have hosted an international sport event. F indicates the number of factors estimated.

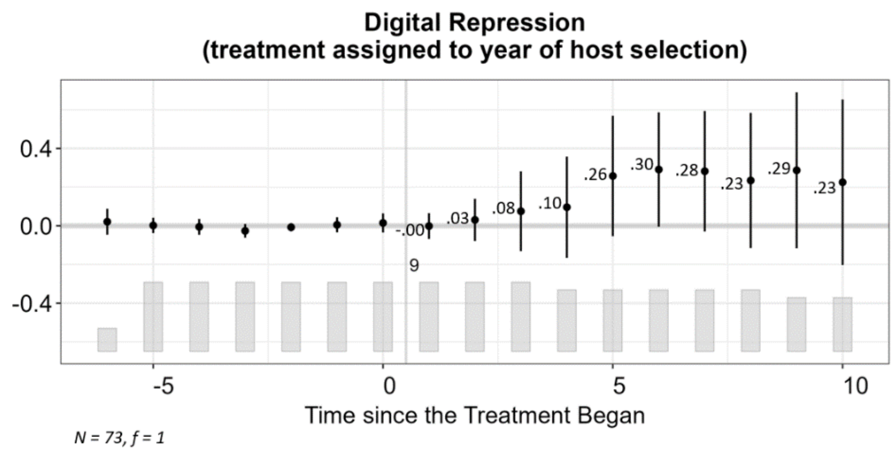


Figure 26 Estimated effect on actual use digital repression when treatment is assigned to the year of host selection.

Showing the estimated ATT for each year since the treatment began with 95 % confidence intervals. As indicated in the plot, 9 out of 73 countries included in the analysis have hosted an international sport event. F indicates the number of factors estimated.

Alternative measures of autocracy

To test that my results are not dependent on my operationalization of autocracy, I first construct a new sample using a cutoff of 0.6 in the polyarchy index. Following the same steps as when constructing my original 0.5 sample, this adds 15 countries, three of which have hosted an event.[26] Out of these, Thailand is the only host with more than five untreated periods that will be included in the analysis. The results when including more democratic countries in the sample, produce roughly similar effect estimates for both models (Appendix E, fig. E15). This shows that an increase in capacity holds for countries that are more democratic, supporting findings from the digital repression literature (Earl et al., 2022; Frantz et al., 2020). The plot for actual use of digital repression shows a halving in estimated ATT in the year of the event compared to the year before the event. This suggests that weaker democracies reduces digital repression in the event year to a bigger extent than stricter autocracies, yet, uncertainty estimates remain large and further research is needed to substantiate this claim.

Using the Boix, Miller and Rosato (BMR) measure for democracy reduces the number of autocracies in the sample to 73, and the number of included host countries to 7. The BMR measure for democracy is dichotomous and more minimal in its included components than V-Dem's polyarchy measure. The BMR measures if a country has free and fair elections and if more than half of the population has the right to vote (Boix et al., 2013). The newest edition only updates coding up until 2015, meaning that events in Cameroon and the United Arab Emirates are excluded. When using this stricter measure of autocracy effect estimates are reduced, but nonetheless show some positive effect (Appendix E, fig. E16). However, due to only seven treated units being included in this sample, conclusion are hard to draw on the effect international sport events have in stricter autocracies.

Overall, the estimated effect on capacity for digital repression seems robust to different model specifications and samples. Robustness test adding controls and comparing the results to a TWFE-model supports my initial findings of a positive increase in digital capacity. The results also hold or increase when removing hosts of multiple events, sampling events in the Web 2.0 era, assigning treatment to year of biggest event or host selection and when including regimes with a higher polyarchy score of 0.6. Effect estimates are reduced when controlling for cricket

[26] Included hosts in the 0.6 cutoff sample are (event year in parenthesis): Thailand (2007), Mali (2002) and Colombia (2001)

events, co-hosts, outliers, and a stricter measure of autocracy. The number of treated units are reduced in many of these tests, and so conclusion must be drawn with care.

The effect international sports events have on actual use of digital repression in autocratic hosts countries is more inconclusive. For digital repression the TWFE-model does not detect a significant change in digital repression. Even though the overall pattern remains the same in many of the robustness test, effect estimates are mostly reduced. I find an increase in effect estimates when adding controls, particularly when adding education as a control. Interestingly, assigning treatment to the year of host selection indicate that there is in fact a significant change in actual use of digital repression as compared to non-hosts. Overall, my results on the effect on actual use of digital repression appear sensitive to different specification.

Alternative explanations and possible scope conditions

The effect international criticism has on autocratic regimes varies between countries, and so an incentive to hide repression can be stronger or weaker according to regime characteristics. In particular, countries that are more dependent on or closely linked to Western democratic countries can be vulnerable to negative reports that turn into international criticism (Levitsky & Way, 2010). For example, deLisle (2022) observe that the almost twenty years between China's hosting of the 2008 and 2022 Olympic games are markedly different:

> "[While] Beijing's winning bid in 2001 for the 2008 Summer Olympics heralded partial recovery from the international opprobrium in response to the regime's brutal suppression of the 1989 Tiananmen pro-democracy protests and which, four years later, fatally undermined Beijing's candidacy for the 2000 Summer Games […] a much more powerful and influential China cares less—and has much less reason to care —about the 2022 Winter Games."

Meaning that while China might have been motivated to hide or reduce digital repression in 2008, China in 2022 is less vulnerable to international criticism. This implies that a country's response to the scrutiny-publicity dilemma could change over time as its international standing and economic power increase or decrease.

It is possible that other events in a country are driving the changes in digital repressive capabilities and actions. However, when controlling for repression as a response to protest, effect estimates were increased. If a tournament overlaps temporally with elections or regime change this could affect the repressive strategy of a regime, as the literature has shown DoS-attacks are increased during election in non-democracies (Lutscher et al., 2020).

6. Conclusion

Summary

Previous research has highlighted the scrutiny-publicity dilemma faced by autocrats when hosting international sport events, as the presence and attention of international media bring both opportunities and risks (Scharpf et al., 2022). Autocrats can utilize this publicity to strengthen their position both domestically and internationally, forming alliances through contracts and positions, while enhancing their legitimacy through successful event organization. However, increased international media attention can also lead to scrutiny of a country's human rights record, potentially providing a platform for domestic opposition to mobilize and garner support from the international community. Scharpf et al. (2022) have shown that autocrats strategically employ physical repression as a response to this scrutiny-publicity dilemma, with increased repression before and after the event to deter dissent and a decrease during the event year to reduce the risk of criticism from international media. The assumption is that this strategic variation in repression is required when using overt measures such as physical violence. But how does this dilemma apply to covert forms of repression?

In the 21st century, digital repression has become a central tool for autocrats. This concept encompasses various repressive acts, in this thesis I have specifically focused on how autocrats employ digital tools to control the internet by manipulating infrastructure, networks, and applications. I have examined how international sport events influence the capacity for and the actual control of the internet and social media through methods such as shutdowns, filtering, monitoring, and censorship. These digital repression tactics can be challenging to detect, both due to their covert design and the average person's limited knowledge of how the internet works (Roberts, 2020; Earl et al., 2022).

Applying the scrutiny-publicity dilemma to digital repression, this study seeks to answer whether international sporting events increase the capacity for and actual use of digital repression. I developed hypotheses for the years preceding, during, and following the event. Hypotheses 1a and 1b state that both the capacity for and the actual use of digital repression increase before the event to pre-empt mobilization and prepare for international attention. Given the covert nature of digital repression (hypotheses 2a and 2b), I suggest that the increase in capacity and use will continue during the event year. Furthermore, due to the efficiency of digital repression, hypotheses 3a and 3b propose that capacity for and use of digital repression will not decrease after the event. These hypotheses are in line with existing research that demonstrates how autocracies strategically use repression to pre-empt mobilization (e.g. Scharpf et al., 2022; Truex, 2019; Ritter & Conrad, 2016), that digital repression can be applied in covert manners (Roberts, 2020, Earl et al., 2022) and is more efficient, cost less and can be applied at a greater scale than traditional repression (Feldstein, 2019; Frantz et al., 2020).

To test these hypotheses I leveraged recent advances in the field of political science and used a counterfactual estimator developed by Liu et al. (2022a). The IFEct estimator produces easily interpretable plots and allows for both maturing and decomposition of the treatment effect. This allowed me to test if digital repression mirrors or contradicts the strategic adjustments found in physical repression (Scharpf et al., 2022). Additionally, the counterfactual estimator circumvents potential bias in effect estimates arising from the negative weights problem identified in the TWFE estimator (Goodman-Bacon, 2021). The IFEct also incorporates factor augmentation to model time shocks affecting all countries simultaneously, for example technological developments.

Both the capacity and repression models appear to be in line with the model assumptions and the results from the capacity model appear to be quite robust to different specifications. In the subsequent section, I will discuss my results in relation to my hypotheses and explore the broader implications of these findings.

Conclusion

Overall, my results provide support for hypothesis 1a. There appears to be an increase in the capacity for digital repression one year prior to the international sport event. Furthermore, this increase becomes more pronounced during the event year (H2a) and continues to strengthen after the event (H3a). Specifically, my findings suggest that this effect persist for six years following the event. Implying that international sport events have a disproportionate impact on a country after, rather than before, the event. Over the eight-year period, the average annual increase in capacity for digital repression is estimated to 2.9 %, amounting to a total increase of 23 %. Even though point estimates consistently are estimated to be quite sizeable and positive, large uncertainty measures underscores the need for further research to substantiate these findings.

Upon disaggregating the capacity-index, it appears that international sport events particularly enhance a state's ability to shut down or throttle the speed of the internet. Possibly in preparation for protests that might happen during the event, that potentially can be broadcasted to the world in real-time due to the presence of international media. Such an attempt to quell protest was famously, but unsuccessfully, used during the Arab Spring and continues until today (Dainotti et al., 2014; Hassanpour, 2014). When, or if, this capacity translates to actual shutdowns of the internet, a complete shutdown would be indiscriminate (affecting all users within an area) and quite overt. However, if the government reduces the speed of the internet as a whole or on certain webpages this could be a more covert form of digital repression that is harder to detect.

The overall increase in digital capacity implies that, compared to non-hosting autocracies, host countries increase their capacity by nearly one fourth. The positive effect on capacity building eventually fades out after some years, meaning that investment in digital capacity after these eight years follow the same trajectory regardless of whether a country has hosted an international sport event or not. Importantly, the estimates do not turn negative, indicating that hosting countries do not return to pre-event levels of digital repressive capacity.

The results of this study show no significant negative pattern in the actual use of digital repression after the event, suggesting partial support for hypothesis 3b. For hypotheses1b and 2b, which expected regimes to increase the actual use of digital repression before and during the event, the evidence is mixed. It appears that international sport events do not significantly increase actual use of digital repression. Perhaps because autocrats perceive digital repression to lack the deterrence effects assumed to be caused by an increase in physical repression (Scharpf et al. 2022). The model estimates a slight increase in effect in the year prior to the event, with the effect lasting up to seven years after the event. Over the nine-year period the average annual increase in actual use of digital repression is estimated to 1.7 %, resulting in a total increase of 15 % as compared to non-hosting autocracies. Nonetheless, as shown in my result section, these effects come with a high level of uncertainty. Disaggregating the digital repression index reveals that international sport events affect different repressive means in diverse ways, particularly causing a substantial increase in social media monitoring.

By establishing these findings, my study contributes to the literature on digital repression by identifying a potential driver for increased digital repressive capacities in general (e.g. Earl et al., 2022; Keremoğlu & Weidmann, 2020; Roberts, 2020) and for the capacity to shut down the internet in particular (e.g. Dainotti et al., 2014; Freyburg & Garbe, 2018; Hassanpour, 2014). By applying the theoretical framework of the scrutiny-publicity dilemma developed by Scharpf et al. (2022), I demonstrate that this dilemma extends to the capacity for digital repression. While capacity for repressive acts may not equate to actual repression, increased capacity could heighten the opposition's and dissenter's perception of the government as a threat. My results indicate that autocrats do indeed increase digital capacity in anticipation of heightened media attention, that could either strengthen or undermine the regime's domestic and international standing. Moreover, this increase in capacity continues during the event year, suggesting that autocrats may either be unable or unwilling to conceal this enhanced capacity or believe it would go undetected in the first place.

Furthermore, I highlight a new risk area associated with awarding international sports events to autocracies, contributing to the body of literature exploring the nexus between international sports events and human rights (e.g. Bowersox, 2016; Scharpf et al., 2022; Bertoli, 2017). There are indications that hosting such events not only affect the level of digital repressive capacities, but also triggers the onset of investments in digital repression technology. The heterogenous treatment effects identified in my study suggest that the impact of international sport events tends to flatten over time, but importantly, do not turn negative. This implies that sport events acts as an incentive for autocrats to begin investment in digital capacity, potentially shifting the onset of investments years prior to that of non-hosting autocracies. This have implications for organizations responsible for selecting event hosts, who should carefully consider how such decisions might influence the long-term trajectory of a country's capacity to repress its population through digital means. Additionally, this have implications for civil society organizations and media involved in monitoring and reporting on human rights abuses. These actors should scrutinize hosting countries even before the event, bearing in mind that trends observed during the event are likely to become increasingly oppressive in the following years, as international attention shifts elsewhere.

