Internet Freedom and Public Trust in Goverment: A Quantitative Study

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Internet Freedom and Public Trust in Government

A Quantitative Study

Bachelor Thesis

What is the effect of internet freedom on public trust in government?

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Introduction

"The power of the Web is in its universality", stated Tim Berners-Lee (1998), the inventor of the World Wide Web. This statement underscores the internet's transformative impact on our global society. Internet freedom, within this universal expanse, has fundamentally reshaped how citizens access information and voice their opinions and concerns (Bakshy, Messing and Adamic, 2015). Simultaneously, the internet holds the potential to shape public perception, particularly towards government institutions (Pariser, 2011; Sunstein, 2007). This perception encompasses public trust in government, which is essentially the extent to which citizens believe their government is acting in the public interest and fulfilling its responsibilities (Hetherington, 2005). However, the relationship between internet freedom and public trust showcases a fascinating paradox. Internet freedom has the power to democratise access to information, fostering a more informed citizenry (Pariser, 2011). Yet, it can inadvertently cultivate echo chambers and propagate misinformation, potentially eroding public trust (Sunstein, 2007). To unravel these dynamics, this research examines this relationship in depth. This research contributes academically by addressing a gap in the discourse on internet freedom's impact on public trust, thus illuminating this relatively underexplored area. Societally, the findings can guide policymakers and internet governance bodies in crafting strategies that balance the benefits of digital freedom with the need to maintain public trust in government, an urgent necessity in an era marked by widening digital divides and escalating political polarisation (Stockmann and Gallagher, 2011). Driven by this rationale, a fundamental research question arises: What is the effect of internet freedom on public trust in government? The answer is vital for enhancing our comprehension of contemporary governance mechanisms and navigating the intricacies of the digital age. By employing quantitative methods such as linear regression analysis, this study seeks to unpack the empirical nuances of this intriguing relationship.

Literature Review

Public trust encapsulates the extent to which citizens believe in the capacity of governmental institutions to effectively address societal needs (Hetherington, 2005). In democratic contexts, this trust is a pivotal factor that encourages cooperation with governing bodies and compliance with established regulations (Rothstein and Stolle, 2008). Scholars continually debate the primary contributors to public trust in democracies. Some argue for the importance of the perceived integrity, competence, and responsiveness of political institutions (Hardin, 1999). Alternatively, a distinct school of thought emphasises the role of social capital and the quality

of interpersonal relationships amongst citizens in shaping public trust (Putnam, 2001; Uslaner, 2002). This perspective posits that societies rich in social capital—characterised by robust networks, shared norms, and reciprocal trust—are more inclined to harbour trust and support for their government. The tight relationships and shared values in these societies cultivate a sense of collective responsibility, which indirectly bolsters trust in communal institutions, including the government (Coleman, 1988; Ostrom and Ahn, 2003). In stark contrast, societies deficient in social capital may breed feelings of isolation among their citizens. This can result in diminished levels of trust in each other and societal institutions, encompassing the government (Putnam, 2001; Woolcock, 1998). This intricate interplay of factors further underscores the complexity inherent in understanding and quantifying public trust.

Public trust within autocratic settings often serves as a tool for maintaining social control and ensuring regime stability (Geddes, 2010; Svolik, 2012). Here, trust hinges not solely on the integrity, competence, and responsiveness of political institutions but also on the regime's ability to suppress dissent and preserve order (Magaloni, 2008; Slater, 2010). Despite its importance, the study of trust within autocratic contexts remains a relatively under-explored and fragmented area in the literature (Geddes, 2010; Svolik, 2012). This scarcity of research can be attributed to the multifaceted challenges associated with studying these political environments. To start, autocratic governments often operate under a veil of secrecy, controlling information tightly. This lack of transparency complicates the process of gathering reliable and objective data, thus presenting a significant hurdle for academic researchers (King, Pan and Roberts, 2014; Lust, 2011). Moreover, the understanding of 'trust' within autocracies can differ substantially from its democratic counterpart. While democracies generally associate trust with the government's integrity, competence, and ability to respond effectively to public needs, autocracies often intertwine trust with elements of fear or coercion (Rothstein and Stolle, 2008). Additionally, autocracies vary significantly in their structures, governance styles, and levels of repression, making it difficult to extrapolate findings about trust from one autocratic context to another (Gandhi, 2008; Magaloni, 2008). Despite these obstacles, the exploration of trust in autocratic contexts remains essential due to the influential role that trust plays in political stability and regime endurance.

The impact of public trust in governmental institutions spans multiple dimensions of political life. An enhanced degree of trust is frequently linked to elevated levels of civic engagement and political involvement (Brehm and Rahn, 1997; Putnam, 2001). This constructive connection

underscores the pivotal role of trust in fostering active citizen participation. Conversely, other scholars highlight the potential ramifications of eroding trust in government (Dalton, 2005; Norris, 2003). They caution that a dip in public trust can be a precursor to political apathy, diminished voter turnout, and even social instability. The correlation between trust and the perceived legitimacy and resilience of political institutions is yet another significant aspect to consider. As suggested by Easton (1965) and Tyler (2006), trust can profoundly influence the extent to which citizens are willing to acknowledge and respect the authority of their government. This line of research underscores the symbiotic relationship between trust and the perceived validity and stability of political institutions. Moreover, the influence of public trust on policy outcomes and the efficacy of public services has been a point of discussion among scholars. For instance, Fukuyama (1995) and Helliwell and Huang (2008) propose that high levels of trust can streamline policy implementation and enhance the quality of public services by fostering citizens' support and compliance. However, this perspective is not universally accepted. Hardin (2002) contests this view, suggesting that successful policy outcomes and public services rely more on the government's inherent competence and integrity, regardless of the level of public trust. In other terms, it remains evident that the influence of public trust on policy outcomes and the quality of public services is contested.

Various factors contribute to the shaping of public trust in government. For instance, Rothstein and Stolle (2008) suggest that economic performance, political regime type, education level, media freedom, and political stability are all influential. First, they posit that the economic performance of a nation plays a significant role, as robust economies generally foster a sense of security and prosperity, which can enhance trust in the government's economic management capabilities. Second, they further argue that democratic systems, with their open discourse and participatory nature, might foster higher levels of trust compared to autocratic regimes where information is controlled, and dissent is suppressed. Third, education level is another key determinant as higher levels of education can lead to a more informed citizenry capable of critical thinking and discerning evaluation of government performance, which can influence trust levels. Fourth, media freedom contributes significantly as well. In societies where the media operates freely, it can hold the government accountable and ensure transparency, bolstering public trust. Conversely, in situations where media is tightly controlled, it can erode public trust due to a perceived lack of transparency and accountability. Fifth, stable political environments might instil confidence in the government's ability to manage crises and maintain order, thereby enhancing trust. Given this, political instability might induce uncertainty and

fear, thereby undermining trust. Building on these factors, the impact of media on shaping public trust is examined extensively. Newton (1999) and Moy and Pfau (2000) suggest that consuming traditional media shapes how citizens perceive their government's performance, accountability, and responsiveness. They argue that the media acts as a conduit of information, bridging the gap between the public and the government. By interpreting and broadcasting the actions of the government, the media provides the public with a basis upon which they can evaluate the trustworthiness of their government, thus influencing public trust. However, the media's impact can be a double-edged sword. According to Ladd (2010), instances of negative or biased reporting have the potential to breed scepticism, subsequently leading to a decline in public trust. In the digital age, the role of online news sources and social media is increasingly significant. Tsfati and Ariely (2014) examined the relationship between the consumption of online news and trust in government. They proposed that the digital media environment offers a wealth of diverse information sources, and this diversity could lead to a more informed and critical public. As citizens encounter more diverse viewpoints and scrutinise government actions, their trust levels could either rise due to increased transparency or decline due to critical evaluations of government performance. Furthermore, Gil de Zúñiga, Jung and Valenzuela (2012) examined the influence of social media use on political trust. They highlighted how social media platforms have become pivotal in political communication and public discourse. Their research suggested that these platforms could both enhance and undermine trust in government. On one hand, social media could facilitate greater transparency, participatory dialogue, and citizen engagement, potentially boosting trust. On the other hand, these platforms could also spread misinformation or highlight government failures, which could undermine trust. These studies provide a starting point for understanding how online information dissemination and discourse influence public trust.

