Political Science Program
Law and Social Sciences School

Utopia or Dystopia: a review of E-government influence on China's authoritarian and Estonia's democratic consolidation.

Gustavo Lema Jaramillo
Research Project

Thesis advisor:
Juan Carlos Gómez Benavides

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Table of contents

Introduction **4**

Context: **7**

China's political context: 10

Estonia's political context: 11

Theoretical Framework: **12**

E-government: 12

Regime consolidation 16

Methodology: **21**

Despotic power 23

Discursive Power 23

Infrastructural power 23

Extractive and redistributive capacity 24

Quality of bureaucracy 24

Regime consolidation 25

Analysis **26**

Regime consolidation: 26

Despotic power 27

Discursive power 28

Infrastructural power 30

Conclusion: **35**

Table of Figures

Graph 1: Technological adoption and Regime Type 9
Fig 1: E-government research viewpoints on impacts and causes 14
Chart 1: power dimensions and observable behaviors 21
Chart 2: power dimensions and key indicators..... 22
Graph 9: Failed State indicators: changes 2010-2020..... 26
Graph 3: Boxplot political terror scale 2010-2021 27
Graph 4: Press freedom in China and Estonia..... 29
Graph 5: GDP per capita in China and Estonia..... 31
Graph 6: Gini index in China and Estonia 32
Graph 7: Government Effectiveness Index in China and Estonia..... 33
Graph 8: E-government development index..... 35
Chart 3: China and Estonia: Comparative assessment..... 36

Introduction

Information and communication technologies' (ICTs') use for public purposes has been a topic of interest for a long time. Most theories dealing with the influence of the internet on democracy argue that this technology can potentially enhance democracy and freedom (Kobayashi 2006; Kaye and Johnson 2002; Deibert 2000; Coleman and Gøtze 2002 as cited in Margolis, 2009); also, empirical research has shown that countries with high internet usage are statistically more likely to be democratic (Best & Wade, 2007; Best & Wade, 2009; Seo & Thorson, 2017). In sum, the evidence presented above will allow us to propose that the growth of internet users in many countries leads to the likelihood of deepening democratic processes.

However, other studies have shown that the above results are not globally consistent. For instance, Best, et. al (2009) claim that "some regions do not enjoy a positive Internet/democracy correlation, suggesting that the Internet can be used both as a tool for democratization as well as an instrument for authoritarianism".(Best & Wade, 2009, p.255). These phenomena are very important to examine because they provide proof that the mere existence of the internet is not sufficient to cause democratization and "it (the Internet) can be customized to serve the goals of authoritarian regimes" (Stier, 2015, p.273).

As discussed above, the internet is a tool used to achieve different political goals, and can be applied in various ways, and its applications have increased over time. Hence, there are different uses of the internet. For instance, ICT's public uses can be divided into four[1] different fields: education[2], information diffusion[3], political mobilization[4] and public sector modernization [5].

This research will focus on E-government, which is the use of ICTs by public entities[6] to increase overall public sector performance. This choice is due to the following reasons. First, public sector modernization "is no longer an option, but a necessity. It will help governments respond to changing societal needs and maintain competitiveness in an uncertain international environment" (OECD, 2005). Thus, tools for achieving public sector modernization through the introduction of ICTs are optimal for increasing efficiency.

Second, E-government programs represent an outgrowth in the world (Margolis, 2009). This is central because this trend demonstrates that E-government is here to stay, so it must be studied to

[1] Topics like E-commerce, online trading, and recreational uses of ICT's are excluded from this classification because they are more related to private purposes and this research aims to explaining some of the impacts of the internet on public matters

[2] Internet is often used to display courses or programs to inform public officials or citizens about topics of political interest.

[3] Governments and state agencies can benefit from information diffusion through online mass media, advertising, propaganda and social networks.

[4] Internet can be used as an environment where citizens and politicians share political opinions, discuss, and even mobilize in order to attain political goals

[5] Nowadays, tools offered by the internet have been embraced by some States in order to make their public sector activities and workflow more efficient, effective and transparent

[6] The literature review showed that authors who define E-government tend to gravitate around the concepts of public sector, public administration or government this discussion will be further explained in the theoretical framework.

understand how its implementation might influence political systems in order to consolidate certain institutional structures.

Finally, it is necessary to find how E-government is used to empower authoritarian or democratic regimes, because the literature has shown that although studies "reveal a positive relationship between democracy and E-government" (Bussell, 2011; Gulati & Yates, 2011; Gulati, Yates, & Williams, 2012; Kim, 2007; Rose, 2005 as Cited in Stier,2015, p.271), authoritarianism[7] also often uses the Internet to increase government power and legitimacy through e-government (Kalathil & Boas, 2003,).