To the best of my knowledge, this is the first study analysing the effect of international sports events on the capacity for and actual use of digital repression. This study has revealed a number of potential avenues for future research. Future studies could examine specific types of digital repression, my findings suggest that particularly the capacity to shut down the internet and actual monitoring of social media are affected by international sport events. Moreover, research could investigate how different regime types are affected by the scrutiny-publicity dilemma. Initial findings suggest that weaker democracies demonstrate more strategic adjustments compared to stricter autocracies. Additionally, both autocracies and democracies exhibit increasing capacity for digital repression. Future research could investigate whether, and how, regime type influences the type of digital repressive capacities that a state invests in.

Another avenue for future research involves testing these findings using quantitative case-study data. By using fine-grained technical data such as recordings of actual shutdown, DoS-attacks, and blocked websites researcher could be able to detect more specific temporal effects and test for the difference between expert-data and recorded observations. Furthermore, as long as military and intelligence purchases and budgets continue to be classified, increased accuracy in measures of actual digital repression could also increase accuracy in measures of digital repressive capacity. Although these two measures are conceptually distinct, in practice, earlier observations of past digital repression likely influence perceptions of a regime's capabilities.

An interesting area for future research would connect the capacity for and the actual use of digital repression to other forms of repression when investigating the impact of the scrutiny-publicity dilemma. Do host countries increase digital capacity and repression alongside improving civil liberties (on paper) as suggested by Keremoğlu & Weidmann (2020)? Do they resort to more physical repression before and after the event as digital repression increasingly provides information on dissenters, as highlighted by Frantz et al. (2020)?

While my study has focused on government actions, future research could examine how the scrutiny-publicity dilemma impacts domestic opposition and media. Do they perceive increased capacity as a danger in and of itself? And do the potential rewards of utilizing the increased international publicity to draw attention to the regime's human rights abuses outweigh the potential risks of government repression?

Lastly, to what extent are these findings applicable to international events outside of the sports sphere? The mechanisms of the scrutiny-publicity dilemma suggest that it is the level of global attention an event garners that triggers changes in digitally repressive actions and capabilities. This implies that other types of international events drawing the world's attention, such as the Climate Conference (COP), could also affect digital repression in autocracies. Future research could expand its scope to investigate what types of international events that trigger the scrutiny-publicity dilemma.

In conclusion, international sport events appear to increase the capacity for digital repression in autocratic host countries, leading to a 23 % increase in capacity compared to non-hosting autocracies. My analysis shows that further research is needed to understand the implications of international sports events on actual digital repression. Enhanced capacity to control the internet can have adverse consequences for civil society, opposition, and the general public in autocracies, who may experience heightened censorship, surveillance, and coordination difficulties.

My findings suggest that international sport events have a lasting detrimental effect, extending to six years after the event. The long-term implications of increased capacities in digital repression emphasize the responsibility of organizations that select event hosts, as these decisions can shape a country's digital repressive trajectory in the long run. This also underscores the obligation of the international human rights community to continue supporting civil society and highlighting human rights conditions in autocratic host countries years after the event has occurred. As international media diverts its attention elsewhere, repressive digital capacities are anticipated to escalate.

References

Abadie, A., Diamond, A., & Hainmueller, J. (2015). Comparative Politics and the Synthetic Control Method. *American Journal of Political Science*, *59*(2), 495–510. https://doi.org/10.1111/ajps.12116

Amnesty. (2016, March 31). *Qatar World Cup of Shame*. Amnesty International. Accessed 16.08.2023. https://www.amnesty.org/en/latest/campaigns/2016/03/qatar-world-cup-of-shame/

Asal, V., Mauslein, J., Murdie, A., Young, J., Cousins, K., & Bronk, C. (2016). Repression, Education, and Politically Motivated Cyberattacks. *Journal of Global Security Studies*, *1*(3), 235–247. https://doi.org/10.1093/jogss/ogw006

Bai, J. (2009). Panel Data Models with Interactive Fixed Effects. *Econometrica*, *77*(4), 1229–1279.

Bakke, K. M., Mitchell, N. J., & Smidt, H. M. (2020). When States Crack Down on Human Rights Defenders. *International Studies Quarterly*, *64*(1), 85–96. https://doi.org/10.1093/isq/sqz088

Beazer, Q. H., Crabtree, C. D., Fariss, C. J., & Kern, H. L. (2022). When Do Private Actors Engage in Censorship? Evidence From a Correspondence Experiment with Russian Private Media Firms. *British Journal of Political Science*, *52*(4), 1790–1809. https://doi.org/10.1017/S0007123421000351

Bertoli, A. D. (2017). Nationalism and Conflict: Lessons from International Sports. *International Studies Quarterly*, *61*(4), 835–849. https://doi.org/10.1093/isq/sqx029

Blackwell, M., & Glynn, A. N. (2018). How to Make Causal Inferences with Time-Series Cross-Sectional Data under Selection on Observables. *American Political Science Review*, *112*(4), 1067–1082. https://doi.org/10.1017/S0003055418000357

Boese, V. A. (2019). How (not) to measure democracy. *International Area Studies Review*. https://doi.org/10.1177/2233865918815571

Boix, C., Miller, M., & Rosato, S. (2013). A Complete Data Set of Political Regimes, 1800–2007. *Comparative Political Studies*, *46*(12), 1523–1554. https://doi.org/10.1177/0010414012463905

Bowersox, Z. (2016). Naming, Shaming, and International Sporting Events: Does the Host Nation Play Fair? *Political Research Quarterly*, *69*(2), 258–269. https://doi.org/10.1177/1065912916636238

Brancati, D., & Wolhforth, W. (2021, April 25). Why Authoritarians Love the Olympics—A Boycott of Beijing 2022 Will Do Little to Deter China. *Foreign Affairs*. Accessed 30.05.2023. https://www.foreignaffairs.com/articles/china/2021-03-25/why-authoritarians-love-olympics

Chen, J., & Xu, Y. (2017). Why Do Authoritarian Regimes Allow Citizens to Voice Opinions Publicly? *The Journal of Politics*, *79*(3), 792–803. https://doi.org/10.1086/690303

Coppedge, Michael, John Gerring, Carl Henrik Knutsen, Staffan I. Lindberg, Jan Teorell, David Altman, Michael Bernhard, Agnes Cornell, M. Steven Fish, Lisa Gastaldi, Haakon Gjerløw, Adam Glynn, Ana Good God, Sandra Grahn, Allen Hicken, Katrin Kinzelbach, Joshua Krusell, Kyle L. Marquardt, Kelly McMann, Valeriya Mechkova, Juraj Medzihorsky, Natalia Natsika, Anja Neundorf, Pamela Paxton, Daniel Pemstein, Josefine Pernes, Oskar Ryd´en, Johannes von Römer, Brigitte Seim, Rachel Sigman, Svend-Erik Skaaning, Jeffrey Staton, Aksel Sundström, Eitan Tzelgov, Yi-ting Wang, Tore Wig, Steven Wilson and Daniel Ziblatt. (2023). V-Dem [Country-Year/Country-Date] Dataset v13. Varieties of Democracy (V-Dem) Project. https://doi.org/10.23696/vdemds23.

Dahl, R. (1971). *Polyarchy: Participation and opposition*. Yale University Press. https://yalebooks.yale.edu/9780300015652/polyarchy

Dainotti, A., Squarcella, C., Aben, E., Claffy, K. C., Chiesa, M., Russo, M., & Pescape, A. (2014). Analysis of Country-Wide Internet Outages Caused by Censorship. *IEEE/ACM Transactions on Networking*, *22*(6), 1964–1977. https://doi.org/10.1109/TNET.2013.2291244

Danneman, N., & Ritter, E. H. (2014). Contagious Rebellion and Preemptive Repression. *Journal of Conflict Resolution*, *58*(2), 254–279. https://doi.org/10.1177/0022002712468720

Davenport, C. (2007). State Repression and Political Order. *Annual Review of Political Science*, *10*(1), 1–23. https://doi.org/10.1146/annurev.polisci.10.101405.143216

Davies, Shawn, Therese Pettersson & Magnus Öberg (2023). Organized violence 1989-2022, and the return of conflict between states. Journal of Peace Research 60(4).

de Chaisemartin, C., & D'Haultfœuille, X. (2020). Two-Way Fixed Effects Estimators with Heterogeneous Treatment Effects. *American Economic Review*, *110*(9), 2964–2996. https://doi.org/10.1257/aer.20181169

Deibert, R. J. (2019). The Road to Digital Unfreedom: Three Painful Truths About Social Media. *Journal of Democracy*, *30*(1), 25–39. https://doi.org/10.1353/jod.2019.0002

deLisle, J. (2022, February 3). *Beijing's Olympic Moments, 2008 and 2022: How China and the Meaning of the Games Have, and Have Not, Changed*. Foreign Policy Research Institute. Accessed 16.05.2023. https://www.fpri.org/article/2022/02/beijings-olympic-moments-2008-and-2022-how-china-and-the-meaning-of-the-games-have-and-have-not-changed/

deMeritt, J. H. R. (2016). The Strategic Use of State Repression and Political Violence. In J. H. R. deMeritt, *Oxford Research Encyclopedia of Politics*. Oxford University Press. https://doi.org/10.1093/acrefore/9780190228637.013.32

Depetris-Chauvin, E., Durante, R., & Campante, F. (2020). Building Nations through Shared Experiences: Evidence from African Football. *American Economic Review*, *110*(5), 1572–1602. https://doi.org/10.1257/aer.20180805

Earl, J. (2003). Tanks, Tear Gas, and Taxes: Toward a Theory of Movement Repression. *Sociological Theory*, *21*(1), 44–68.

Earl, J., Maher, T. V., & Pan, J. (2022). The digital repression of social movements, protest, and activism: A synthetic review. *Science Advances*, *8*(10), eabl8198. https://doi.org/10.1126/sciadv.abl8198

Escribà-Folch, A. (2010). *Repression, Political Threats, and Survival Under Autocracy* (SSRN Scholarly Paper 1705508). https://doi.org/10.2139/ssrn.1705508

Fariss, C. J., Kenwick, M. R., & Reuning, K. (2020). Estimating one-sided-killings from a robust measurement model of human rights. *Journal of Peace Research*, *57*(6), 801–814. https://doi.org/10.1177/0022343320965670

Fearon, J. D., & Laitin, D. D. (2003). Ethnicity, Insurgency, and Civil War. *American Political Science Review*, *97*(1), 75–90. https://doi.org/10.1017/S0003055403000534

Fein, H. (1995). Life-Integrity Violations and Democracy in the World, 1987. *Human Rights Quarterly*, *17*(1), 170–191.

Feldstein, S. (2019). The Road to Digital Unfreedom: How Artificial Intelligence is Reshaping Repression. *Journal of Democracy*, *30*(1), 40–52. https://doi.org/10.1353/jod.2019.0003

Feldstein, S. (2021). The Rise of Digital Repression. In S. Feldstein (Ed.), *The Rise of Digital Repression: How Technology is Reshaping Power, Politics, and Resistance* (p. 0). Oxford University Press. https://doi.org/10.1093/oso/9780190057497.003.0001

Frantz, E., Kendall-Taylor, A., & Wright, J. (2020). Digital Repression in Autocracies. The Varieties of Democracy Institute, *2020:27*.

Freedom House. (2022). *Freedom on the Net 2022 – Countering an Authoritarian Overhaul of the Internet*. Accessed 30.05.2023. https://freedomhouse.org/sites/default/files/2022-10/FOTN2022Digital.pdf

Freyburg, T., & Garbe, L. (2018). Authoritarian Practices in the Digital Age| Blocking the Bottleneck: Internet Shutdowns and Ownership at Election Times in Sub-Saharan Africa. *International Journal of Communication*, *12*(0), Article 0.

Fuchs, C. (2011). Web 2.0, Prosumption, and Surveillance. *Surveillance & Society*, *8*(3), 288–309. https://doi.org/10.24908/ss.v8i3.4165

Fuchs, C. (2013). Societal and Ideological Impacts of Deep Packet Inspection Internet Surveillance. *Information, Communication & Society*, *16*(8), 1328–1359. https://doi.org/10.1080/1369118X.2013.770544

Gehlbach, S., Luo, Z., Shirikov, A., & Vorobyev, D. (2022). *A Model of Censorship, Propaganda, and Repression*. Working paper. Accessed 12.07.2023. https://scottgehlbach.net/wp-content/uploads/2022/02/Censorship_Propaganda_Repression.pdf

Gerschewski, J. (2013). The three pillars of stability: Legitimation, repression, and co-optation in autocratic regimes. *Democratization*, *20*(1), 13–38. https://doi.org/10.1080/13510347.2013.738860

Gibney, M., Cornett, L., Haschke, P., Wood, R. M., & Arnon, D. (2016). Measuring Violations of Human Rights Standards. In M. Gibney, L. Cornett, P. Haschke, R. M. Wood, & D. Arnon, *Oxford Research Encyclopedia of Politics*. Oxford University Press. https://doi.org/10.1093/acrefore/9780190228637.013.23

Gleditsch, Nils Petter; Peter Wallensteen, Mikael Eriksson, Margareta Sollenberg & Håvard Strand (2002) Armed Conflict 1946–2001: A New Dataset. Journal of Peace Research 39(5): 615–637.