The dissemination of information and its consumption in the digital age has profound implications for public trust in government. The nature of media consumption has changed dramatically with the advent of the internet, influencing how citizens perceive their governments and how they engage in political processes (Bennett and Iyengar, 2008; Loader and Mercea, 2011). The accessibility of information has exponentially increased, offering the potential for enhanced transparency and accountability within governmental operations. This wide availability of information can empower citizens, providing them with the necessary tools to form more informed opinions about the effectiveness and responsiveness of their government, thereby potentially reinforcing their trust in these institutions (Bimber, Flanagin,

and Stohl, 2005; Gil de Zúñiga et al., 2012). However, this potential is twofold. The internet, despite its democratising potential, can also serve as a conduit for the spread of misinformation and disinformation, thereby undermining public trust in government (Allcott and Gentzkow, 2017; Lazer et al., 2018). Misinformation refers to false or inaccurate information, which may be unintentionally spread (Lewandowsky, Ecker and Cook, 2017). Whereas disinformation refers to false information deliberately created and disseminated to deceive (Wardle and Derakhshan, 2017). When misinformation is spread via social media platforms, it may distort citizens' perceptions of governmental performance and intensify political polarisation, causing decreased trust in government (Vosoughi, Roy and Aral, 2018). Political polarisation refers to the divergence of political attitudes and opinions towards ideological extremes, often cultivating a more divided society (Iyengar, Sood and Lelkes, 2012). In addition, the prevalence of algorithmically driven echo chambers, which promote information that aligns with users' existing beliefs, can contribute to further political fragmentation and erosion of trust (Pariser, 2011). Furthermore, the implications of information dissemination on public trust can also differ depending on the nature of the political regime. In democracies, unrestricted access to information can enhance public scrutiny and foster debate, potentially fortifying trust through increased transparency and accountability (Norris, 2003). In autocratic regimes, however, the state often retains control over information dissemination, utilising it as a tool to ensure regime stability (King et al., 2014). As we transition into an increasingly digital future, it becomes imperative to examine these dynamics within the broader context of internet freedom as it plays a pivotal role in shaping the nature of information dissemination and consumption.

Internet freedom can be categorised into three distinct dimensions: obstacles to access, limits on content, and violations of user rights (Deibert et al., 2010; Howard, Agarwal and Hussain, 2011; MacKinnon, 2011). The first dimension, obstacles to access, encompasses a broad spectrum of infrastructural, economic, and legislative constraints that might hinder individuals from fully harnessing the potential of the internet (Howard et al., 2011). For instance, a lack of robust technological infrastructure in rural areas might impede reliable internet access, while in some jurisdictions, restrictive laws could limit online activities, stifling the full utilisation of the internet. The second dimension, limits on content, refers to a wide array of practices that restrict the uninhibited dissemination and consumption of online information (Deibert et al., 2010). These include, but are not limited to, censorship, information filtering, and diverse forms of restrictions enforced on the free flow of online information and discourse. Such constraints often serve as mechanisms to regulate and control what users can access, share, or express

online, potentially stifling the democratic potential of this medium. The final dimension, user rights violations, involves practices that infringe upon users' digital privacy and freedom (MacKinnon, 2011). This includes surveillance, privacy breaches, and legal reprisals targeting internet users based on their online behaviour. These violations highlight the darker side of the digital world, where freedoms can be curtailed, and individuals can be penalised for their online activities.

The literature provides several arguments for how internet freedom might affect public trust in government. On one hand, increased internet freedom can contribute to greater transparency and accountability, which can bolster public trust (O'Neill, 2002). For example, open access to government information and decision-making processes may enable citizens to scrutinise their leaders' actions and ensure that they act in the public interest (Grimmelikhuijsen, Porumbescu, Hong and Im, 2013). Moreover, unrestricted internet access can foster the dissemination of diverse and reliable information, enabling citizens to develop more informed opinions about the effectiveness and responsiveness of government operations (Bimber, 2003). On the other hand, increased internet freedom may potentially result in decreased public trust in government. For instance, trust in both the government and media institutions can be eroded in contexts with a high prevalence of misinformation on contentious or emotionally charged topics, and in societies marked by significant political polarisation (Allcott and Gentzkow, 2017; Lazer et al., 2018; Vosoughi et al., 2018). Correspondingly, increased internet freedom may enable the spread of extremist views or politically polarising content, which could contribute to political fragmentation and reduced trust in political institutions (Pariser, 2011; Sunstein, 2007). Although the literature provides valuable insights into the relationship between internet freedom and public trust, there remains a notable gap. The literature seems to lack a comprehensive exploration of how this dynamic varies across different political regimes. Specifically, the impacts of internet freedom on public trust might be moderated by whether a society operates under a democratic or authoritarian regime. This gap in our understanding calls for further investigation, promising valuable insights for the field.

Theoretical Framework

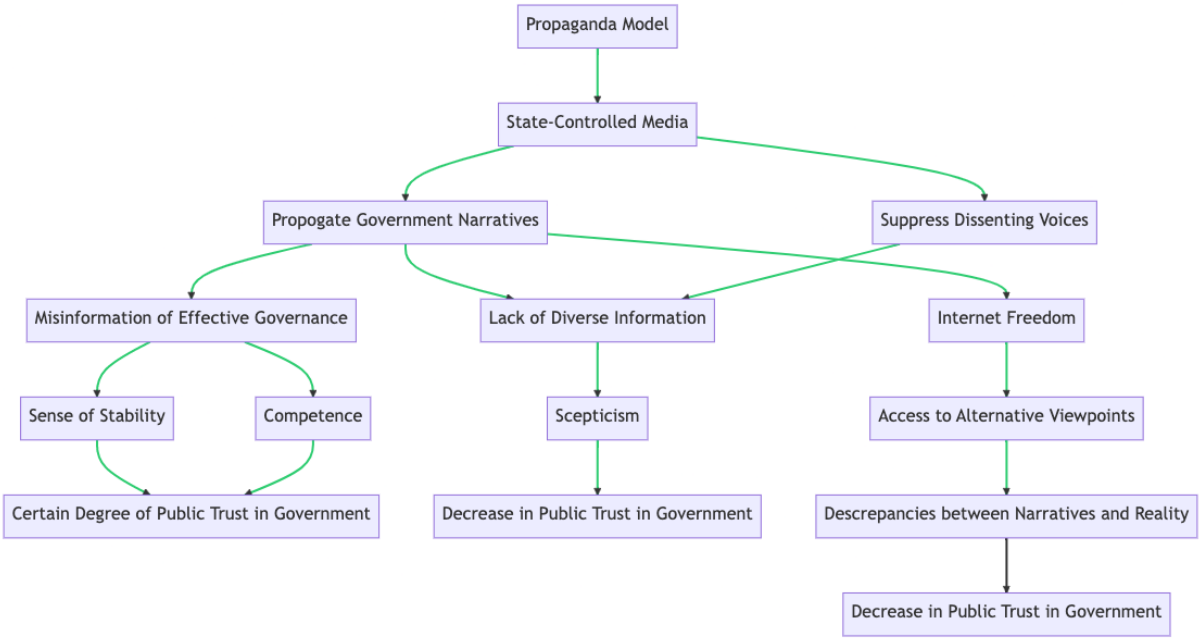
In the literature review, it becomes apparent that the effect of internet freedom on public trust in government can be either positive or negative. This necessitates exploring various theories to deepen our understanding of this relationship. Norris' (2003) digital divide theory underscores the disparities that exist between individuals who have access to ICTs and those who do not. This divide is not merely a matter of physical access to the internet but extends to aspects such as digital literacy and the ability to make meaningful use of digital resources. The theory posits that this digital divide can lead to significant social, economic, and political inequality. For instance, individuals without access to the internet or with low digital literacy skills may lack critical information about government programs, services, and policies. They may also have limited opportunities to participate in online political dialogues, contribute to digital civic engagement, or benefit from economic opportunities available on the internet (Hargittai and Hsieh, 2013).