The presence of E-government has proved to be closely related to democratic regimes; its uses can improve open government performance, accountability, security, participation, procurement, and overall public administration efficiency (UN, 2020) However, as stated above, E-government is a dominant, but not exclusive, tool used in democratic countries[8]

Some authoritarian countries have also shown interest in using this tool, because "cyberspace can be used to reinforce hegemonic powers, cultivate a climate of fear, and prevent or minimize dissent" (Warf, 2011, p.4). Hence, E-government tools can also be used in areas like surveillance, digital censorship, and extensive citizen data recollection. All of these might strengthen non-democratic governments. Therefore, authoritarian regimes "with a high government capacity are usually backed by reactive online policies, so they can counter the political risks of investing in internet infrastructure and proactive instruments like e-government" (Stier, 2015, p.273).

As we have shown, E-government is a tool that can be used to empower institutional structures from democratic and authoritarian regimes. We argue that both[9] can profit from implementing E-government tools to make their regimes stronger, more accepted and stable. In other words, E-government can be used in processes of authoritarian and democratic consolidation.

An example of this is the divergent results of the implementation of E-government in countries like Denmark, South Korea, and the UK that enjoy high levels of democracy and E-government implementation, in contrast, countries such as: Singapore, Kazakhstan and Russia which are considered non-democracies and also enjoy high levels of E-government. Usually, they differ in the ways and means to implement these tools. On the one hand, democracy intends to enhance freedom and transparency, on the other, authoritarianism aims to increase control a repression.

Both authoritarianism and democracy seem to profit from E-government implementation, governments may be using this tool to enhance their levels of bureaucratic efficiency in order to consolidate their particular regimes. hence, the revision of this body of contradictory literature and examples should invite us to critically engage in the idea that the development of new information

[8]"Democracies dominated the global Internet network both in 2002 and in 2014" (Seo & Thorson, 2017, p.141)

[9] Any types of regimes can benefit from improving their public administration efficiency, their legitimacy and engagement with their citizens.

technologies that prompted the emergence of E-government may be influencing authoritarian and democratic regime consolidation

It is imperative to highlight that, although the use of E-government is more common in democratic regimes, it would be naïve to assume that it is a democratizing tool *per se*, but instead it can work as an amplifier of government power to solidify both democratic and non-democratic regimes. Therefore, it is necessary to observe common conditions and differences that allow the public sector to consolidate different types of regimes with the very same tool: E-government.

The literature review conducted for this research allows us to claim that the influence of E-government on regimes hasn't been explained in a coherent and comparative manner. Previous studies that seek to explain technological adoption's influence on regimes have not acknowledged the different pace of technological adoption. Over the years non democracies and democracies have introduced ICTs at very different rates. In fact, non-democracies can be seen as *late bloomers* [10]of technological adoption (Stier, 2015). Therefore, it is no surprise that the existing literature hasn't explored major ICT development in authoritarian regimes.

In order to design research in which both democracies and non-democracies can be compared, cases of study must focus on similar levels of technological adoption; otherwise, the results will overshadow *Late Bloomers'* potential to make political changes supported by technological tools like E-government.

Existing studies have incurred in false analogy, since non democracies and democracies were compared at different stages of technological adoption. at the very beginning of internet adoption, non-democracies were reluctant to incorporate digital tools because it implied risks. nevertheless, nowadays these countries have managed to reduce risk associated to technological tools, therefore, technologies like E-government have been growing at higher rates in non-democracies during the last decade, thus they have achieved similar level of technological adoption in relation to democracies; having said that, it is important to resume this line of investigation with more updated information from the last decade[11].

Another problem with the existing literature is that most of it considers E-government to be technology by itself[12], (Sakowicz, 2001). By doing this, authors assume human agency to be a non-significant variable in E-government strategies. This research proposes that to approach this topic in a better fashion it would be useful to draw upon a sociotechnical approach, which understands E-government as a tool with interactions between social and technological factors, so that it can be understood as a tool resulting from the interactions of governments and ICTs in order to achieve performance advantages, in this case to consolidate democratic and authoritarian regimes

[10] At the beginning of the world's internet adoption, democracies were dominating this process, but nowadays non democracies have managed to catch up with the pace of this technological adoption trend (Stier, 2015)

[11] Thanks to non-democracies' accelerated technological adoption between 2010 and 2020 the conducted research can use this timeframe, which is more adequate for understanding E-government influence on regime consolidation., because technological adoption in both democracies and non democracies in this set of years is commensurable.