Gobillon, L., & Magnac, T. (2016). Regional Policy Evaluation: Interactive Fixed Effects and Synthetic Controls. *The Review of Economics and Statistics*, *98*(3), 535–551. https://doi.org/10.1162/REST_a_00537

Goodman-Bacon, A. (2021). Difference-in-differences with variation in treatment timing. *Journal of Econometrics*, *225*(2), 254–277. https://doi.org/10.1016/j.jeconom.2021.03.014

Greitens, S. C. (2016). *Dictators and their Secret Police: Coercive Institutions and State Violence* (1st ed.). Cambridge University Press. https://doi.org/10.1017/CBO9781316489031

Grix, J., & Lee, D. (2013). Soft Power, Sports Mega-Events and Emerging States: The Lure of the Politics of Attraction. *Global Society*, *27*(4), 521–536. https://doi.org/10.1080/13600826.2013.827632

Guriev, S., & Treisman, D. (2019). Informational Autocrats. *Journal of Economic Perspectives*, *33*(4), 100–127. https://doi.org/10.1257/jep.33.4.100

Hartman, E., & Hidalgo, F. D. (2018). An Equivalence Approach to Balance and Placebo Tests. *American Journal of Political Science*, *62*(4), 1000–1013. https://doi.org/10.1111/ajps.12387

Hassanpour, N. (2014). Media Disruption and Revolutionary Unrest: Evidence From Mubarak's Quasi-Experiment. *Political Communication*, *31*(1), 1–24. https://doi.org/10.1080/10584609.2012.737439

Hellmeier, S. (2016). The Dictator's Digital Toolkit: Explaining Variation in Internet Filtering in Authoritarian Regimes. *Politics & Policy*, *44*(6), 1158–1191. https://doi.org/10.1111/polp.12189

Hellmeier, S., & Zürn, M. (2022, December 21). *World Cup and human rights in Qatar: Where the propaganda effect failed*. WZB - Berlin Social Science Center. Accessed 16.08.2023.

https://www.wzb.eu/en/world-cup-and-human-rights-in-qatar-where-the-propaganda-effect-failed

Henderson, C. W. (1991). Conditions Affecting the Use of Political Repression. *The Journal of Conflict Resolution*, *35*(1), 120–142.

Huang, H., Boranbay-Akan, S., & Huang, L. (2019). Media, Protest Diffusion, and Authoritarian Resilience. *Political Science Research and Methods*, *7*(1), 23–42. https://doi.org/10.1017/psrm.2016.25

Human Rights Watch. (2022, November 14). *Qatar: Rights Abuses Stain FIFA World Cup*. Human Rights Watch. Accessed 16.08.2023. https://www.hrw.org/news/2022/11/14/qatar-rights-abuses-stain-fifa-world-cup

Keremoğlu, E., & Weidmann, N. B. (2020). How Dictators Control the Internet: A Review Essay. *Comparative Political Studies*, *53*(10–11), 1690–1703. https://doi.org/10.1177/0010414020912278

King, G., Pan, J., & Roberts, M. (2013). How Censorship in China Allows Government Criticism but Silences Collective Expression. *American Political Science Review*, *107*(2 (May)), 1–18.

King, G., Pan, J., & Roberts, M. E. (2017). How the Chinese Government Fabricates Social Media Posts for Strategic Distraction, Not Engaged Argument. *American Political Science Review*, *111*(3), 484–501. https://doi.org/10.1017/S0003055417000144

Knockel, J. (2022). *Cross-Country Exposure: Analysis of the MY2022 Olympics App*. Citizen Lab Research Report No. 149. University of Toronto. Accessed 15.08.2023. https://citizenlab.ca/2022/01/cross-country-exposure-analysis-my2022-olympics-app/

Leber, A., & Abrahams, A. (2019). A Storm of Tweets: Social Media Manipulation During the Gulf Crisis. *Review of Middle East Studies*, *53*(2), 241–258. https://doi.org/10.1017/rms.2019.45

Lee, K.-H., & Chappelet, J.-L. (2022). Does Country Attractiveness Matter in International Competition? The Case of Countries' Bidding to Host Major Sports Events. *International Journal of Public Administration*, *45*(8), 675–686. https://doi.org/10.1080/01900692.2021.1879851

Levitsky, S., & Way, L. A. (2010). *Competitive Authoritarianism: Hybrid Regimes after the Cold War*. Cambridge University Press. https://doi.org/10.1017/CBO9780511781353

Liu, L., Wang, Y., & Xu, Y. (2022a). A Practical Guide to Counterfactual Estimators for Causal Inference with Time-Series Cross-Sectional Data. *American Journal of Political Science*, *00*(0). https://doi.org/10.1111/ajps.12723

Liu, Wang, & Xu. (2022b). *Tutorial for the fect-package in R*. Accessed 01.11.2023 https://yiqingxu.org/packages/fect/articles/tutorial.html

Lührmann, A., Tannenberg, M., & Lindberg, S. I. (2018). Regimes of the World (RoW): Opening New Avenues for the Comparative Study of Political Regimes. *Politics and Governance*, *6*(1), 60–77. https://doi.org/10.17645/pag.v6i1.1214

Lutscher, P. M. (2023). When Censorship Works: Exploring the Resilience of News Websites to Online Censorship. *British Journal of Political Science*, 1–9. https://doi.org/10.1017/S0007123422000722

Lutscher, P. M., & Ketchley, N. (2022). Online repression and tactical evasion: Evidence from the 2020 Day of Anger protests in Egypt. *Democratization*, 1–21. https://doi.org/10.1080/13510347.2022.2140798

Lutscher, P. M., Weidmann, N. B., Roberts, M. E., Jonker, M., King, A., & Dainotti, A. (2020). At Home and Abroad: The Use of Denial-of-service Attacks during Elections in Nondemocratic Regimes. *Journal of Conflict Resolution*, *64*(2–3), 373–401. https://doi.org/10.1177/0022002719861676

Maennig, W., & Vierhaus, C. (2017). Winning the Olympic host city election: Key success factors. *Applied Economics*, *49*(31), 3086–3099. https://doi.org/10.1080/00036846.2016.1254339

Manheim, J. B. (1990). Rites of Passage: The 1988 Seoul Olympics as Public Diplomacy. *The Western Political Quarterly*, *43*(2), 279–295. https://doi.org/10.2307/448367

Martin, G. (2019). The Consequences of Some Angry Re-Tweets: Another Medium is the Message. *Review of Middle East Studies*, *53*(2), 259–293. https://doi.org/10.1017/rms.2019.42

Mechkova, V., Pemstein, D., Seim, B., & Wilson, S. (2023). *Digital Society Project Dataset* (Version 4). http://digitalsocietyproject.org/

Mechkova, Valeriya, Michael Coppedge, John Gerring, Carl Henrik Knutsen, Staffan I. Lindberg, Jan Teorell, David Altman, Michael Bernhard, Agnes Cornell, M. Steven Fish, Lisa Gastaldi, Haakon Gjerløw, Adam Glynn, Sandra Grahn, Allen Hicken, Katrin Kinzelbach, Kyle L. Marquardt, Kelly Mc-Mann, , Anja Neundorf, Pamela Paxton, Daniel Pemstein, Oskar Rydén, Johannes von Römer, Brigitte Seim, Rachel Sigman, Svend-Erik Skaaning, Jeffrey Staton, Aksel Sundström, Eitan Tzelgov, Luca Uberti, Yi-ting Wang, Tore Wig, and Daniel Ziblatt. 2023. V-Dem Codebook v13. Varieties of Democracy (V-Dem) Project.

Michaelson, R., & Milman, O. (2022, November 6). Fears mount that Cop27 app could be used by Egypt to surveil regime's critics. *The Guardian*. Accessed 18.08.2023 https://www.theguardian.com/environment/2022/nov/06/egypt-cop27-climate-surveillance-cybersecurity

Nordås, R., & Davenport, C. (2013). Fight the Youth: Youth Bulges and State Repression. *American Journal of Political Science*, *57*(4), 926–940. https://doi.org/10.1111/ajps.12025

Pan, J., & Siegel, A. A. (2020). How Saudi Crackdowns Fail to Silence Online Dissent. *American Political Science Review*, *114*(1), 109–125. https://doi.org/10.1017/S0003055419000650

Panja, T. (2023a, October 4). FIFA Will Host 2030 World Cup on Three Continents. *The New York Times*. Accessed 07.11.2023. https://www.nytimes.com/2023/10/04/world/americas/2030-world-cup.html

Panja, T. (2023b, October 31). Saudi Arabia Confirmed as Sole Bidder for 2034 World Cup. *The New York Times*. Accessed 07.11.2023. https://www.nytimes.com/2023/10/31/world/middleeast/saudi-arabia-world-cup-2034.html

Paskhalis, T., Rosenfeld, B., & Tertytchnaya, K. (2022). Independent media under pressure: Evidence from Russia. *Post-Soviet Affairs*, *38*(3), 155–174. https://doi.org/10.1080/1060586X.2022.2065840

Payne, C. L., & Abouharb, M. R. (2016). The International Covenant on Civil and Political Rights and the strategic shift to forced disappearance. *Journal of Human Rights*, *15*(2), 163–188. https://doi.org/10.1080/14754835.2015.1103158

Pemstein, Daniel, Kyle L. Marquardt, Eitan Tzelgov, Yi-ting Wang, Juraj Medzihorsky, Joshua Krusell, Farhad Miri, and Johannes von Römer. (2023). The V-Dem Measurement Model: Latent Variable Analysis for Cross-National and Cross-Temporal Expert-Coded Data". V-Dem Working Paper No. 21. 8th edition. University of Gothenburg: Varieties of Democracy Institute.

Poast, P. D. (2007). Winning the Bid: Analyzing the International Olympic Committee's Host City Selections. *International Interactions*, *33*(1), 75–95. https://doi.org/10.1080/03050620601157470

Poe, S. C., & Tate, C. N. (1994). Repression of Human Rights to Personal Integrity in the 1980s: A Global Analysis. *The American Political Science Review*, *88*(4), 853–872. https://doi.org/10.2307/2082712

Rhamey, J. P., & Early, B. R. (2013). Going for the gold: Status-seeking behavior and Olympic performance. *International Area Studies Review*, *16*(3), 244–261. https://doi.org/10.1177/2233865913499563

Ritter, E. H. (2022, June 1). Strategic Digital Repression and the Consequences for Dissent Activities￼. *Mobilizing Ideas*. Accessed 03.04.2023. https://mobilizingideas.wordpress.com/2022/06/01/strategic-digital-repression-and-the-consequences-for-dissent-activities%ef%bf%bc/

Ritter, E. H., & Conrad, C. R. (2016). Preventing and Responding to Dissent: The Observational Challenges of Explaining Strategic Repression. *American Political Science Review*, *110*(1), 85–99. https://doi.org/10.1017/S0003055415000623

Roberts, M. E. (2018). *Censored: Distraction and Diversion Inside China's Great Firewall*. Princeton University Press. https://doi.org/10.2307/j.ctvc77b21

Roberts, M. E. (2020). Resilience to Online Censorship. *Annual Review of Political Science*, *23*(1), 401–419. https://doi.org/10.1146/annurev-polisci-050718-032837

Scharpf, A., Gläßel, C., & Edwards, P. (2022). International Sports Events and Repression in Autocracies: Evidence from the 1978 FIFA World Cup. *American Political Science Review*, 1–18. https://doi.org/10.1017/S0003055422000958

Shahbaz, A. (2018). Freedom on the Net 2018 - *The Rise of Digital Authoritarianism*. Freedom House. Accessed 30.05.2023. https://freedomhouse.org/report/freedom-net/2018/rise-digital-authoritarianism

Sharma, H. (2023, January 13). Human rights are not politics, Cricket Australia chief says on withdrawal. *Reuters*. Accessed 30.08.2023. https://www.reuters.com/lifestyle/sports/human-rights-are-not-politics-cricket-australia-chief-says-withdrawal-2023-01-13/

Steenveld, L., & Strelitz, L. (1998). The 1995 Rugby World Cup and the politics of nation-building in South Africa. *Media, Culture & Society*, *20*(4), 609–629. https://doi.org/10.1177/016344398020004006

Stephan, M. J., & Chenoweth, E. (2008). Why Civil Resistance Works: The Strategic Logic of Nonviolent Conflict. *International Security*, *33*(1), 7–44. https://doi.org/10.1162/isec.2008.33.1.7

Stern, R. E., & Hassid, J. (2012). Amplifying Silence: Uncertainty and Control Parables in Contemporary China. *Comparative Political Studies*, *45*(10), 1230–1254. https://doi.org/10.1177/0010414011434295

Stock, J. H. (2012). *Introduction to econometrics* (3rd ed., global ed.). Pearson.