Internet freedom, conceptualised in this context as the extent to which people experience obstacles to accessing online information, plays a crucial role in bridging the digital divide (Howard et al., 2011). By eliminating barriers to accessing the internet, internet freedom facilitates a more inclusive and equitable digital landscape, particularly in democratic societies. This is due to the alignment of internet freedom and core principles of democratic theory: freedom of speech, access to information, and political participation (Habermas, 1991). Internet freedom aligns with these democratic principles by broadening the platform for free expression and open discourse, amplifying diverse voices and perspectives (Benkler, 2006). In this context, internet freedom can be conceptualised as the extent to which citizens experience violations of user rights (MacKinnon, 2011). Moreover, having access to diverse online information allows citizens to directly obtain detailed and accurate information about the government's activities, decisions, and policies (Meijer, 2013). This transparency can reduce information asymmetry between the government and the public, making government actions more visible and understandable to citizens. When government actions and decisions are transparent, citizens can better evaluate the government's performance, hold it accountable, and make more informed decisions during elections (Bertot, Jaeger and Grimes, 2010). This ability to hold the government accountable is a key aspect of democratic governance, and when citizens see this mechanism in action, it can build trust in the government's willingness to act in the public interest (Bovens, 2007). Additionally, exposure to diverse information sources enables citizens

to distinguish misinformation, leading to a more accurate understanding of government actions and increased trust in official sources of information (Lewandowsky et al., 2017).

While these mechanisms may hold for democracies, autocratic governments often employ sophisticated tools and strategies for online censorship, surveillance, and control (King et al., 2014). They can block access to certain websites or platforms, monitor online activities, and use disinformation tactics to manipulate online discourse. This can limit citizens' access to diverse information sources and reduce their ability to hold the government accountable. The conceptualisation of internet freedom in these regimes tends to reflect the extent to which citizens experience limits on content, denoting the restrictions on what information is accessible online (Deibert et al., 2010). In autocracies, the primary source of news is often government-controlled information or misinformation, with independent media and reliable sources suppressed, thereby obstructing the citizens' ability to discern the truth and form accurate perceptions of government actions (Tucker, Theocharis, Roberts and Barberá, 2017). This is grounded in Herman and Chomsky's (1988) propaganda model, which posits that media, particularly state-controlled media, can be used as a tool to propagate government narratives and suppress dissenting voices. How does this affect public trust in autocracies? This model illuminates how misinformation propagated by autocratic governments can instil a sense of stability and competence, potentially leading to a certain degree of public trust (King et al., 2014). If the government consistently portrays itself as effective and its policies as successful, citizens may have no reason to distrust these claims, particularly if dissenting voices are suppressed. Yet, the lack of diverse information sources can also lead to scepticism and mistrust among citizens (Herman and Chomsky, 1988). Especially if citizens with higher levels of internet freedom can access alternative viewpoints through clandestine or foreign media sources. As citizens become aware of the discrepancies between government narratives and the realities portrayed in these alternative sources, their trust in the government may decrease (Stockmann and Gallagher, 2011). The propaganda model is visualised in Figure 2.

Figure 2. Propaganda Model and Internet Freedom



To delve deeper into the potential negative effect of internet freedom on public trust in government, it becomes essential to examine theories that address the role of misinformation, disinformation, and the polarisation of political discourse on the internet. A primary theory here is Sunstein's (2007) echo chamber theory, which underscores how individuals tend to seek out and consume information that reinforces their pre-existing beliefs, thus forming enclosed and insular online communities. In the context of this theory, echo chambers are virtual environments where like-minded individuals interact, often leading to a confirmation bias effect. This effect refers to the human tendency to favour and seek out information that aligns with our pre-existing beliefs and values, while discarding or ignoring contradictory information (Nickerson, 1998). Internet freedom, while enabling diverse information flow, can inadvertently foster such echo chambers. As individuals are given the freedom to access an array of online platforms and communities, they can selectively engage with those that share their views and disengage from those that challenge them. For instance, on social media platforms like Facebook or Twitter, algorithms that are designed to customise user experience may end up creating "filter bubbles" (Pariser, 2011). These filter bubbles tailor the information presented to users based on their past behaviours and preferences, thus reinforcing their existing beliefs, and potentially limiting exposure to diverse viewpoints. When misinformation or disinformation is introduced into these echo chambers, it can be amplified rapidly as it is disseminated unchallenged among like-minded individuals. As for the polarisation of political

discourse, the echo chamber theory suggests that when individuals continually consume information that confirms their pre-existing beliefs, they can become more entrenched in their views (Sunstein, 2007). This entrenchment can exacerbate political polarisation, leading to a more divided society. For instance, a study by Bakshy et al. (2015) found that on Facebook, ideologically aligned information is more likely to be disseminated within communities of like-minded individuals, contributing to political polarisation. Overall, the echo chamber theory illustrates how internet freedom, despite its many benefits, might inadvertently contribute to the spread of misinformation and disinformation, as well as the polarisation of political discourse. These factors can erode public trust in government. If citizens are divided in their political beliefs and susceptible to misinformation, it becomes increasingly challenging to reach a consensus on evaluating government performance or developing trust in public institutions.