[12] They have measured E-government effectiveness and impacts based mostly on ICT´s development

This research considers that China and Estonia are good examples of a successful implementation of E-government. However, it will also assert that the difference between these two cases lies in the way this tool of electronic government might produce opposite types of regimes. In this order of ideas, this research will claim that China has used e-government tools to consolidate an authoritarian regime, whereas Estonia has also used it, but to deepen its democracy. Based on the previous discussion, the research question this paper aims to answer is: **¿Has the use of E-government tools served to consolidate authoritarianism in China and democracy in Estonia over the last decade?**

Hence, this research aims to review E-government development for both study cases and show how its behavior might reflect on divergent types of regime consolidation. To support this main objective, first China and Estonia will be compared to assess whether E-government could be related to their particular regime consolidation. Second, the research will examine the differences found after comparing the cases of study. Finally, E-government will be analyzed in relation to the cases of study to explain why China and Estonia are consolidating opposite types of regimes.

The structure of this document will be divided into the following parts: First, context, where the political and academic importance of the research topic will be explained, along with the chosen variables and cases of study, and the behavior of E-government and regime consolidation for both China and Estonia. Second, theoretical Framework, examining the different theories regarding the independent variable: E-government, and the dependent variable: regime consolidation. Third, in the methodology section, an explanation of how the chosen variables will be measured and analyzed; Fourth, the analysis section will explain the observed trends and divergences that the data has manifested. Finally, the conclusion of the research will consider the relation between theories and data.

Context:

This research project aims to assess the conditions regarding government performance and ICT's development, conditions that make it possible to instrumentalize E-government to consolidate divergent types of regime. The importance of exploring this topic lies in the capacity of policymakers and civil society to foresee the possible outcomes and implications of implementing E-government strategies, in order to make informed decisions and manage the risks of using ICTs to improve government efficiency.

E-government is an important topic nowadays because it is a tool that makes public sector operations quicker, cheaper, and more responsive to citizen needs (Ntulo, 2013); also, due to the growth of E-government implementation, countries may be subject to international pressure because they may not want to be left behind in terms of ICT usage in the public sector, Hence, there exist incentives that motivate governments to implement e-government tools.

E-government is a trend with significant incentives for countries to implement it, and it is clear that today it is present in both authoritarian and democratic regimes, the advantages to utilize E-government tools usually lie in the opportunity to make State bureaucracy and services more

effective, in the contemporary world, this is key for any type to regime to survive. even if the use of technological tools come with intrinsic risk, perpetuating an outdated and non-competitive government is more dangerous for the political elite. Additionally, E-government tools can be used to develop divergent political agendas and power structures which can be aligned with both authoritarianism and democracy. Therefore, it is necessary to take a comprehensive approach in which it is understood how e-government can work in favor of or to the detriment of democracy.

We also believe that scholars may benefit from this type of research because traditional approaches in *Science, Technology, and Society Studies* have examined only one of the two sides of this matter. Following this line of thought, Barley (1986) claims that:

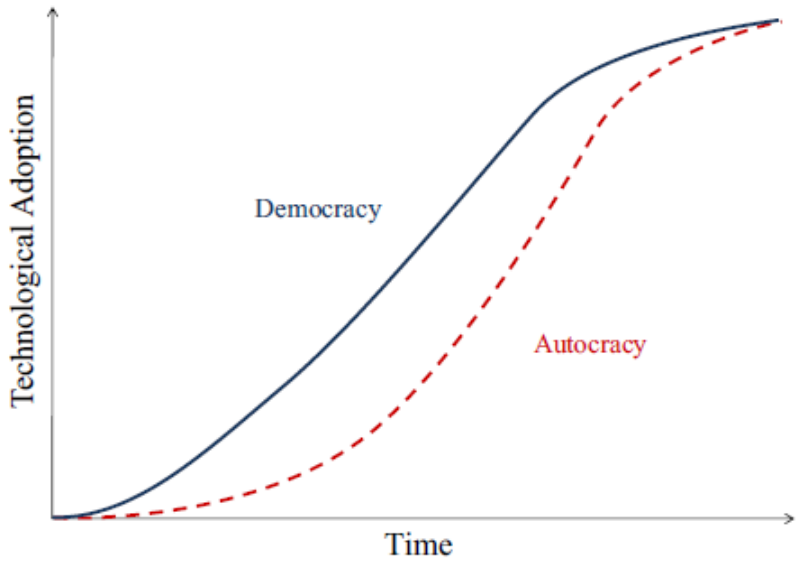
> "Studies that have focused on the physical aspects of technology enter into materialism that often results in technological determinism, where it is proposed that the effects of technology on social life are determined and inevitable. On the other hand, studies that have focused on technology as a social production have led to overconfidence in culture as the main driver, resulting in a form of social determinism" (Barley, 1986, as cited in Larrion,2019, p.317)

In this specific case, most of the studied literature can be divided into two categories: on the one hand, social determinism assumes that social factors, such as political culture, will shape E-government tools, while on the other hand technological determinism assumes that technological factors such as access to the Internet will determine the impact of E-government on society. Thus, this research can be regarded as innovative in the field because it will acknowledge the importance of both technological and social factors to explain political phenomena.