Stukal, D., Sanovich, S., Bonneau, R., & Tucker, J. A. (2022). Why Botter: How Pro-Government Bots Fight Opposition in Russia. *American Political Science Review*, *116*(3), 843–857. https://doi.org/10.1017/S0003055421001507

Sullivan, C. M. (2016). Undermining Resistance: Mobilization, Repression, and the Enforcement of Political Order. *Journal of Conflict Resolution*, *60*(7), 1163–1190. https://doi.org/10.1177/0022002714567951

Sutton, J., Butcher, C. R., & Svensson, I. (2014). Explaining political jiu-jitsu: Institution-building and the outcomes of regime violence against unarmed protests. *Journal of Peace Research*, *51*(5), 559–573. https://doi.org/10.1177/0022343314531004

Svolik, M. W. (2012). *The Politics of Authoritarian Rule*. Cambridge University Press. https://doi.org/10.1017/CBO9781139176040

Teorell, J., Coppedge, M., & Gerring, J. (2023). V-Dem Codebook v13. *Varieties of Democracy (V-Dem) Project*. https://doi.org/10.23696/vdemds23.

Truex, R. (2019). Focal Points, Dissident Calendars, and Preemptive Repression. *Journal of Conflict Resolution*, *63*(4), 1032–1052. https://doi.org/10.1177/0022002718770520

Villeneuve, N., & Crete-Nishihata, M. (2012). Attacks on Burmese Opposition Media. In *Access Contested: Security, Identity, and Resistance in Asian Cyberspace*. The MIT Press.

Wang, B., & Liu, Y. (2023). Does the Belt and Road Initiative affect the energy intensity of countries along the route? An analysis of the direct and indirect effects. *Journal of Environmental Planning and Management*, *0*(0), 1–19. https://doi.org/10.1080/09640568.2023.2175648

Weidmann, N. B., Benitez-Baleato, S., Hunziker, P., Glatz, E., & Dimitropoulos, X. (2016). Digital discrimination: Political bias in Internet service provision across ethnic groups. *Science*, *353*(6304), 1151–1155. https://doi.org/10.1126/science.aaf5062

Weidmann, N. B., & Rød, E. G. (2019). *The Internet and political protest in autocracies*. Oxford University Press.

Worrall, J. L. (2010). A User-Friendly Introduction to Panel Data Modeling. *Journal of Criminal Justice Education*, *21*(2), 182–196. https://doi.org/10.1080/10511251003693702

Xu, X. (2021). To Repress or to Co-opt? Authoritarian Control in the Age of Digital Surveillance. *American Journal of Political Science*, *65*(2), 309–325. https://doi.org/10.1111/ajps.12514

Xu, Y. (2017). Generalized Synthetic Control Method: Causal Inference with Interactive Fixed Effects Models. *Political Analysis*, *25*(1), 57–76. https://doi.org/10.1017/pan.2016.2

Appendix

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Appendix A – Sample selection

Table 4

Overview of autocracies included in sample with international sport events listed according to host.

Overview over autocratic hosts and non-host and

	Hosts	*First Event Hosted*	*Biggest Event Hosted**	*Non-Hosts*
1.	Russia	2013, *Athletics*	2018, *FIFA World Cup*	Burma/Myanmar
2.	Egypt	2006, *Africa Cup*	2019, *Africa Cup*	Albania
3.	Bangladesh	2011, *Cricket*		Yemen
4.	Vietnam	2007, *Asian Cup*		Haiti
5.	Kenya	2003, *Cricket*		Sudan
6.	Lebanon	2000, *Asian Cup*		Afghanistan
7.	Nigeria	2000, *Africa Cup*		Ethiopia
8.	Venezuela	2007, *Copa América*		North Korea
9.	Zimbabwe	2003, *Cricket*		Kosovo
10.	Qatar	2011, *Asian Cup*	2022, *FIFA World Cup*	Tanzania
11.	Tunisia	2004, *Africa Cup*		Uganda
12.	Angola	2010, *Africa Cup*		Bhutan
13.	Cameroon	2022, *Africa Cup*		Cambodia
14.	China	2004, *Asian Cup*	2008, *Summer Olympics*	Mozambique
15.	Gabon	2012, *Africa Cup*	2017, *Africa Cup*	Nepal
16.	Sri Lanka	2011, *Cricket*		Zambia
17.	Equatorial Guinea	2012, *Africa Cup*	2015, *Africa Cup*	Guinea
18.	Malaysia	2007, *Asian Cup*		Mauritania
19.	United Arab Emirates	2019, *Asian Cup*		Burundi
20.				Central African Republic
21.				Timor-Leste
22.				Iran

23.				Iraq
24.				Jordan
25.				Lesotho
26.				Liberia
27.				Malawi
28.				Maldives
29.				Sierra Leone
30.				Syria
31.				Ukraine
32.				Algeria
33.				Armenia
34.				Azerbaijan
35.				Belarus
36.				Chad
37.				Democratic Republic of the Congo
38.				Republic of the Congo
39.				Djibouti
40.				Eritrea
41.				The Gambia
42.				Georgia
43.				Guinea-Bissau
44.				Kazakhstan
45.				Kyrgyzstan
46.				Laos
47.				Palestine/West Bank
48.				Rwanda
49.				Somalia
50.				Eswatini
51.				Tajikistan
52.				Togo
53.				Turkmenistan
54.				Somaliland
55.				Uzbekistan
56.				Bahrain
57.				Comoros
58.				Cuba
59.				Fiji
60.				Hong Kong
61.				Kuwait
62.				North Macedonia
63.				Montenegro
64.				Oman
65.				Saudi Arabia
66.				Serbia
67.				Seychelles
68.				Singapore
69.				Solomon Islands
70.				Zanzibar

**If a country has hosted more than one event, I code when the biggest event was hosted. By biggest event I mean the event with the largest broadcast reach. For countries that previously co-hosted an event, but later hosted an event on its own, the latter is automatically coded as the biggest event.*

Figure A.1 Overview of polyarchy scores for countries with democratic country-years.

The plot shows polyarchy scores for countries that switch above or below the 0.5 cutoff (indicated by the red line) during the sampling period 2000 - 2022. The dashed vertical line indicate year of event for the host countries.

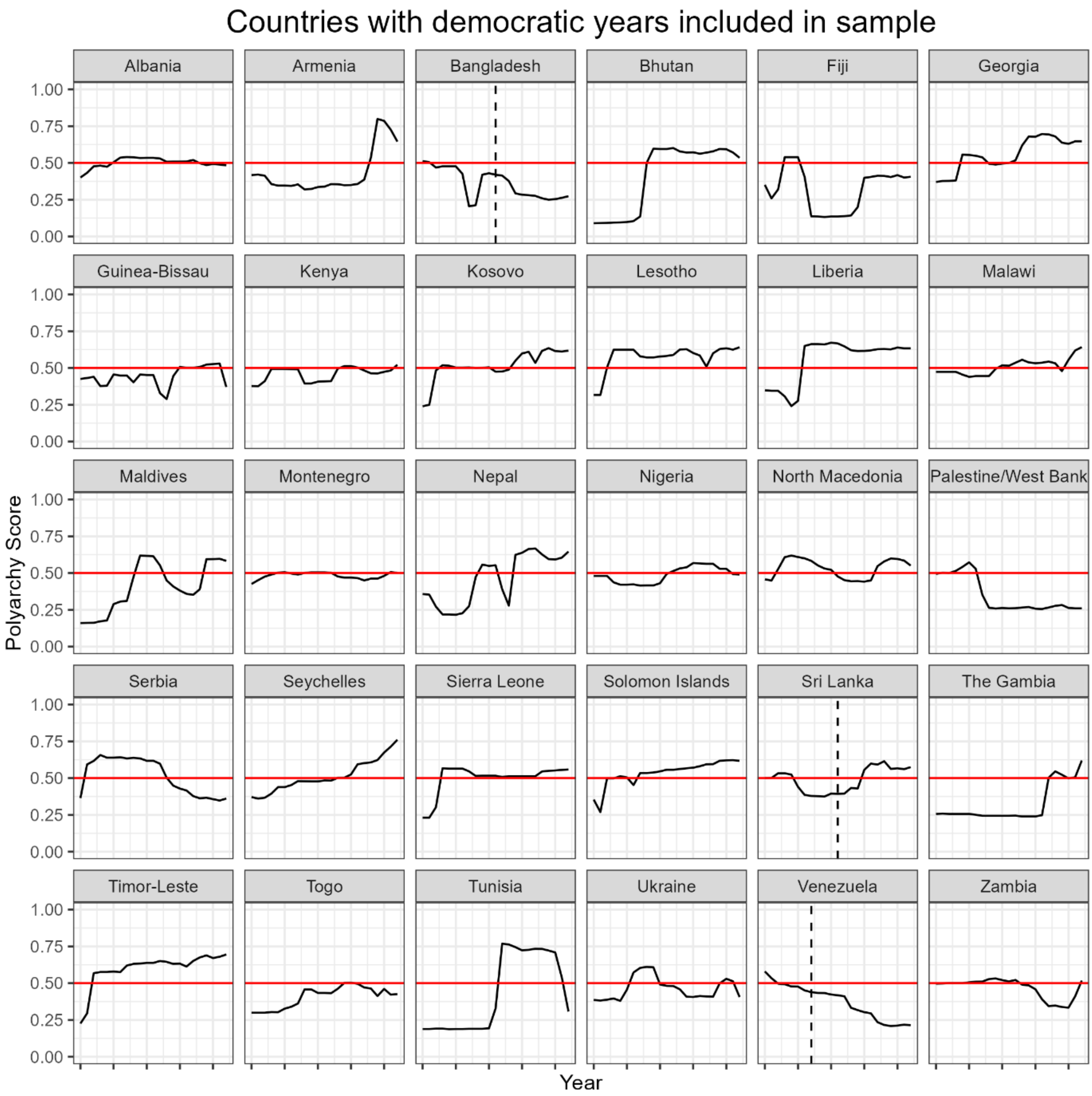
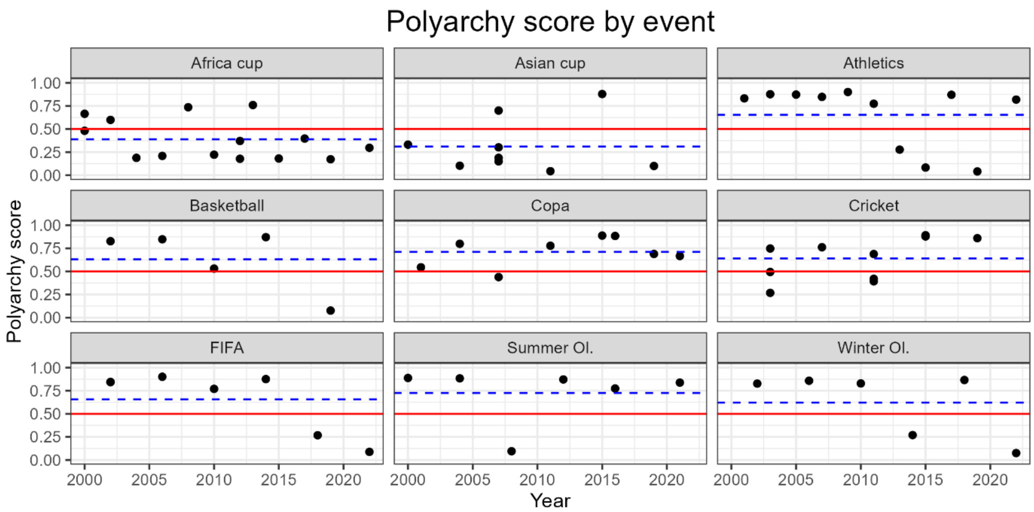


Figure A2 Mean polyarchy score by regime type.

The plot show the mean polyarchy score by event type (blue dotted line). The red line indicates the 0.5 cutoff between autocracies and democracies. Each dot indicate a unique event.