A range of factors can mediate the relationship between internet freedom and public trust in government. To start, human development, which encapsulates elements such as education, health, and income levels, significantly influences public perceptions of government performance (Sen, 2001). Societies characterised by higher human development indices typically house citizens who are more informed and actively engaged in civic matters. This heightened awareness and involvement enable them to critically assess government performance, leading to a more discerning formation of trust or mistrust (Inglehart and Welzel, 2005). Hence, in societies with a high human development index, the influence of internet freedom on public trust may be more nuanced and multi-layered, as citizens are better equipped to sift through online information and discern its reliability. Political stability is another crucial factor shaping public trust. It refers to the level of political turbulence, with a higher degree of stability indicating less likelihood of political unrest or changes in leadership (Alesina, Ozler, Roubini and Swagel, 1996). Stable political environments are likely to engender a sense of security and predictability among citizens, fostering confidence in governmental institutions. On the flip side, political instability can create a climate of uncertainty and fear, potentially undermining trust in government (Newton and Norris, 2000). Thus, the degree of political stability can affect how internet freedom influences public trust in government. Furthermore, control of corruption, which gauges the extent to which public power is exploited for personal gain, can also significantly shape public trust (Kaufmann, Kraay and Mastruzzi, 2011). Widespread corruption can erode public trust by signalling a breach of government integrity and a lack of consideration for the public good (Rothstein, 2011; Seligson, 2002). In contrast, a robust system of corruption control can enhance public trust by demonstrating the

government's commitment to the principles of good governance and the welfare of its citizens (Rothstein and Uslaner, 2005). Lastly, the effectiveness of the government, determined by the quality of public services, policy formulation, and implementation, can impact public trust (Kaufmann et al., 2011). Governments that are perceived as competent, responsive, and efficient in meeting public needs and resolving societal issues are more likely to inspire trust among their citizens (Christensen and Lægreid, 2005; Van de Walle, 2007). In this context, internet freedom can play a pivotal role in shaping public perceptions of government effectiveness, as it facilitates the free flow of information regarding government actions and policies.

Altogether, this provides the theoretical foundation for understanding the relationship between internet freedom and public trust in government. For this study, internet freedom needs to encompass all dimensions across different political contexts. Therefore, internet freedom is the extent to which citizens have obstacles to access, limits on content, and violations of user rights within their country (Deibert et al., 2010; Howard et al., 2011; MacKinnon, 2011). Public trust in government, on the other hand, encapsulates the extent to which citizens believe in their national government's ability to act in the public's interest and fulfil its promised responsibilities (Hetherington, 2005). Drawing from the theoretical framework discussed above, this study presents one hypothesis that explores the relationship between internet freedom and public trust in the government.

H_1 A higher level of internet freedom leads to a lower level of public trust in the government.

This hypothesis is based on multiple theories across different political contexts. In democratic regimes, Sunstein's (2007) echo chamber theory suggests that while internet freedom allows for broader access to information, it also enables individuals to selectively engage with information that aligns with their pre-existing views. Echo chambers can, therefore, contribute to the proliferation of misinformation, creating confusion and mistrust in government actions or policies (Lewandowsky et al., 2017). The polarisation within these chambers can lead to societal divisions, making consensus-building a complex process (Sunstein, 2007), which is particularly detrimental in democratic societies where consensus and compromise are key to effective governance (Habermas, 1991). In autocratic regimes, increased internet freedom may expose citizens to alternative viewpoints that challenge government narratives (Stockmann and

Gallagher, 2011). The government's narrative control could be weakened due to less online censorship, surveillance, and control (King et al., 2014), leading to potential declines in public trust as per Herman and Chomsky's (1988) propaganda model. In these regimes, Sunstein's (2007) echo chamber theory also applies, where misinformation or information against the government can rapidly spread in echo chambers, leading to further erosion of public trust (Pariser, 2011). Therefore, this hypothesis posits that within the domain of internet freedom, notably, the interplay of echo chambers and misinformation causes erosion of public trust in government in both democratic and autocratic regimes.

Research Design

In this study, a quantitative, large-N observational research design is employed to effectively explore the research question and test the hypothesis concerning the causal relationship between internet freedom and public trust in government. This approach is suitable for the research question as it identifies patterns and correlations within extensive datasets, providing robust evidence of the relationship between the independent variable and the dependent variable (Bryman, 2016). When considering alternate methodologies, it became evident that other approaches, such as qualitative case studies, were less suitable for answering the research question at hand. While rich in contextual detail, these methodologies may fall short of providing the necessary evidence to establish a universally applicable causal relationship. Moreover, according to King, Keohane and Verba (1994), qualitative approaches often face challenges when tasked with assessing relationships between variables on a large scale. Therefore, a quantitative, large-N observational research design was deemed the most suitable for this study.

By employing this research methodology, the aim is to shed light on and deepen our comprehension of the cause-and-effect relationship between internet freedom and public trust in government. The methodology adopted in this research boasts several noteworthy advantages, primarily centred around its capacity to discern broad patterns, and establish relationships that can be generalised across large populations (Creswell and Creswell, 2017). The large-N observational research design enables the researcher to draw statistical inferences using extensive datasets, a critical aspect when attempting to comprehend the multifaceted dynamics of internet freedom and public trust in government. However, it's crucial to acknowledge that this approach isn't without its limitations. Potential pitfalls include the possibility of omitted variable bias, the challenge of endogeneity, measurement inaccuracies,

as well as potential biases inherent in the datasets themselves. Moreover, certain unobserved confounding factors might exist, which are not adequately captured by the control variables. To mitigate these weaknesses, a meticulous approach was undertaken in the selection of appropriate control variables, and robust statistical methods were employed, designed to minimise the impact of these potential shortcomings.

Data selection

The primary data for this study is drawn from four significant sources: Freedom House (2022), Wellcome (2018), the United Nations Development Programme (2021), and the World Bank (2022) datasets. A particular focus for the data selection is placed on the year 2018. This decision is primarily guided by the presence of comprehensive data in the Wellcome (2018) dataset, supplying the necessary information for the independent variable. Although the same source offers a more recent dataset for the year 2020, this year is deliberately sidestepped. The main reason behind this choice is the global disruption caused by the Covid-19 pandemic during 2020, an event widely recognised as having a profound influence on public trust in government (Brouard, Vasilopoulos and Becher, 2020). The pandemic's impact introduces an extra dimension of complexity to the relationship under study, which could possibly confound the relationship between internet freedom and public trust. Therefore, to maintain a cleaner and more straightforward analysis of the relationship between internet freedom and public trust in government, the study focuses on the pre-pandemic year of 2018. Furthermore, the case selection process is guided by the availability of cases in the Freedom House (2022) and Wellcome (2018) datasets, which furnished cases for the independent variable and the dependent variable. To ensure coherence and consistency across all sources, control variables are carefully extracted from the United Nations Development Programme (2021) and the World Bank (2022) dataset for the focal year 2018.

It is crucial to address the constraints and potential biases that could arise from relying on data from a single year. As Menard (2008) underscores, the inclusion of longitudinal data in future research is paramount to overcoming such limitations. The use of data from only one year could engender biases, and subsequently, influence the generalisability of the findings (King et al., 1994). This singular time point may fail to capture the intricate variations and temporal dynamics that characterise the relationship between internet freedom and public trust in government (George and Bennett, 2005). Choosing 2018 as the focal year might inadvertently introduce selection bias, as the observed relationship may be affected by unique events or

circumstances specific to that year (Menard, 2008). Furthermore, the selected data from one year may not fully capture the causal relationship between internet freedom and public trust in government. Without longitudinal data, it becomes challenging to disentangle the directionality of the relationship and determine whether changes in internet freedom lead to changes in public trust or vice versa (George and Bennett, 2005).