It is worth noting that many studies related to technology and its impact on regime type have focused mainly on the assumption that "E-government has been prevalently associated with democracies. However, as shown by the United Nations (UN), E-Government Development Index for the last decade, the wave of E-government in democracies has been promptly followed by a second wave of online initiatives in autocracies" (Maerz, 2016, p.727).

This trend is shown in graph 1, which compares the evolution of technological adoption through time for both autocratic and democratic regimes. What Stier (2017) tries to express with this graph is that the rate of growth of technological adoption during the early years of the Internet was higher for democratic countries. Nevertheless, over the years, non-democracies have acquired an interest in internet tools, and this has resulted in belated technological adoption and a higher rate of adoption, which has managed to reach levels that are comparable with democracy's technological adoption.

Graph 1: Technological adoption and Regime Type



Taken from (Stier, 2017)

This graph allows us to see that technological adoption within authoritarian and democratic regimes was not yet comparable for the 2000s, because technological growth began much earlier in democratic regimes, but autocracy rates of technological growth have managed to catch up in the last decade, as shown. Hence, new research with updated data is not only pertinent, but likely to be more accurate.

This research aims to understand E-government impacts on regime consolidation for the following reasons: First, countries like China, since the approval of its constitution in 1982, and Estonia, since its independence from the U.S.S.R in 1990, have managed to maintain their regimes and have been operating for long enough that they seem to be, at least in the near future, far from experimenting abrupt regime changes. Nevertheless, in recent years they have implemented ICTs in the public sector in order to entrench their current regime, and therefore, it is necessary to study their processes of regime consolidation. Second, there have been studies aiming to assess the relation between E-government and regime type (Stier, 2015b), but these studies have been concerned with the level of E-government adoption within different types of regime rather than addressing how E-government may be a tool used to consolidate both authoritarian and democratic regimes. Finally, democratic consolidation has been extensively researched, yet its authoritarian nuance remains understudied. Therefore, 'understanding the process of authoritarian consolidation can place us in a better position to manage our expectations about future political developments, as well as deepening our understanding of what political dynamics are actually occurring within these regimes" (Ambrosio, 2014, p.484)

Additionally to the justifications offered above, this research also aims to understand on a deeper level how E-government has been used to consolidate authoritarian regimes because "technology-centered assumptions of a fundamental incompatibility of ICT and authoritarianism need to be

revisited in light of phenomena like the thriving Internet economy in countries like China"(Stier, 2017, p.27). Also, it is important to revise E-government's *"compatibility"* with democratic regimes because if we understand how interactions between social and technological factors work, policymakers can apply this knowledge to incorporate strategies of E-government in order to avoid endangering democracy. This is because one of the concerns of this project is that "autocracies around the world copy the *[E-government]* policies of highly adaptable and economically successful peers like China" (Stier, 2015, p.273), and if China's approach to E-government has been copied in order to consolidate non democratic regimes, it can be also be used to erode democratic institutions.

The two cases of studies, China and Estonia were chosen because, on one hand, China has looked abroad for guidance on how to balance ICT promotion with authoritarian political control (Kalathil & Boas, 2003, p.25). On the other hand, the Estonian e-government model has been shown over the last decade to be an effective digital solution to create a new governmental identity and improve governance (Vargas, 2017). Thus, both countries are great examples of successful E-government implementation, and both have demonstrated long lasting and stable regimes (Freedom house, 2020), but their main difference is that their position on the regime spectrum is completely opposite. Hence, by studying them we might compare their ways of implementing the same tool *[E-government]* for the same motivation *[regime consolidation],* but with different purposes [democracy/autocracy].

China's political context:

China is a long lasting and powerful repressive regime (Freedom House, 2021) since Chinese revolution this country has built a single party regime where political opposition is banned and persecuted. in fact, China's constitutional law states that the only official political party is the CCP, which gives the party of government full control over State institutions, while its heritage from the 20th century lends it popular legitimacy. Therefore, China's entire State power is designed to perpetuate authoritarianism,

Throughout the years Chinese government has had to adapt to world trends like free market and adopt tools derived from the globalized western world. therefore, technological tools like E-government are a good example of this "adaptations". Even if the use of them creates higher levels of uncertainty, the potential advantages are desirable for the Chinese government. Hence, the Chinese government is implementing some strategies to modernize the State and make it more entwined with the western world, introducing some "Market like" dynamics into their economies and controlled privatizations (Heberer & Schubert, 2006), and as a result, they have had to introduce the Internet to be more up to date and in contact with their allies and competitors; nevertheless, China has accomplished a way of organizing its institutions so that they profit from the advantages of the western world while it blocks political risks for the CCP by oppressing the population through limiting civil liberties, and censoring and mandating highly intrusive surveillance.