Appendix B – Summary statistics and additional data description

Table 5 List and summary statistics for potential confounding variables

List of potential confounding variables

Statistic	N	Mean	St. Dev.	Min	Max	Source
GDP per capita (log)	1,858	8.596	1.243	6.041	12.003	World Bank 2023 *(estimated using current USD)*
Polyarchy	2,047	0.319	0.159	0.015	0.799	V-Dem, v13
Conflict	1,955	0.226	0.418	0	1	UCDP/PRIO Armed Conflict Dataset, v23 *(dummy indicating if a state is a primary part in an armed conflict)*
Percentage internet users	1,891	23.174	27.178	0.000	100.000	World Bank 2023 *(% of population)*
Population (log)	2,001	15.960	1.614	11.295	21.069	World Bank 2023
Average years of education	1,334	6.568	2.710	1.282	11.748	V-Dem, v13 *(Average years of education among citizens older than 15)*
Percentage youths (15-29)	2,001	54.014	7.059	27.502	99.215	World Bank 2023 (percentage of total population)
Protest	2,046	-0.060	1.459	-3.221	4.142	V-Dem, v13 *(Measured as mass-mobilization for democracy)*
Physical Repression	2,047	0.522	0.267	0.014	0.967	V-Dem, v13 *(Measured using the physical violence index)*
Civic Repression	2,047	0.500	0.267	0.011	0.931	V-Dem, v13 *(Measured using the political civil liberties index)*

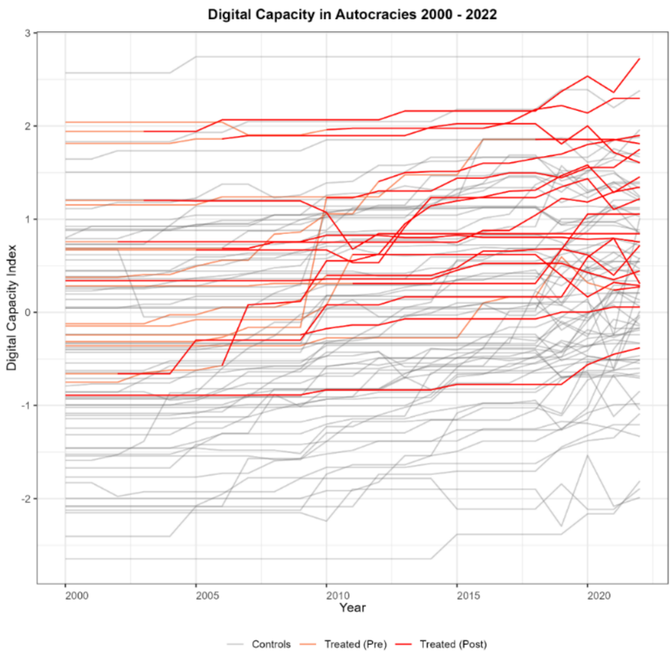
All variables are lagged by one year

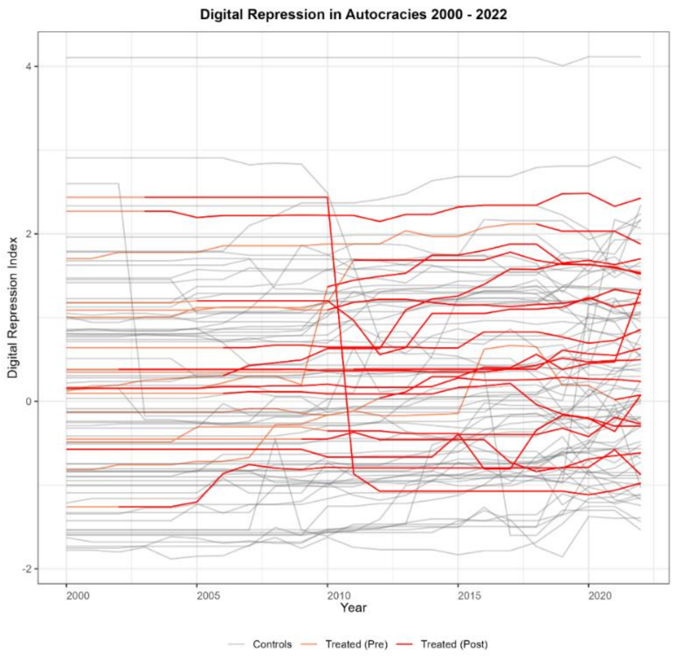
Appendix C – Additional descriptive evidence

Figure 3 show measures of digital capacity and repression in each country in the sample. The grey lines represent never-treated units, while treated units are orange before the event and switch to treated in the year before the event. The left plot suggest that digital capacity increases in all countries during the time period as well as being in general higher for hosts than non-hosting autocracies. For the right plot, showing measures of digital repression, there appears to be more variance between the treated countries, and it is hard to discern a general difference between host and non-hosts.

Figure C1 Digital capacity and repression from 2000 – 2022

Plot showing digital capacity (on the left) and digial repression (on the right) from 2000 – 2022, by country. Grey lines indicate never-treated countries, treated countries are orange prior to the event and red from the year prior to the event (t - 1)





Appendix D – Additional evidence for the main analysis

Figure D1 Estimated ATT, full time scale

Estimated ATT for main models displaying the full time scale. Left plot show results for capacity for digital repression (a), and right plot show results for actual use of digital repression (b). Showing 95 % confidence intervals.

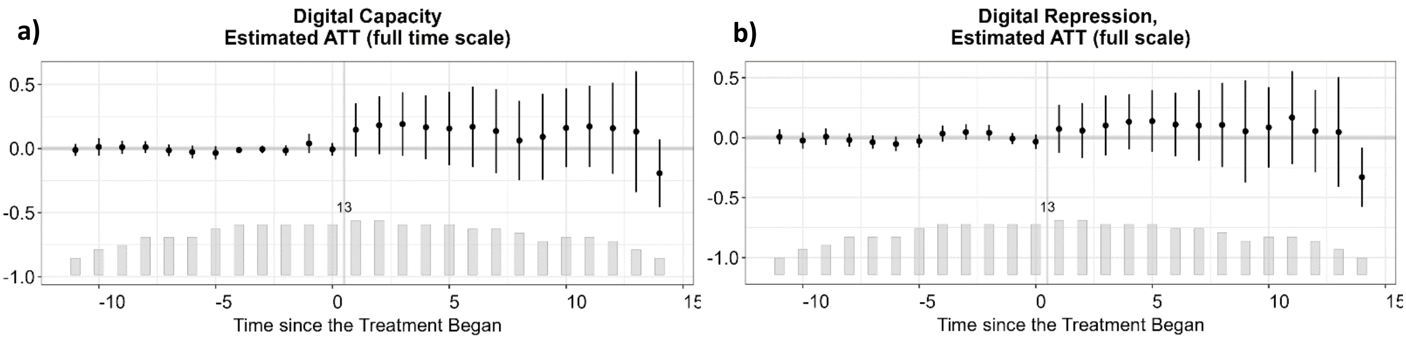
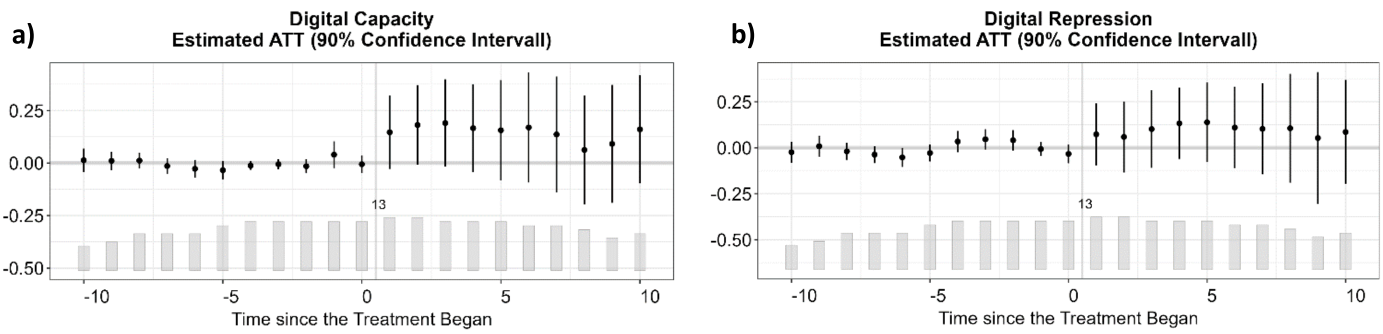


Figure D2 Estimated ATT, 90 % confidence intervals.

Estimated ATT for main model with 90 % confidence intervals. Left plot show results for capacity for digital repression, and right plot show results for actual use of digital repression.



Appendix E – Robustness Test

Adding controls

FigureE1 Estimated ATT on capacity for digital repression when adding controls.

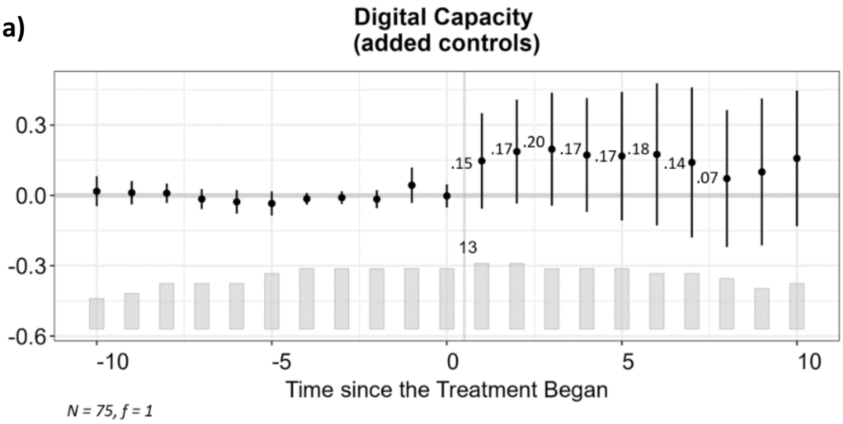
a) estimated ATT on capacity for digital repression when adding controls for physical and civic repression as well as protest. International sport events are estimated to have an effect eight years into treatment with an annual increase of 0.16, marginally bigger than in the base-model.

b) Placebo test checking for anticipation effects. Blue periods indicate placebo treatments.
c) A test for no pre-trend. Plot show both the equivalence range (red dotted lines) and minimum range (grey dotted lines).

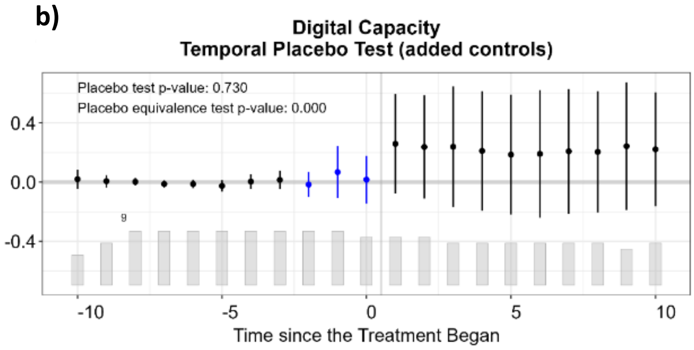
The model passes both the test for anticipation effects (plot b) and no pre-trend (plot c)

Plot indicating that 13/75 units are treated. Showing 95 % confidence intervals.

a)



b)



c)

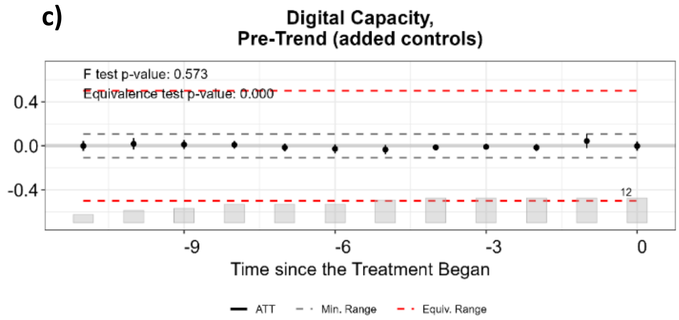


Figure E2 Estimated ATT on actual use of digital repression when adding controls.

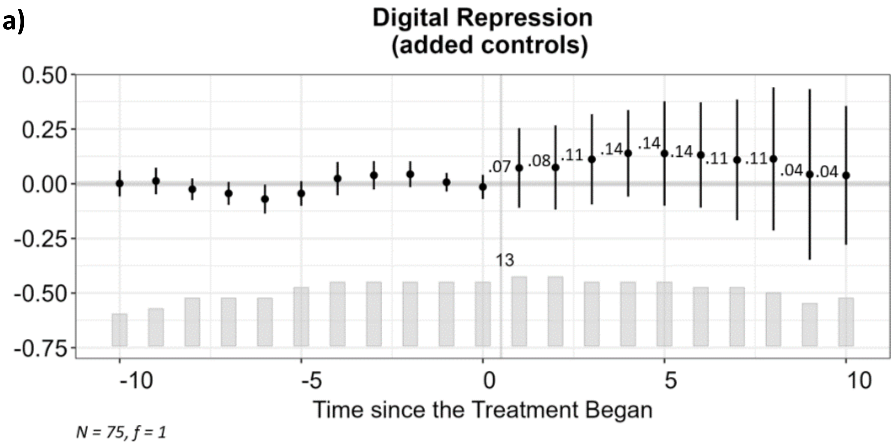
a) estimated ATT on actual digital repression when adding controls for physical and civic repression as well as protest. International sport events are estimated to have an effect ten years into treatment (one year longer than in the base-model) with a similar annual increase of 0.1.

b) Placebo test checking for anticipation effects. Blue periods indicate placebo treatments.
c) A test for no pre-trend. Plot show both the equivalence range (red dotted lines) and minimum range (grey dotted lines).

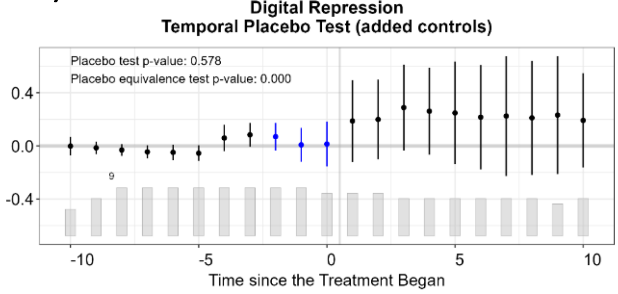
The model passes both the test for anticipation effects (plot b) and no pre-trend (plot c).