Incorporating longitudinal data would enable a more comprehensive analysis of the relationship between internet freedom and public trust in government over time, accounting for variations and temporal dynamics. By broadening the scope of cases and time frames, the study could better capture the evolving nature of digital communication platforms, policy changes, and the influence of significant events such as elections, scandals, or crises on the relationship between the two variables (Kellstedt and Whitten, 2013). This approach would not only improve the generalisability of the results but also allow for a more robust examination of the causal relationship and directionality between internet freedom and public trust in government (King et al., 1994). By focusing on one year, this study may inadvertently overlook significant shifts in internet regulation policies, the ripple effects of critical events such as elections, scandals, and crises, or the rapidly evolving landscape of digital communication platforms (Kellstedt and Whitten, 2013). Thus, while the year 2018 offers a valuable snapshot for this research, it's necessary to consider the broader temporal context in future investigations for a more nuanced and robust understanding of the relationship between internet freedom and public trust in government.

Operationalisation

In this study, the concept of internet freedom, also operationalised as the level of democracy, is concretely defined and measured using the total score provided by Freedom House (2022). “The project rates the real-world rights and freedoms enjoyed by individuals within each country” (Freedom House, 2022). The methodology includes 21 questions, divided into three dimensions: obstacles to access (0-25 points), limits on content (0-35 points), and violations of user rights (0-40 points). The sub-questions are scored from 0 to 4 or 0 to 3 and are then averaged to provide a score for each methodology question. The total score is the sum of the scores for each question within the three categories. Each country's internet freedom is represented on a scale from 0 (least free) to 100 (most free). This methodology aligns with the scope of this research, as it offers a holistic perspective on internet freedom, rather than focusing on one aspect, such as censorship or connectivity.

Concurrently, public trust in government is quantified using the Q11B indicator from the Wellcome (2018) dataset. This indicator asks respondents the question: “How much do you trust this country's national government?”. The possible answers range from ‘A lot’ to ‘Not at all’, yielding an ordinal scale. Each response is assigned a numerical value, ranging from 4 (‘A lot’) to 1 (‘Not at all’), creating a quantitative measure of trust. By multiplying each response's numerical value by the number of respondents who chose it, and then summing these products, a cumulative score for each country is computed. This approach results in a continuous variable that provides a robust measure of public trust in government at the national level. This study also incorporates various control variables: human development, political stability, corruption control, and government effectiveness. These are sourced from datasets provided by the World Bank (2022) and the United Nations Development Programme (2021). These variables are instrumental in distinguishing the distinct impact of internet freedom on the variations in public trust across countries. The indicators for political stability, corruption control and government effectiveness are ranked among all countries in the World Bank (2022) dataset, with 0 corresponding to the lowest rank, and 100 to the highest rank. The indicator for human development is on a scale of 0 to 1, with 1 being the highest level of human development.

The datasets used in this study offer a wide range of cases: Wellcome (2018) provides 134, Freedom House (2022) offers 65, the World Bank (2022) includes 214, and the United Nations Development Programme (2021) presents 195 country-level cases. After careful screening for data relevance and consistency, a combined dataset, encompassing 54 cases, is crafted. It is noteworthy that these 54 cases represent around 27% of all countries, implying that the analysis could be affected by selection bias. While the study covers a substantial proportion of nations, it does not encompass all. The countries omitted could have unique attributes influencing the relationship between internet freedom and public trust in government, thereby limiting the findings' generalisability. Future research should aim to incorporate a broader range of countries to ensure a more comprehensive understanding of this relationship. However, the selection of these 54 cases was guided by data availability and relevance to the research question. It is necessary to ensure that the data employed in the analysis are of high quality and relevant, even if this means focusing on a smaller subset of countries. For an exhaustive explanation of the operationalisation and conceptualisation of these chosen measures, refer to Table 1.

Table 1. Conceptualisation and Operationalisation of the Relevant Variables

Variable	Conceptualisation	Indicators	Measurement
Public Trust in Government	The extent to which citizens believe in their national government's ability to act in the public's interest and fulfil its promised responsibilities	Q11B "How much do you trust this country's national government?", calculated and named: trust_gov_2018	Continuous (Wellcome, 2018)
Internet Freedom	The extent to which citizens have obstacles to access, limits on content, and violations of user rights within their country	Total Score renamed: int_fr_2018	Continuous (Freedom House, 2022)
Human Development (control)	A summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and having a decent standard of living.	hdi_2018	Continuous (United Nations Development Programme, 2021)
Control of Corruption (control)	The extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.	Control of Corruption: Percentile Rank, renamed: cor_2018	Continuous (World Bank, 2022)
Government Effectiveness (control)	Perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.	Government Effectiveness: Percentile Rank, renamed: gov_eff_2018	Continuous (World Bank, 2022)
Political Stability and Absence of Violence (control)	Perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism.	Political Stability and Absence of Violence/Terrorism: Percentile Rank, renamed: pol_sta_2018	Continuous (World Bank, 2022)

Methods of Data Analysis

The research design for this study encompasses a sequence of analytical steps, each contributing unique insights to the exploration of the relationship between internet freedom and public trust in government. The preliminary stage of this investigation employs the Pearson correlation analysis, a statistical approach to gauge the strength and direction of the relationship between two continuous variables (Cohen, Cohen, West and Aiken, 2013). The Pearson correlation coefficient is used to measure the linear relationship between internet freedom and public trust in government. This statistical technique helps provide an initial understanding of the connection between these two variables.

After establishing a basic understanding of the relationship, the analysis proceeds in two stages, each utilising a different type of linear regression analysis. Initially, a simple linear regression is conducted to estimate the unadjusted, direct relationship between internet freedom and public trust in government, resulting in Model 1 (Fox, 2015). The second stage implements a multiple linear regression analysis, resulting in Model 2. This is a technique that enables the exploration of the relationship between a dependent variable and several independent variables (Monogan, 2015). This method is advantageous for the research question at hand, as it allows for the accommodation of control variables, thus minimising the influence of potential confounding elements (Cowpertwait and Metcalfe, 2009). The statistical software R, renowned for its application in social science research, is utilised for data analysis (Vuong et al., 2020).

Before conducting any regression analysis, a thorough data cleaning and pre-processing routine is executed to ensure consistency and completeness of the data. This procedure comprises identifying and rectifying missing values, verifying assumptions, detecting outliers, and resolving data inconsistencies (Hair, 2006). Furthermore, in response to missing data, judicious imputation techniques are implemented to preserve the integrity of the data (Little and Rubin, 2014). This includes examining the distribution of variables, assessing linearity, heteroskedasticity, and multicollinearity, and checking for the normality of residuals (Field, 2013). The natural logarithm is taken of all independent variables to enhance the normality of residuals and to make it easier to compare the outcomes. An external R library called 'gvlma' is used to check all the assumptions for a model (Pena and Slate, 2019). This R library checks if a model passes every assumption, which removes the need for human interpretation.

Empirics

This chapter delves into the empirical investigation undertaken to uncover the intricate relationship between internet freedom and public trust in government, an exploration that entailed examining the magnitude and statistical significance of their mutual interaction. The research design and analytical framework employed in this study were specifically crafted to dissect the causal relationship between these two variables, offering a comprehensive understanding of their interplay. The results generated through linear regression analyses are systematically organised in tables, delineating coefficient estimates, standard errors, and p-values to provide a clear and concise representation of the findings.

Figure 3. Relationship between Internet Freedom and Public Trust in Government.