One of the latest strategies by China to balance its "openness" to the western world has been to implement E-government tools to maintain power over internet users, impose censorship, violate

freedom of speech, steal personal data and even localize opposition activists, all of these strategies have made Chinese government more effective collecting data from the population, controlling information diffusion and improve overall control over citizenship. This is creating a climate of fear that discourages opposition and an image of functional government that legitimize the government to supporter. China have successfully developed a policy where they can supply their bureaucratic needs without giving liberties to their citizen. Hence, the power of the CCP appears to be far from diminishing, and for this reason we argue that E-government tools have been relevant in China's authoritarian consolidation.

Estonia's political context:

Estonia is nowadays considered the *Silicon Valley* of Europe because it is one of the biggest producers of technology within the continent, and this is very impressive considering its size, population and history. During the Cold War, Estonia was one of the countries occupied and governed by the Soviet Union, and it was not until 1991 that it declared its independence. One of the most impressive facts about this country is that before independence it was isolated from technological development; at that time the population didn't even have phones andtechnology was reserved for Soviet personnel.

In 1994, Estonia drafted its *principles of Estonian information policy,* which was the institutional base for building a digital society. This policy aimed to establish the pillar for building an economic system, but specifically by coordinating development of one of the first E-democracies in the world. Estonians had to build their democracy from scratch after independence, while they also needed to catch up with the world's technological development in order to be competitive, and therefore they designed a system by which they could exploit all the advantages that technology can offer to public development and democracy. The results of this plan are today outstanding, because Estonia is now the most the most advanced digital society in the world.

Estonia, in a short period, has managed to build one of the most highly ranked democracies in the world (Freedom House, 2021), but its regime is very particular, in comparison with older and more traditional democracies, because the principles of E-Government and democracy are so intertwined that trying to extrapolate technology and politics is a very hard, if not impossible, task, considering that 95% of State services are hosted online, including voting and decision making (e-Estonia, 2021); Estonians cannot really separate democracy from the digital society, and they cannot understand their very own democracy without the concept of E-democracy, this is because most of the channels needed to ensure interactions between the government and the citizens are institutionalized online, therefore for the Estonian society online services are perceived as the *"building blocks"* of their democratic regime and therefore they legitimate the government, public bureaucracy and democracy itself.

We have explained the importance of this research for the academic and political field; also the case studies have been presented, and we have also shown the relevance of the variables involved in this research, so now it is necessary to frame them in order to better explain the theories surrounding them. Additionally, some of these terms are defined in very heterogeneous ways, so

the next section will attempt to review relevant literature regarding the variables and select the concepts and definitions which are most useful and accurate for achieving our research purposes.

Theoretical Framework:

Before providing the theoretical framework, it is important to mention that the literature review conducted for this research has not addressed the specific topic of the impact of E-government on regime consolidation. Instead, most of the literature found has focused on explaining the risks and opportunities this tool might offer to democracy and autocracy and its degree of presence within these regime types, but none has addressed the role of E-government in authoritarian and democratic consolidation. Therefore, we need to explore the existing theories regarding the chosen variables.

E-government:

To proceed, it is important to explain the difference between E-government and E-governance because in some of the existing literature there is an overlap or these terms are used as synonyms. In fact, these terms are related, but they cannot be treated as equals. "e-governance is composed of the three above elements, namely e-government, e-regulation, and e-democracy" (Finger & Pécoud, 2003, p.5). Hence, even if E-government is a crucial component of E-governance, the concept of E-governance is highly related with E-democracy. Therefore, since China is not recognized as a democracy, for the current research this term would not be the right variable to utilize because it is intrinsically biased towards democratic values. Additionally, this paper aims to explain regime consolidation in general indistinctively of the type of the actual regime, therefore This is why we tend to favor a more neutral variable, such as E-government.

The literature has defined E-government in a very homogenous way, also many author and international organization imprint certain values that are traditionally associated to democracy, therefore this research will recognize that these definitions are often biased by democratic aspirations, nevertheless these definitions will be acknowledge and analyzed in order to present a richer and wider theoretical discussion that takes into account multiple perspectives.