Plot indicating that 13/75 units are treated. Showing 95 % confidence intervals.

a)



b)



c)

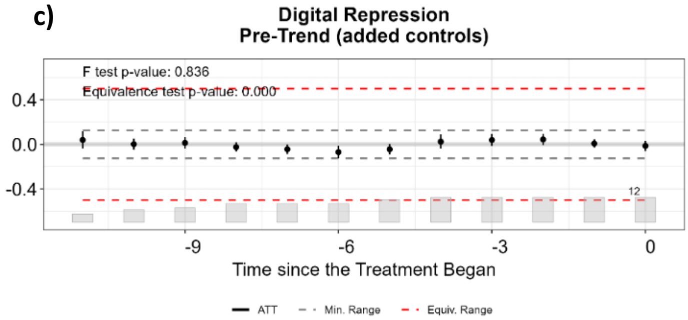


Figure E1 Estimated ATT on capacity for digital repression when adding control for average years of education in the population.

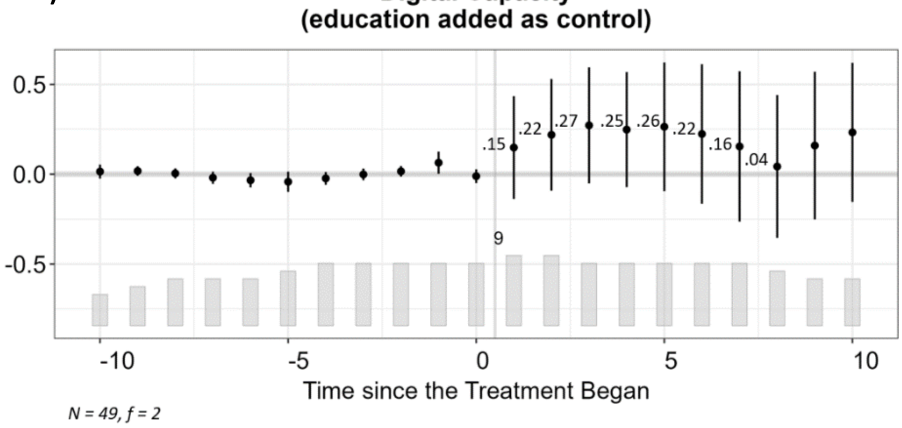
a) International sport events are estimated to have an effect lasting eight years into treatment. The average ATT for this period is estimated to 0.20 corresponding to an annual increase of 3.7 %. This increases effect estimates by 1 percentage points compared to the base-model.

b) Placebo test checking for anticipation effects. Blue periods indicate placebo treatments.
c) A test for no pre-trend. Plot show both the equivalence range (red dotted lines) and minimum range (grey dotted lines).

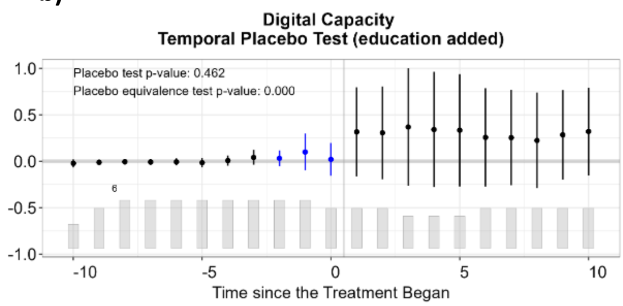
The model passes both the test for anticipation effects (plot b) and no pre-trend (plot c).

Plot indicating that 9/49 units are treated. Showing 95 % confidence intervals.

a)



b)



c)

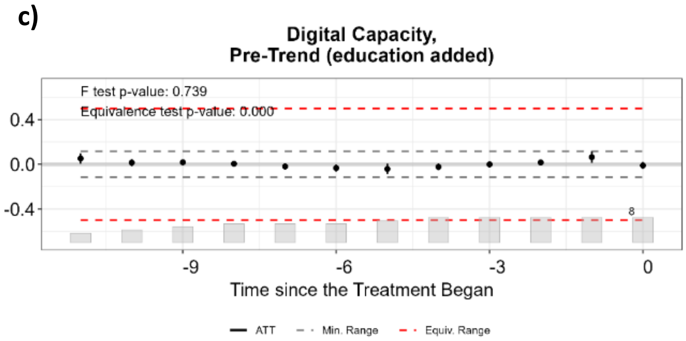


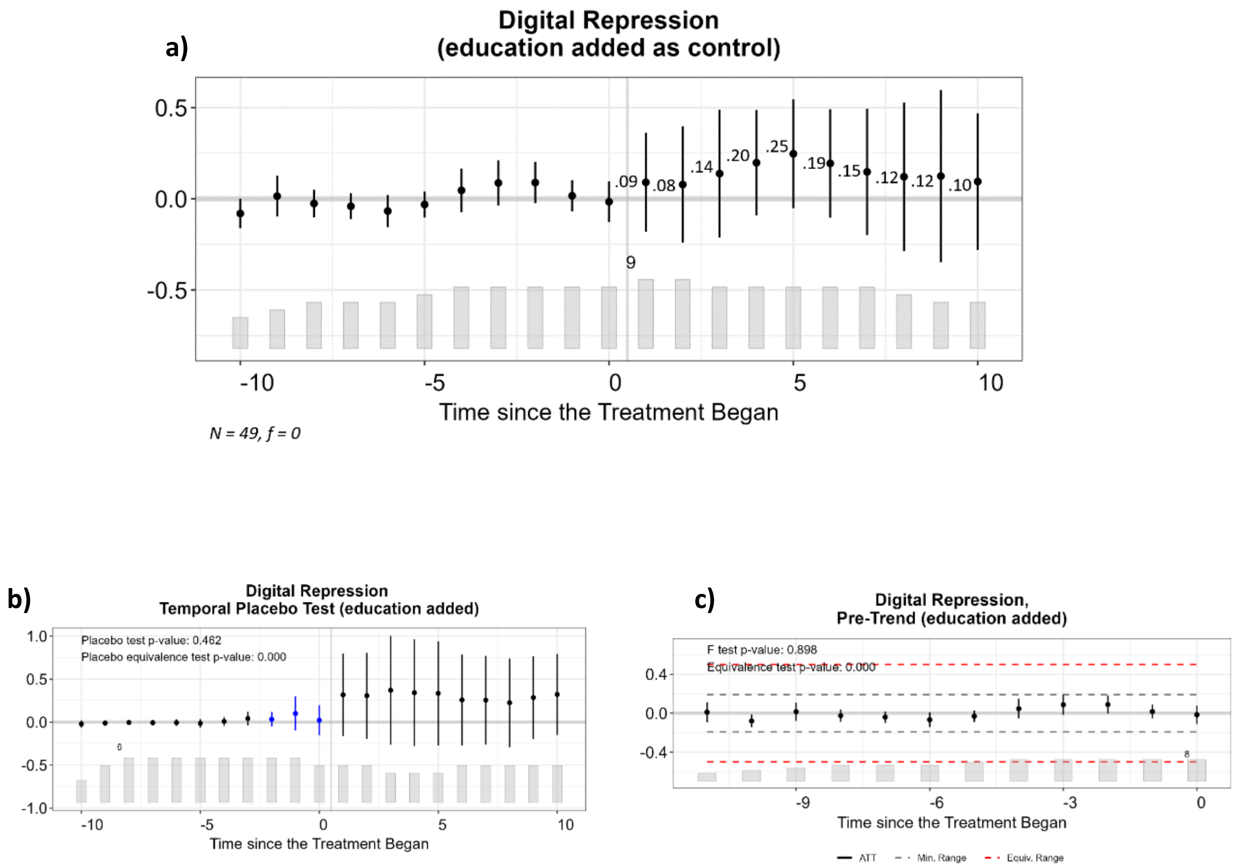
Figure E2 Estimated ATT on actual digital repression when adding control for average years of education in the population.

a) International sport events are estimated to have an effect extending to ten years into treatment. The average ATT for this period is estimated to 0.14 corresponding to an annual increase of 2.3 %, 0.6 percentage points more than in the base-model (as well as lasting longer).

b) Placebo test checking for anticipation effects. Blue periods indicate placebo treatments.
c) A test for no pre-trend. Plot show both the equivalence range (red dotted lines) and minimum range (grey dotted lines).

The model passes both the test for anticipation effects (plot b) and no pre-trend (plot c).

Plot indicating that 9/49 units are treated. Showing 95 % confidence intervals.



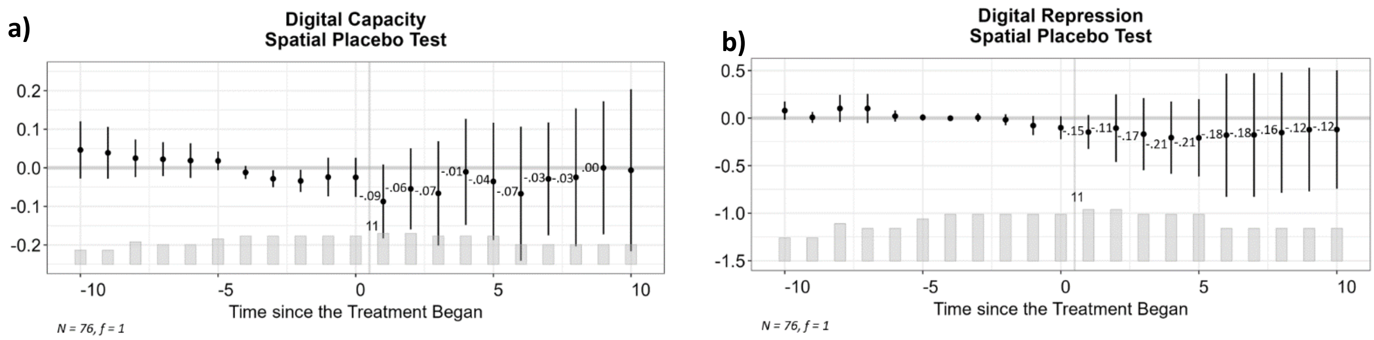
Spatial Placebo Test

Figure E3 Spatial placebo test

Spatial placebo test measuring capacity for digital repression (a) and actual digital repression (b). Treatment assigned to non-host and hosts coded treatment = 0.

Estimated ATTs in both plots are consistently negative. As indicated by the grey bar plot, 11/76 units included in the analysis have hosted an international sport event.

Plot indicating that 11/76 units are treated. Showing 95 % confidence intervals.



Alternative host and event inclusions

Figure E4 Host of multiple events removed.

Showing estimates ATTs for the capacity for digital repression (a) and actual digital repression (b)

The effect is estimated to last longer and is slightly higher than in the main analysis for both models. Estimated to last throughout the ten-year period with an annual average increase of 0.18 for the capacity model (0.3 higher than in the main results). For the repression model a longer effect is also estimates with an average annual increase of 0.11 (0.01 more than in my main analysis)

As indicated by the grey bar plot, 8/70 units included in the analysis have hosted an international sport event. Showing 95 % confidence intervals

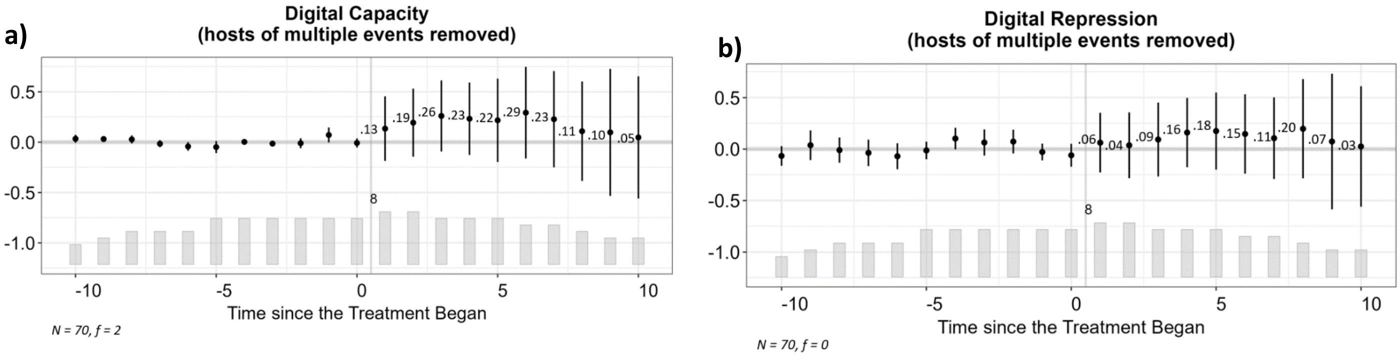


Figure E7 Estimating ATT on co-host only.

Showing estimated ATTs for the capacity for digital repression (a) and actual digital repression (b).

The first wave of effects estimated to last shorter for both models (estimated to 5 years after the event in the capacity model, and 5 years in the repression model). Average annual increases in this time period are estimated to 0.25 in the capacity model (compared to 0.15 in the main analysis), and 0.19 in the repression model (compared to 0.1 in the main analysis).