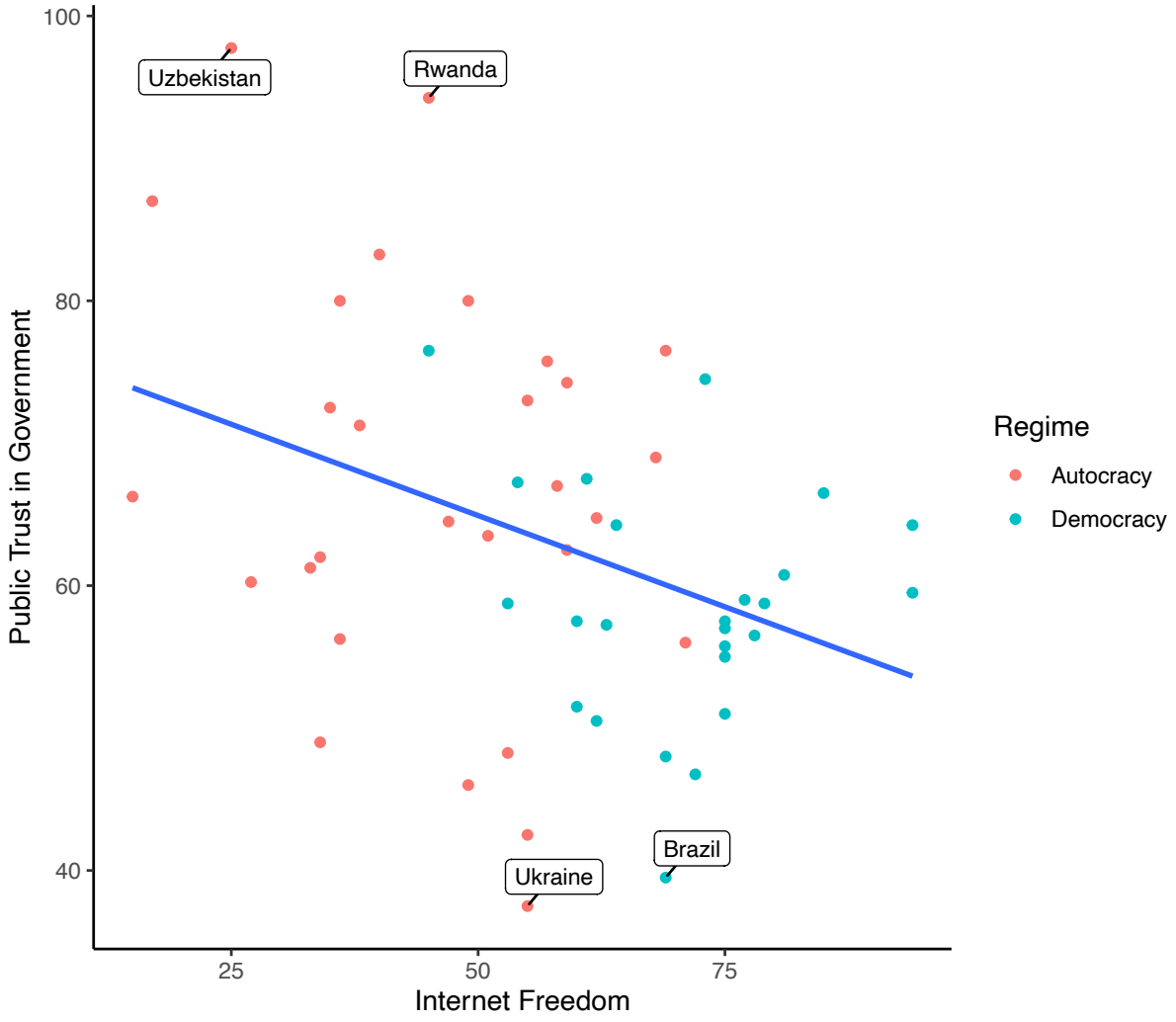


Figure 3 depicts a linear trend line that resonates with the data points, indicating a negative relationship. Internet freedom and public trust in government are found to be moderately negatively correlated, $r(52) = -.39$, $p = .004$. This signifies that an increase in the level of

internet freedom corresponds to a decrease in the level of public trust in government. Moreover, the dataset includes four noticeable outliers: Uzbekistan, Rwanda, Ukraine, and Brazil, which deviate from the general trend but do not detract from the overall negative linear relationship.

The strikingly high and low levels of public trust in government observed in the outlier countries can potentially be explained by a combination of distinct country-specific factors. In Uzbekistan, the state exercises considerable control over the media, shaping public narratives and opinions to a significant extent (Ilkhamov, 2013). This control, with its dominance over the information landscape, could be a crucial contributor to the country's high level of governmental trust. In a similar vein, the government of Rwanda exercises substantial control over its media and public discourse (Waldorf, 2010). In addition, Rwanda's rapidly growing economy, coupled with noteworthy improvements in health, education, and essential services such as electricity and clean water, is likely to foster public trust (World Bank, 2019). These positive changes offer citizens tangible evidence of a government working in their interests. Moreover, political turbulence and military strife, including the 2014 annexation of Crimea by Russia and the ensuing war in Eastern Ukraine, have critically undermined the public's trust in the Ukrainian government (Katchanovski, 2016). Lastly, Brazil's political landscape in 2018 was characterised by extensive turmoil, highlighted by the "Operation Car Wash" investigation, which embroiled many politicians and fostered a climate of widespread public dissatisfaction (Power and Rodrigues-Silveira, 2019). Overall, these specific circumstances within each country offer explanatory insights into their outlier status in terms of public trust in government. Future research could delve deeper into these intriguing cases, further exploring the complexities of the factors influencing public trust.

Table 2. Regression Results for Public Trust in Government in 2018

	Model 1	Model 2
(Constant)	113.55***	71.15***
	(16.67)	(18.40)
Internet Freedom	-12.68**	-15.26***
	(4.16)	(4.09)
Human Development		-39.07***
		(9.40)
Control of Corruption		-3.64
		(4.19)
Political Stability		6.35**
		(2.36)
Government Effectiveness		8.81
		(4.50)
R^2	.151	.461
Adj. R^2	.135	.405
N	54	54

Note: Linear regression coefficients with standard errors in brackets.
**** p < .001, ** p < .01, * p < .05*

Table 2 presents a comparative analysis between two linear regression models: Model 1, which does not incorporate control variables, and Model 2, which does include them. The fitted regression model is: Public Trust in Government = 113.55 - 12.68*(level of internet freedom). The regression of Model 1 is statistically significant. It is found that internet freedom significantly predicted public trust in government in 2018. In other terms, Model 1 states that 15.10% of the total variance in public trust in government can be explained by internet freedom. Consequently, as the level of internet freedom increases, the level of public trust in government decreases. In comparison, the overall regression of Model 2—where control variables are factored in—is statistically significant. The fitted regression model is: Public Trust in Government = 71.15 - 15.26*(level of internet freedom) - 39.07*(level of human development) - 3.64*(level of control of corruption) + 6.35*(level of political stability) + 8.81*(level of government effectiveness). It is found that internet freedom, human development and political

stability significantly predicted public trust in government in 2018. However, control of corruption and government effectiveness did not significantly predict public trust in government. Overall, 46.10% of the total variance in public trust in government can be explained by Model 2. Both models substantiate a moderate negative linear relationship between internet freedom and public trust in government, with Model 2 offering a more comprehensive explanation of the variance in public trust, accounting for nearly half of it. Given the real-world context of these measurements, Model 2's explanatory power of 46.10% is deemed quite substantial for this study. To conclude, the evidence illustrates that the research question can be answered, as a higher level of internet freedom leads to a lower level of public trust in government. Thus, this study can corroborate the hypothesis.