Authors Like (UN, 2006; OECD, 2019; Lee et al., 2011; Sakowicz, 2001;Seifert & Chung, 2009; Lee et al., 2011; and Stier, 2015a) have not made very controversial or debatable definitions, so the main discussion of E-government is not around its meaning. Most of the literature sticks to the meanings given by international organizations, such as the United Nations (UN) and the Organization for Economic Cooperation and Development (OECD). For instance, the UN defines E-government as the "use of information and communication technology (ICT) and its application by the government for the provision of information and public services to the people" (UN, 2006, p.14 as cited in Lee et al., 2011, p.444). Academics (e.g., Sakowicz, 2001;Seifert & Chung, 2009; Lee et al., 2011; and Stier, 2015a) have similar definitions to the UN, as they share the idea that E-government is a matter of the executive branch, stating that E-government tools are an initiative of governments, but they do not acknowledge how state agencies outside government can implement ICTs to modernize their operations.

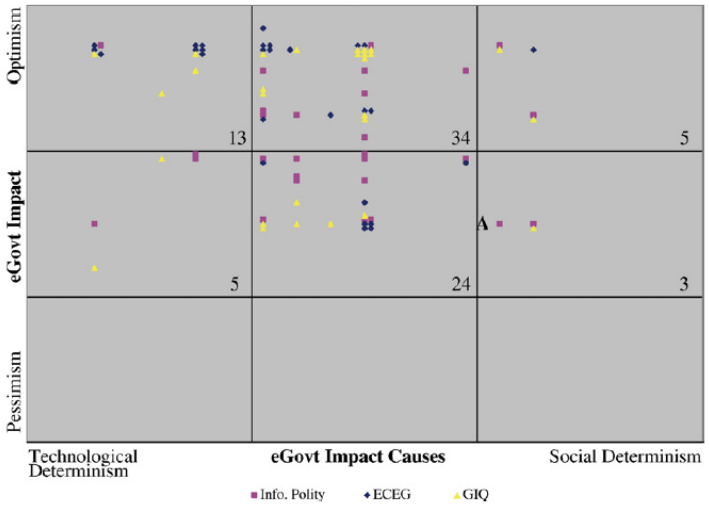
The OCDE states that E-government is defined as the adoption of information and communication technologies (ICTs) focused on increased efficiency and transparency in the public sector through the digitization of existing processes (OECD, 2019). Therefore, it is clear that both the UN and the OECD definitions are fairly similar, as they both recognize that ICTs are inalienable, yet they differ in the entities which make use of such technologies, with the UN indicating that E-government is applied by the government, whereas the OECD denotes that E-government is a tool of the public sector in general.

LÖFSTEDT (2005) argues that "E-Government is a concept that reflects the use of information and communication technology (ICT) in public administration" (LÖFSTEDT, 2005, p.40). Additionally, David Spacek & Jiri Spalek (2005) share the idea that E-government is all the "attempts of information and communication technologies utilization for fulfillment of principles of modern public administration activities" (p.2). However (Finger & Pécoud, 2003 and Spirakis et al., 2010) tend to favor the idea that E-government is not exclusive or solely dominated by public administration agencies, but instead is a tool that can be applied by other public entities within the public sector as a more general tool that is used in a broad range of public agencies.

Even if we agree that E-government can be utilized by various public agencies, this paper will use a more government-centric approach, because finding and operationalizing data from central governments is more convenient than addressing any public enterprise within a country in order to measure E-government development, and so this research will define E-government as the use of information and communication technologies to increase government efficiency.

Now that E-government is defined, it is important to explore the main theories regarding this concept. First of all, it is important to explain that there have been various epistemological approaches regarding the impacts of E-government implementation on the health of society, while there also exist various ontological approaches which try to understand the causes of E-government implementation. On this matter, authors such as Heeks & Bailur (2007) have mapped the existing bibliography, as seen in *fig. 1* Here, they illustrate the viewpoints of the literature on E-government causes and consequences, placing them within two different spectrums: social/technological determinism and pessimism/optimism

Fig 1: E-government research viewpoints on impacts and causes



source: (Heeks & Bailur, 2007, p.248)

As we can see, most research tends to take an optimistic approach towards E-government impacts, and the most common explanations are considered to be somewhere between technological and social determinism. This thesis intends to be more neutral regarding E-government impacts on the political regime because it assumes that E-government use can serve to consolidate democracies and authoritarianism. Also, the research will adopt a sociotechnical approach, so that E-government can be understood as resulting from interactions of technological development and social structures.

The literature reviewed is somewhat consistent in terms of the expected goals of E-government implementation, even if these differ depending on the entity that implements and profits from these tools; most authors share the idea that the main goal of E-government is to improve efficiency, effectiveness, and performance (Finger & Pécoud, 2003; Sakowicz, 2001; Lee et al., 2011; Spirakis et al., 2010 and Seifert & Chung, 2009).