As indicated by the grey bar plot, 6/68 units included in the analysis have hosted an international sport event. Showing 95 % confidence intervals.

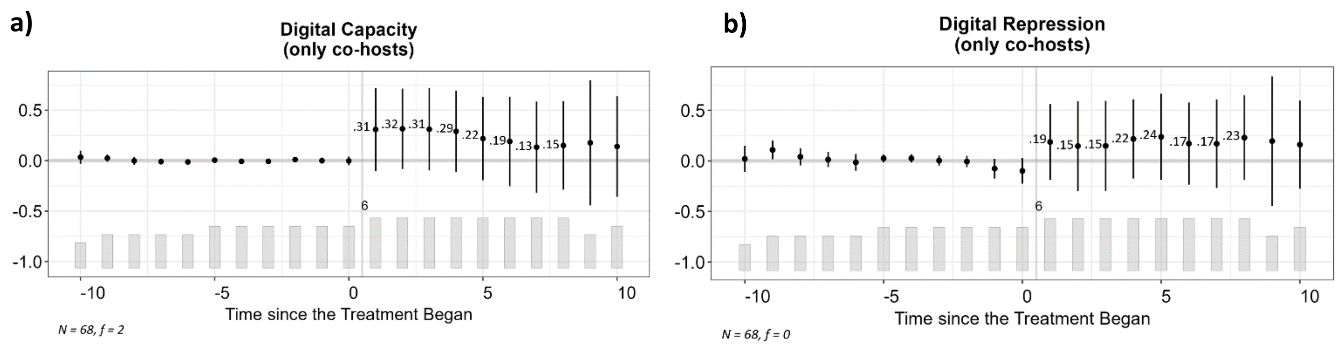


Figure E8 Hosts of cricket events removed from the sample.

Showing estimated ATTs for the capacity for digital repression (a) and actual digital repression (b)

The average ATT for the capacity model is estimated to 0.06, with the first wave of effect lasting only 5 years into treatment. For the repression model average ATT is estimated to 0.03 for the first seven years into treatment.

As indicated by the grey bar plot, 11/73 units included in the analysis have hosted an international sport event. Showing 95 % confidence intervals

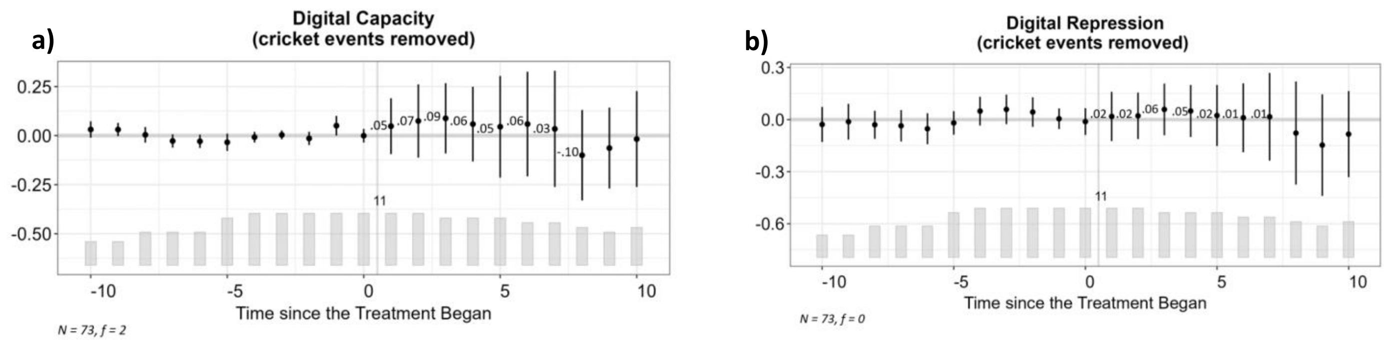
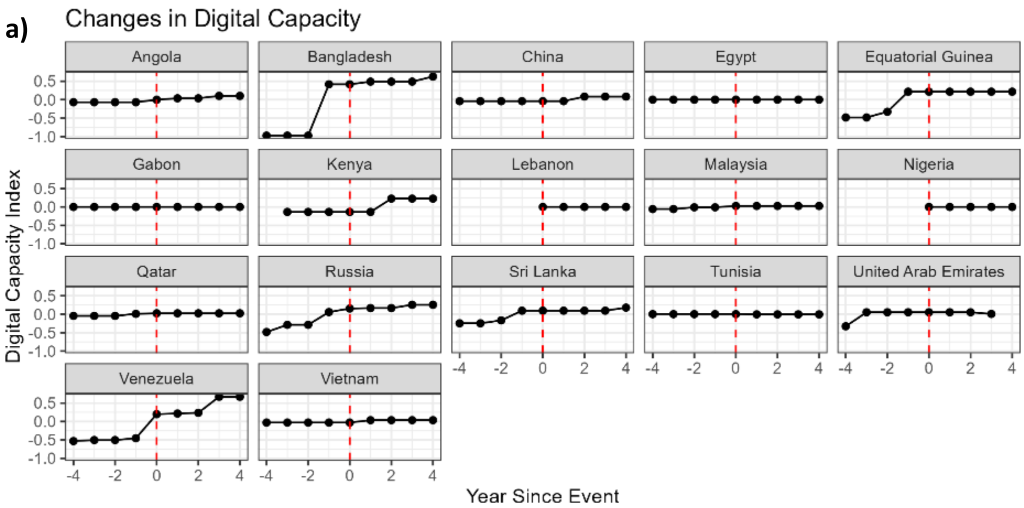


Figure E9 Descriptive country plots

Descriptive plots for all countries hosting an international sport event during the sampling period, demeaned to account for structural differences between the countries.

Plot A show changes in the capacity for digital repression, and plot B show changes in the actual use of digital repression. The red vertical line indicate the year of the event.



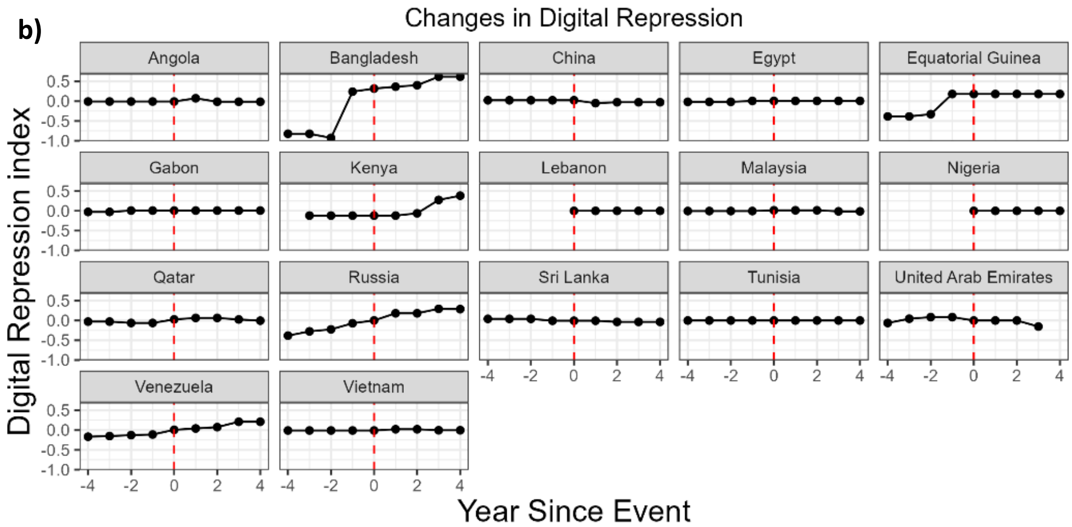


Figure E10 Estimated ATT when removing Bangladesh.

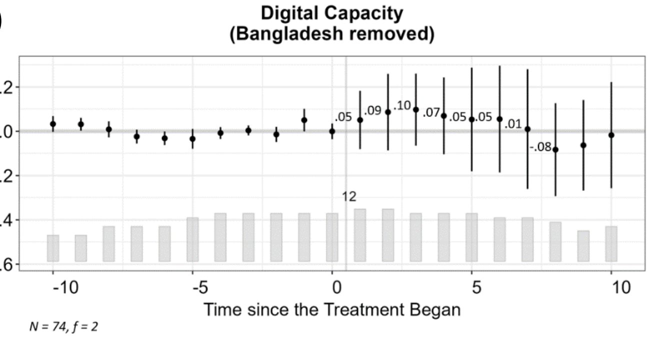
Plots showing capacity for digital repression (a) and actual digital repression (b).

The models estimated an effect for eight years with an annual average increase of only 0.04 in the capacity model. Effects are estimated to last for nine years in the repression model with an estimated annual change close to zero (-0.01).

Both models see effect estimates turning negative towards the end of the period suggesting that autocratic hosts start to invest less in capacity for digital repression and that use is less frequent several years after the event (as compared if they would not have hosted the event).

As indicated by the grey bar plot, 12/74 units included in the analysis have hosted an international sport event. Showing 95 % confidence intervals

a)



b)

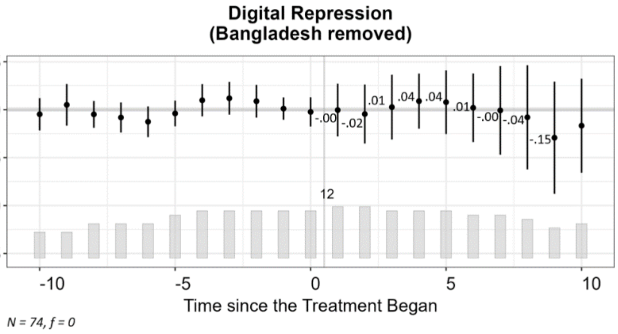


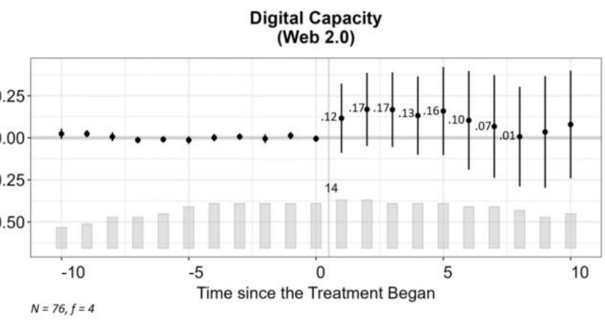
Figure E11 Estimated ATT when including only events in the "Web 2.0" era.

Plots showing effect on the capacity for digital repression (a) and actual digital repression (b) when starting the sampling period in 2005.

The first wave of effects are estimated to last 8 and 9 years into treatment, for capacity and actual use respectively (similar as in the main analysis). The average annual increase in this time period is estimated to 0.12 for the capacity model, and 0.7 for the repression model.

As indicated by the grey bar plot, 14/76 units included in the analysis have hosted an international sport event. Showing 95 % confidence intervals

a)



b)

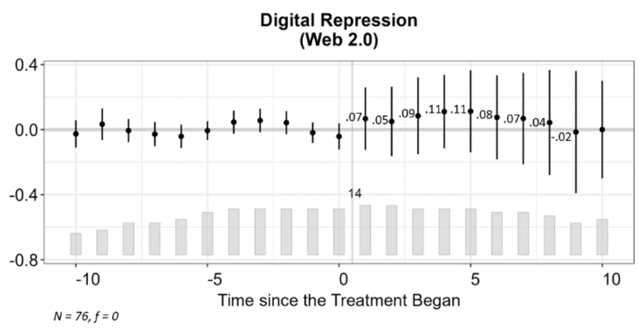


Figure E12 Estimated ATT for host of regional cup.

Included in the analysis are the Africa Cup, Asian Cup and Copa América. Plots showing effect on the capacity for digital repression (a) and actual digital repression (b).

Average annual ATT for the capacity model, in the first wave of effect (until 3 years after the event) is estimated to 0.03. Average annual ATT for the repression model, in the first wave of effect (until 7 years after the event) is estimated to -0.07.

As indicated by the grey bar plot, 10/72 units included in the analysis have hosted an international sport event. Showing 95 % confidence intervals

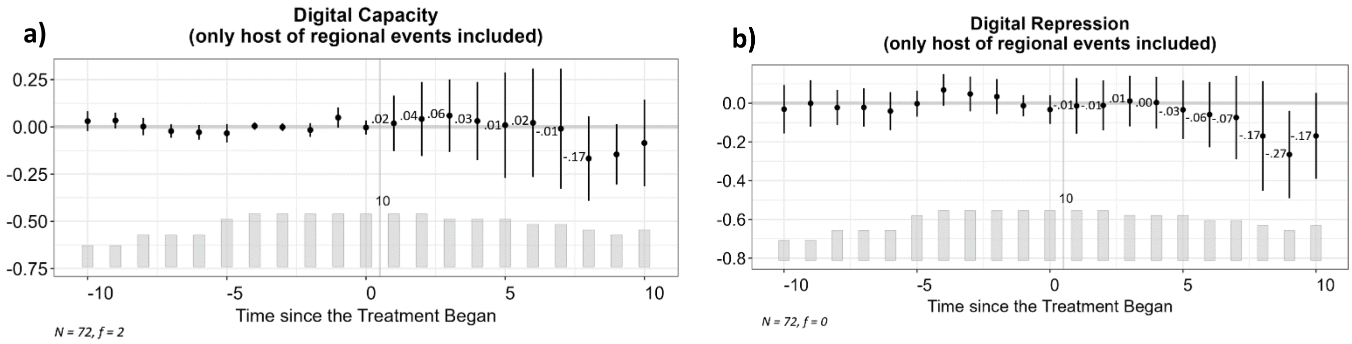


Figure E13 Estimated ATT when assigning treatment in accordance with the biggest event.