Possible explanations for the observed negative correlation between internet freedom and public trust in government can be found in the intersection of echo chambers, misinformation, and political polarisation. According to Sunstein's (2007) echo chamber theory, internet freedom may inadvertently lead to the formation of online echo chambers or filter bubbles (Pariser, 2011), reinforcing pre-existing beliefs and limiting exposure to diverse perspectives. When misinformation is introduced in these insular spaces, it gets amplified, skewing perceptions about government performance and actions. Additionally, these echo chambers can solidify political beliefs, exacerbating polarisation in society (Bakshy et al., 2015). As these divisions deepen and conflicting narratives flourish, consensus on governmental performance becomes challenging, undermining public trust. Furthermore, in autocracies, where internet freedom often mirrors the restrictions on content (Deibert et al., 2010), state-controlled narratives may instil a sense of stability and competence, but discrepancies revealed through alternative sources might foster mistrust (Stockmann and Gallagher, 2011). Collectively, these dynamics illustrate how internet freedom, despite facilitating information accessibility, can potentially erode public trust in government.

The negative coefficient for human development, a construct that encapsulates aspects such as education, health, and income levels, can initially seem surprising since higher levels of human development are typically associated with greater trust in government (Sen, 2001). However, this unexpected outcome can be elucidated when considering that societies with a higher human development index generally consist of citizens who are more informed and active in civic matters. This heightened awareness and participation allow citizens to evaluate government performance critically, thereby leading to a more discerning formation of trust or mistrust

(Inglehart and Welzel, 2005). Similarly, the negative coefficient for control of corruption, a variable measuring the extent to which public power is exercised for private gain, could seem counterintuitive at first. Effective control of corruption would be expected to enhance public trust by demonstrating the government's commitment to principles of good governance and the well-being of its citizens (Rothstein and Uslaner, 2005). However, this seemingly contradictory finding can be understood when considering the paradoxical effects of corruption awareness and enforcement. In societies where anti-corruption efforts are highly visible, citizens might become more aware of the pervasiveness of corruption issues. This heightened awareness could then paradoxically result in a decline in public trust, as it signals a breach of government integrity and a disregard for the public good (Rothstein, 2011; Seligson, 2002). These interpretations provide potential explanations for the observed relationships, but it is important to remember that these are complex, multifaceted constructs that can be influenced by a variety of other factors not included in the model. Further research could explore these relationships more thoroughly, considering other potential influencing factors and the specific context of different countries.

Conclusion

In summary, this study sought to unpack the complex interplay between internet freedom and public trust in government, shedding light on a notable paradox discussed in the literature (Pariser, 2011; Sunstein, 2007). The results of the empirical research reveal that these two variables are moderately negatively correlated. Such a correlation presents a profound implication on our understanding of the dynamics of public trust in the internet age, contributing to a broader dialogue on the societal impacts of digitisation. This empirical observation could be explained by the notion that as internet freedom expands, societies may inadvertently spiral into echo chambers that amplify misinformation and intensify political polarisation (Sunstein, 2007; Pariser, 2011; Bakshy et al., 2015). These socio-political phenomena, emerging as by-products of unrestricted online communication, can breed scepticism and distrust towards governmental entities. Particularly in autocratic regimes, the exposure of state-controlled narratives through alternative sources accessible due to internet freedom might exacerbate public mistrust (Stockmann and Gallagher, 2011). Thus, the results reinforce the relevance of the research question and affirm the hypothesis that higher levels of internet freedom lead to lower levels of public trust in government.

Nonetheless, this study is not devoid of limitations. The cross-sectional nature of the research design limits the ability to capture the dynamic evolution of internet freedom and public trust over time. Moreover, while the models accounted for various control variables, other potential influencers might also play a substantial role and thus merit inclusion in future models. Notably, the countries highlighted as outliers (Uzbekistan, Rwanda, Ukraine, Brazil) presented unique cases which, while explained to a degree, might necessitate a more in-depth, possibly qualitative, exploration to fully understand the complexities within each country's context. Going forward, longitudinal studies could be beneficial in tracing the ebbs and flows of internet freedom and public trust over time, lending a more temporal perspective to the relationship. Further, more localised or country-specific studies would be a valuable addition, focusing on particular contexts and their unique interplay between internet freedom and trust in government. These investigations could delve deeper into the cultural, socio-economic, and political underpinnings of these phenomena and how they interact with digital freedoms.

In conclusion, this study's findings underscore the need for a balanced approach towards internet freedom, recognising its potential to foster informed citizenry while also being mindful of its capacity to contribute to informational silos and misinformation. It is crucial for policymakers to navigate these complexities, employing a nuanced understanding of these dynamics when shaping internet governance and public communication strategies. As we continue to grapple with the implications of an increasingly digital world, this research illuminates an important facet of that journey, setting the stage for further explorations into the intersections of internet freedom and public trust in government.

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Appendix A. R script

```
library(readr)
library(readxl)
library(dplyr)
library(ggplot2)
library(countrycode)
library(gtools)
library(ggrepel)
library(gvlma)
library(car)

# Path
dt <- "~/Documents/IRO Leiden/Third Year/Seminar Organising Data/Research/Datasets/"

# Internet Freedom - Freedom House 2018
if.freedomhouse.2018.df <- read_excel(paste(dt, "internet-freedom-fh.xlsx", sep = "")) %>%
  select(country = 1, year = 2, obstacles = 9, limits = 18, violations = 27, internet_freedom =
28) %>%
  filter(year == '2018') %>%
  select(1, obstacles_2018 = 3, limits_2018 = 4, violations_2018 = 5, int_fr_2018 = 6) %>%
  mutate(code = countrycode(country, origin = 'country.name', destination = 'iso3c'))

# Trust in Government - Wellcome 2018
tg.rawdata.2018.df <- read_excel(paste(dt, "trust-in-gov-wellcome.xlsx", sep = ""), sheet =
"Question breakdown data") %>%
  select(country = 1, question = 2, response = 4, respondents = 5) %>%
  filter(question == 'Q11B')

# Values given to ordinal responses
tg.response_values <- data.frame(response = c("A lot", "Some", "Not much", "Not at all",
"Don't know/refused"),
                                 value = c(4, 3, 2, 1, 0))

# Add values to dataset
```

```
tg.rawdata.2018.df <- left_join(tg.rawdata.2018.df, tg.response_values, by = "response")

# Calculate trust in government per response
tg.total_scores.2018 <- tg.rawdata.2018.df %>%
  mutate(respondents = ifelse(is.na(respondents), 0, respondents)) %>%
  group_by(country, response) %>%
  summarise(total_respondents = sum(respondents), trust_in_gov = sum(value * respondents))
%>%
  ungroup()

# Aggregate the total trust in government per country
tg.wellcome.2018.df <- tg.total_scores.2018 %>%
  group_by(country) %>%
  summarise(trust_gov_2018 = sum(trust_in_gov / 4)) %>%
  mutate(code = countrycode(country, origin = 'country.name', destination = 'iso3c'))

# Merge 2018 datasets together
all_data.2018 <- merge(if.freedomhouse.2018.df, tg.wellcome.2018.df, by = "code") %>%
  select(1, country = 2, 3:6, 8)

# Regime Type 2018
regime.df <- read_csv(paste(dt, "political-regime-owid.csv", sep = "")) %>%
  select(code = 2, year = 3, regime = 4) %>%
  filter(year == '2018') %>%
  mutate(Regime = ifelse(regime > 1, 'Democracy', 'Autocracy')) %>%
  select(1, 4)

# Merge Regime Type with datasets
all_data.2018 <- merge(all_data.2018, regime.df, by ="code")

# Human Development Index (control)
control.hdi.un.2018.df <- read_csv(paste(dt, "hdi-un.csv", sep = "")) %>%
  select(code = 1, hdi_2018)
```