Nevertheless, authors like Sakowicz (2001) are somehow more idealistic because they assume that E-government comes with intrinsic positive values associated with the generation of public value, and their definitions of E-government state that it is a tool usually used to enhance access to public goods. On the other hand, LÖFSTEDT (2005) is more cautious and states that the main goal of E-government implementation is only to modify structures and processes of government organizations.

To continue with the ontological debate on E-government, there have been three main approaches. First, there is an institutional approach which can be seen as more socially deterministic. It states that technology is not really shaping political outcomes, because E-government isn't about technological capability or just introducing web-based technologies, but instead overcoming fixed organizational, social, and political establishments, and could be a method of institutionalization (Yang, 2003). Second, we can find the constructivist approach on E-government. This approach "take(s) technology as a dependent variable that is shaped by social factors" (Yang, 2003, p.435).

Hence, it assumes that the use of ICTs is shaped by government performance, so it takes away any influence of the technological factors in shaping E-government strategies.

Authors like (Bussell, 2011; Gulati & Yates, 2011; Gulati, Yates, & Williams, 2012; Kim, 2007; Rose, 2005; Seo & Thorson, 2017; Kobayashi 2006; Kaye and Johnson 2002; Deibert 2000; Coleman and Götze 2002) have produced research in which they assume that technologies alone can be determinants of social and political changes, so they argue that ICTs are a driving force of democracy. This approach can be described as technological determinism because it excludes the social component as a factor that determines political outcomes.

Finally, it is also possible to find sociotechnical approaches like the Actor-Network Theory (ANT) and the Sociotechnical System (STS) theory. They argue that E-government strategies are coproduced by human and non-human interactions. On the one hand, ANT focuses more on the networks formed by the intricate interactions of agency surrounding E-government (Stanforth, 2007), whereas, STS is more concerned with the fact that research takes into account social and technological factors to provide a full explanation (Kaghan & Bowker, 2001)

This research will relate the concept of e-government with a sociotechnical approach so that we can give a richer explanation; this approach recognizes the link between social and technological factors as one capable of shaping political outcomes, therefore, this research will understand E-government as a technological tool that is shaped by the capabilities that technology can offer and the expected goals that societies and governments intend to achieve. It is important to clarify that although the research will assume a sociotechnical approach, this will not be translated into a full approximation from ANT methodologies and ideas because those approximations are characterized by implementing qualitative methods to operationalize their variables. Hence, this research intends to utilize more accessible methodologies, considering the scope of this study, the cost of doing field research and the inaccessibility of the information in non-democratic countries.

When it comes to the benefits offered by the implementation of E-government tools, authors have made diverse claims. Most of them support the idea that E-government implementations are good because they help to improve public service delivery (OECD, 2019; LÖFSTEDT, 2005;Kneuer & Harnisch, 2016). Others endorse the idea that implementing E-government tools will allow citizen participation and involvement in decision-making (LÖFSTEDT, 2005; Spirakis et al., 2010). Meanwhile, the OECD claims that E-government can increase efficiency and transparency (OECD, 2019, p.11). Last but not least, the UN indicates that E-government plays a role in strengthening digital literacy, digital inclusion, digital connectivity, and digital identity and it can increase people's engagement, enhancing transparency, accountability, and inclusion, and ultimately making life better for all (UN Department of Economic and Social Affairs, 2020). It is important to mention that "E-government is prone to enhance output legitimacy through the modernization of bureaucracies" (Kneuer & Harnisch, 2016,p.549). Therefore, according to the authors cited above, there are important incentives for implementing E-government tools, as benefits range from citizen engagement to political legitimation, and these are an advantage for any type of regime.

As we have seen, most of the benefits related to E-government explored by the literature review conducted for this paper are highly related to democratic performance, but do not focus on

explaining the benefits that autocracies might obtain by implementing E-government. The only literature we found on this matter discusses the apparent benefits that the latter form of government might obtain by the modernization of bureaucracies, and outcome legitimation, since these improvements may increase the power of authoritarian governments by creating an image of a modern, well-performing and efficient State (Kneuer & Harnisch, 2016)

That is why the current research will acknowledge all the benefits that E-government offers to democracy, but it will not forget that "democratic nations are no better than nondemocratic countries in terms of E-government performance"(West, 2005 as cited in Lee et al., 2011, p.449) That is, this research will recognize that authoritarianism can also obtain benefits from technological tools because in its truest sense, e-government is not about democracy. It is about integrating technology into public processes to achieve greater efficiency and improving the delivery of public services. In other words, E-government is not the same as e-democracy (Seifert & Chung, 2009).