Plots showing effect on the capacity for digital repression (a) and actual digital repression (b).

the capacity model estimates a first wave of effect for four years, and then an equally large wave for another four years, with annual averages of respectively 0.12 and 0.15 (the latter matching the estimates from the main analysis). The repression model estimates a first wave of effect in the first seven years intro treatment (as opposed to nine in the main analysis) with an estimated annual increase of 0.06.

As indicated by the grey bar plot, 14/76 units included in the analysis have hosted an international sport event. Showing 95 % confidence intervals

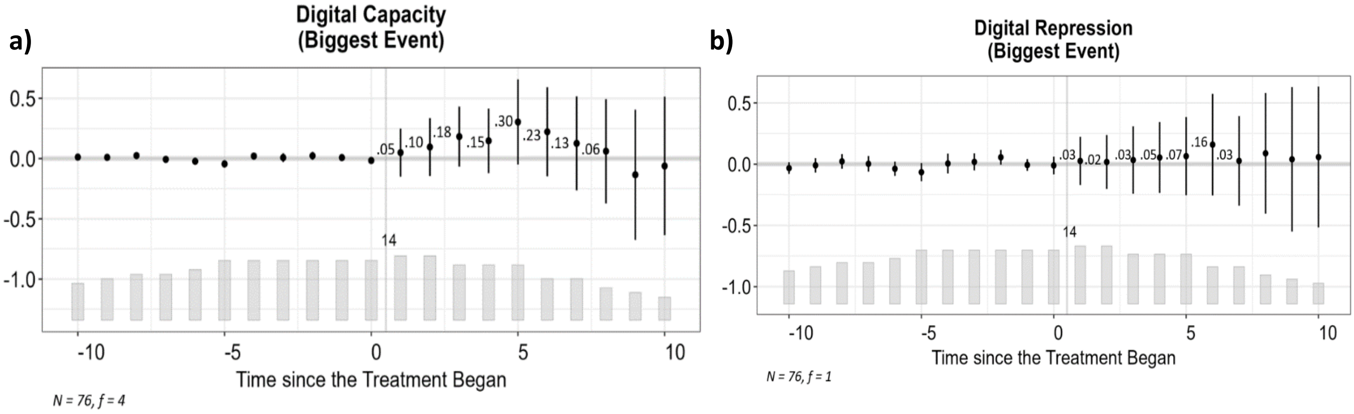
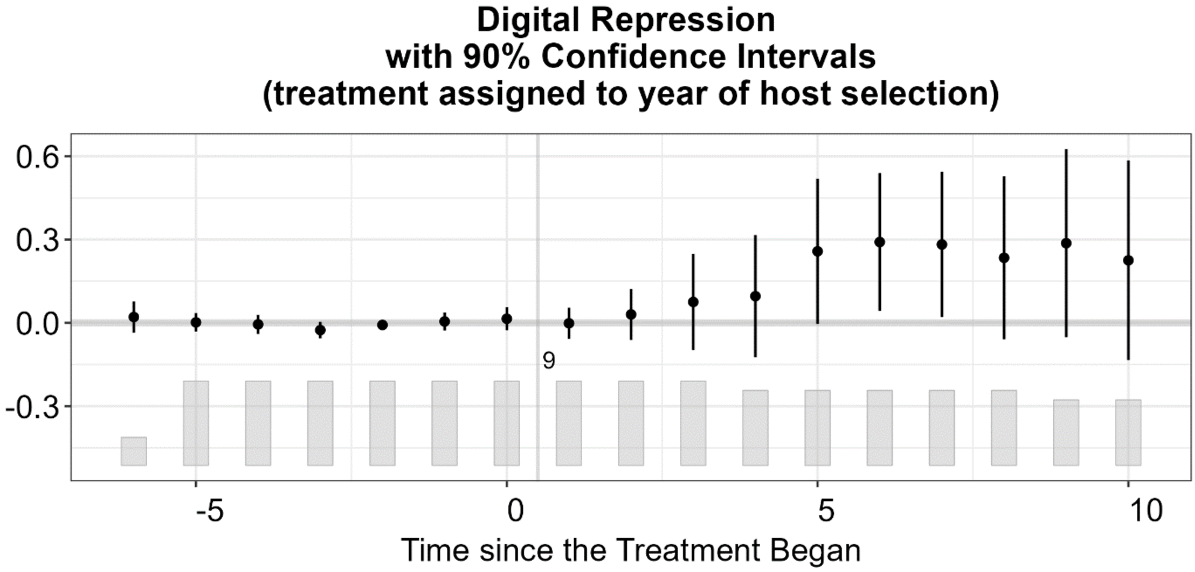


Figure E14 Estimated ATT when treatment is assigned to year of host selection.

The plot below show 90 % confidence intervals. As indicated by the grey bar plot, 9/73 units included in the analysis have hosted an international sport event.



N = 73, f = 1

Alternative measures of autocracy

Figure E15 Estimated ATT when using a 0.6 cutoff at the polyarchy index.

Plots showing effect on the capacity for digital repression (a) and actual digital repression (b).

The capacity model remain roughly the same in both annual average ATT (0.15) and effect period (estimated to last 6 years after the event). For the repression model the first wave of effect is extended to a ten-year period with an estimated annual increase of 0.07 (decreased from 0.10 in the main analysis).

As indicated by the grey bar plot, 14/88 units included in the analysis have hosted an international sport event. Showing 95 % confidence intervals

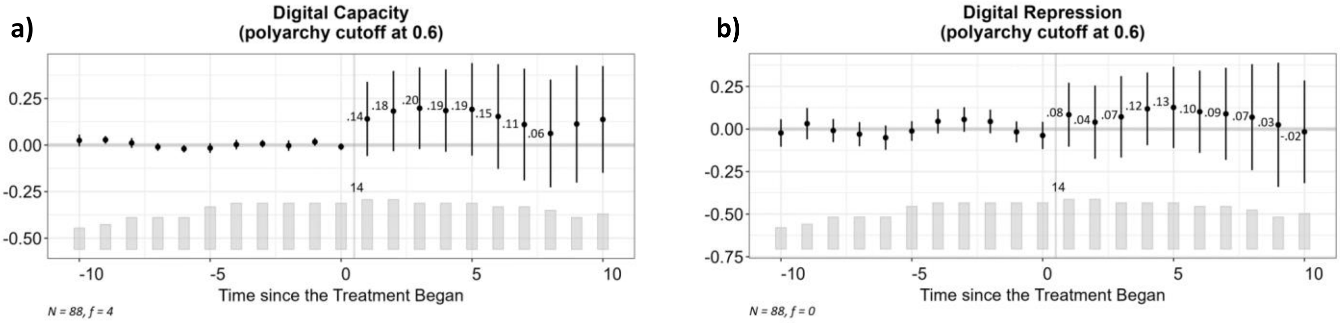
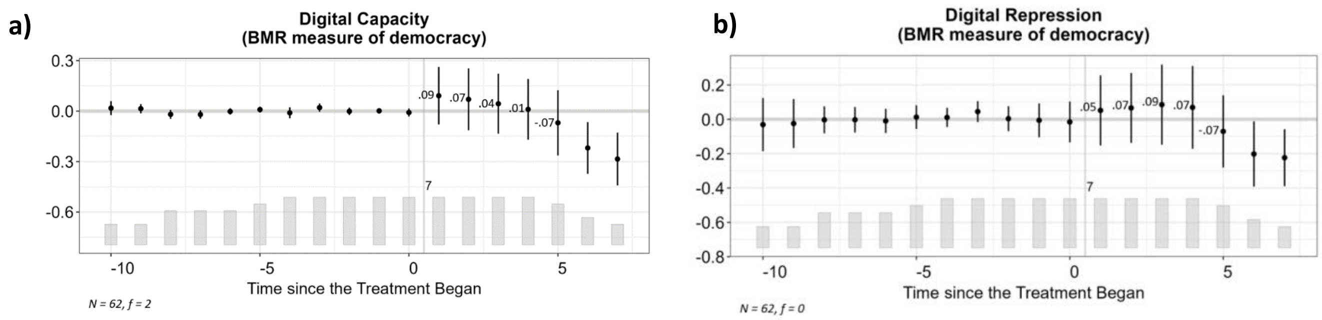


Figure E16 Estimated ATT when constructing a sample using the BMR measure.

Estimated ATT when constructing a sample using the Boix, Miller and Rosato measure for democracy. Plots showing effect on the capacity for digital repression (a) and actual digital repression (b).

Focusing on year 1-4 when most treated countries are included show that these models estimate some positive effect, but that this last shorter than in the main analysis.

As indicated by the grey bar plot, 7/62 units included in the analysis have hosted an international sport event. Showing 95 % confidence intervals



Appendix F – Time from host selection to event implementation

To analyse changes in digital capacity and repression when autocracies hosts international sport events, I measure time from official host selection to the event. This gives an indication of the timeframe autocracies have to prepare for the scrutiny-publicity dilemma prior to the event and implement potential strategic changes in their digital repressive strategies before international attention is at its hight. Using a sample of only autocratic hosts, the plot in figure F1 shows a large spread in the time between an event is awarded and hosted. The sample mean is just under 4.5 years (4.35) indicated with the dashed blue line. The FIFA World Cup as well as the Olympics average on host selection over 7 years in advance of the event, while the regional cups stand out as having a significantly shorter time to prepare for the event.

Official host selection is a conservative estimate of preparation time, countries can spend years preparing a bid, particularly when competing for the big international tournaments as this pose significantly stricter requirements for organization. One tournament stands out from this type of traditional bidding process, hosts of Copa América are selected according to a rotating list. However, this list is frequently changed to accommodate a country's needs. For example Brazil and Chile switched the 2015 and 2019 tournament as Brazil was hosting the FIFA World cup the year before (in 2014) and the Summer Olympics the year after (in 2016) (CONMEBOL, 2012). Since the list is not completely fixed and potential host thus cannot prepare for the event with full certainty before it is announced by the event owner Conmebol, I believe my measure from host announcement to event implementation to be almost as accurate as for the other events with a traditional bidding process.

As indicated by figure F1, some events are awarded in the same year or year before the event is scheduled. In these cases, usually the original host is stripped of hosting rights due to security or infrastructure concerns. For example Egypt was awarded the 2019 Africa cup just a couple of months before the tournament was set to start, because the original host Cameroon had yet to finish its preparations and experienced a violent uprising (Ames, 2019; Press, 2018).

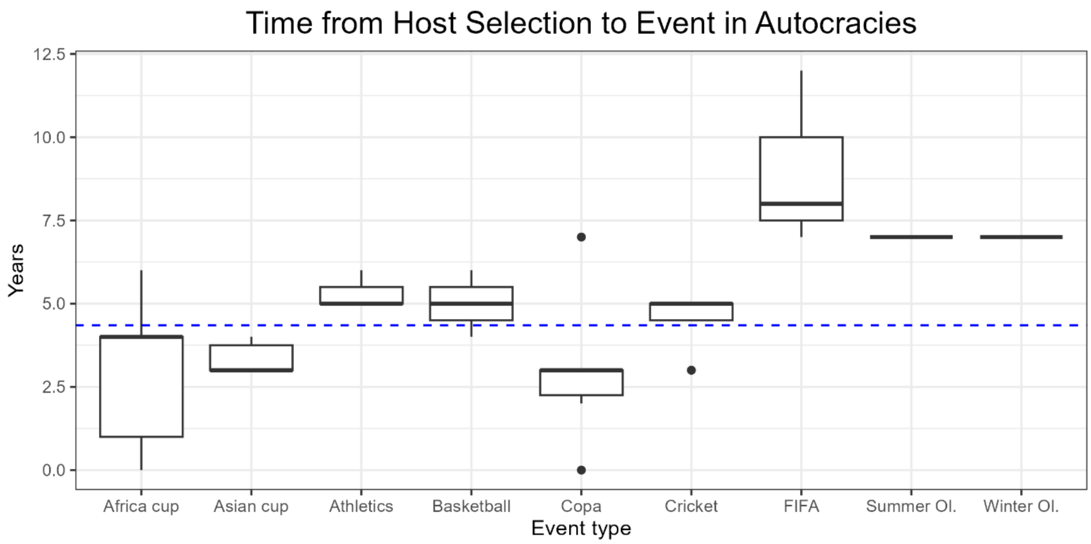


Figure F1 Time from Host Selection to Event Implementation.

Boxplot showing the distribution of time ranges from host selection to event implementation in autocracies, grouped by event type. Blue dashed line indicating average years from host selection to event implementation (4.5).