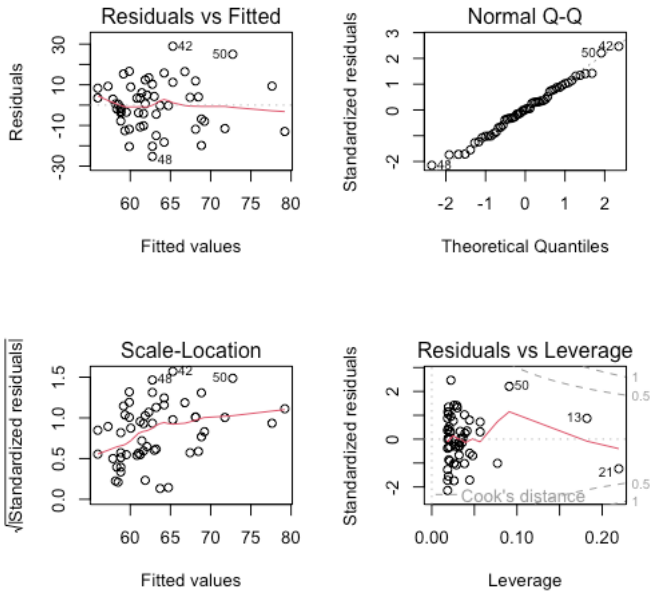
```
# Control of Corruption (control)
# Government Effectiveness (control)
# Political Stability and Absence of Violence (control)
control.governance.worldbank.df <- read_excel(paste(dt, "governance-indicators-wb.xlsx",
sep = "")) %>%
  select(code = 2, indicator_name = 3, indicator_code = 4, value = 5) %>%
  mutate(value = parse_number(value, locale = locale(decimal_mark = ".")))

# Control of Corruption (control)
control.corruption.worldbank.df <- control.governance.worldbank.df %>%
  filter(indicator_code == 'CC.PER.RNK')

# Control of Corruption (control) 2018
control.corruption.worldbank.2018.df <- control.corruption.worldbank.df %>%
  select(1, cor_2018 = 4)

# Government Effectiveness (control)
control.effectiveness.worldbank.df <- control.governance.worldbank.df %>%
  filter(indicator_code == 'GE.PER.RNK')

# Government Effectiveness (control) 2018
control.effectiveness.worldbank.2018.df <- control.effectiveness.worldbank.df %>%
  select(1, gov_eff_2018 = 4)

# Political Stability and Absence of Violence (control)
control.stability.worldbank.df <- control.governance.worldbank.df %>%
  filter(indicator_code == 'PV.PER.RNK')

# Political Stability and Absence of Violence (control) 2018
control.stability.worldbank.2018.df <- control.stability.worldbank.df %>%
  select(1, pol_sta_2018 = 4)

# Add control variables to datasets
all_data_c.2018 <- merge(all_data.2018, control.hdi.un.2018.df, by = "code")
```

```
all_data_c.2018 <- merge(all_data_c.2018, control.corruption.worldbank.2018.df, by =
"code")
all_data_c.2018 <- merge(all_data_c.2018, control.effectiveness.worldbank.2018.df, by =
"code")
all_data_c.2018 <- merge(all_data_c.2018, control.stability.worldbank.2018.df, by = "code")


# Scatterplot grouped by regime and with a regression line and outliers labeled
ggplot(all_data_c.2018, aes(x = int_fr_2018, y = trust_gov_2018)) +
  geom_point(aes(col = Regime)) +
  geom_smooth(method = "lm", se = FALSE) +
  geom_label_repel(aes(x = int_fr_2018, y = trust_gov_2018, label = country),
                   data = subset(all_data_c.2018, trust_gov_2018 < 40 | trust_gov_2018 > 90),
                   min.segment.length = 0,
                   size = 3,
                   max.overlaps = getOption("ggrepel.max.overlaps", default = 65)) +
  labs(x = "Internet Freedom", y = "Public Trust in Government") +
  theme_classic()


# Pearson Correlation = -0.39 moderate negative relationship (0.3 - 0.7)
cor.test(log(all_data_c.2018$int_fr_2018), all_data_c.2018$trust_gov_2018)


#  Model 1 without control variables
model1.2018 <- lm(trust_gov_2018 ~ log(int_fr_2018), data = all_data_c.2018)

# Summary of Model 1 - 15.13% variance explained
summary(model1.2018)

# Check assumptions of Model 1
par(mfrow = c(2, 2))
plot(model1.2018)
```

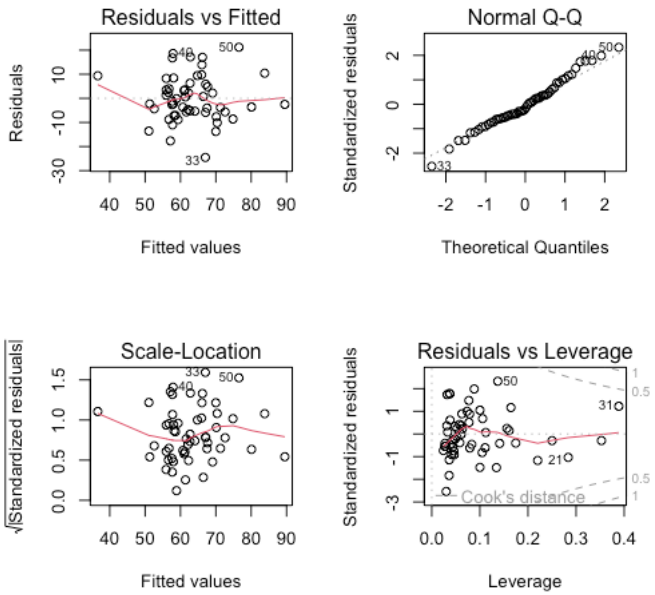
```
# Check assumptions of Model 1 with gvlma package - all assumptions are acceptable
gvlma::gvlma(model1.2018)


# Model 2 with control variables
model2.control.2018 <- lm(trust_gov_2018 ~ log(int_fr_2018) + log(hdi_2018) +
log(cor_2018) + log(pol_sta_2018) + log(gov_eff_2018), data = all_data_c.2018)

# Check for multicollinearity - all have VIF < 10
vif(model2.control.2018)

# Summary of Model 2 - 46.14% variance explained
summary(model2.control.2018)

# Check assumptions of Model 2
par(mfrow = c(2, 2))
plot(model2.control.2018)

# Check assumptions of Model 2 with gvlma package - all assumptions are acceptable
gvlma::gvlma(model2.control.2018)
```

Appendix B. Assumptions of Model 1 and Model 2

Model 1 assumptions



Model 2 assumptions



Check with 'gvlma' package

Both Model 1 and Model 2 have been checked and all assumptions are acceptable according to the 'gvlma' package.