Regime consolidation

At this point, we will examine the theoretical framework around the dependent variable, which in this case is regime consolidation. This concept should not be confused with democratic consolidation, but rather be understood as "the process by which regimes become relatively stable" (Ambrosio, 2014, p.483). It is important to recognize how this definition uses *regimes* as a comprehensive term that can embrace both authoritarian and democratic regimes. This definition might be considered minimalistic, but it is one of the only definitions that the literature has offered in terms of regime consolidation itself. Most research has defined either democratic or authoritarian consolidation as separate subjects.

To contextualize, it is important to say that after democratic transitions happened in the last century, a group of academics started to be concerned about how to guarantee a process of democratic consolidation, as it was necessary to avoid new democracies going "*backwards"* and returning to authoritarian regimes. From this point onwards, the literature on democratization began studying processes of democratic consolidation and democratic reversal. Based on those studies, democratic consolidation was defined as a process or stage of political stability that countries achieve after transitioning to a democratic regime (Guilhot and Schmitter, 2000; Merkel, 2008; Schedler,2001; O'Donnell, 1988; Valenzuela, 1992; Morlino, 1995).

Consolidation, in contrast to transition *"*has to refocus from actors to structures, from immediate events to emerging processes and, especially, from highly uncertain to increasingly predictable relations of power" (Guilhot and Schmitter, 2000. p.137). The concept of democratic consolidation needs to be addressed from a different ontological perspective, because it cannot be treated as a synonym for democratization, in the same way that building a political regime is not the same as perpetuating one. For these reasons, studies of democratic transitions are insufficient to fully explain the democratic process, hence the need to study consolidation.

Following this line of thought, it can be said that the literature concerned with regime consolidation, such as (Guilhot and Schmitter, 2000; Merkel, 2008; Schedler,2001; O'Donnell, 1988; Valenzuela, 1992; Morlino, 1995; Ethier, 1990) has been primarily focused on democratic consolidation, since non democratic regimes were traditionally understood to be unstable. Theories have assumed that any regime that is not democratic cannot be consolidated, and this explains why "the idea of authoritarian consolidation… remains underdeveloped at the present time (Ambrosio, 2014, p.472)

However, Carothers (2002) asserted that autocracies are as stable as democracies (as cited in Göbel, 2011). As for authors like Göbel (2011), and Ambrosio (2014), they have tried to look in more detail at this understudied phenomena of authoritarian consolidation. So, to provide a better framework, for this research it is essential to study both the literature on democratic and authoritarian consolidation in order to identify the commonalities between both theories and agree on a definition that can describe both democratic and authoritarian regime consolidation.

To start with, the different theories regarding consolidation will be explained. A consolidated democracy is defined as a "political regime in which democracy as a complex set of institutions, rules, and patterned incentives and disincentives has become, in a phrase, "the only game in town"' (Linz and Stepan, 1996, p.16 as cited in Göbel, 2011, p.181). This is one of the most used definitions, but the main problem with it is that this idea of *the only game in town*, though illustrative, can be really hard to measure in practical terms. Hence, this research will define democratic consolidation as "the process by which the democratic regime is strengthened so as to ensure its persistence and to resist and prevent possible crises". (Morlino, 1995, as cited in Guilhot and Schmitter, 2000. p.136)

Theories regarding democratic consolidation "tended to view this concept as a dependent variable which resulted from a variety of independent variables, such as popular or elite legitimacy and institutionalization of certain behaviors" (Ambrosio, 2014, p.480). Authors that have studied democratic consolidation agree that this process is a stage that comes after the transition from authoritarianism to democracy, but the literature is divided into two main assumptions to address democratic consolidation: the *threshold assumption*, which argues that consolidation is a specific level of democracy that has to be achieved in order to be consolidated and the *process assumption* that says that consolidation is a gradual development that comes after democratic transitions (Ambrosio, 2014).

As for theories framed by the *threshold assumption*, these argue that after democratic transitions there is a specific point at which the deepening of democratic institutions is so strong that it is really hard to revert to authoritarianism. Based on this assumption, they argue that "The classical claim is that a regime is consolidated when the "relevant" or "major" political actors comply with the rules or expect the regime to persist" (Valenzuela, 1992, as cited in Guilhot and Schmitter, 2000. p.136). The problem with this statement is that the so-called relevant or *major* actors are incredibly hard to define and basically, if we apply this to certain countries, we will find that every country has different power relations between their political actors.

Other academics claim that “democracy is consolidated once it can survive a serious crisis, such as a severe economic downturn or attempted coup” (Schedler,2001 as cited in Ambrosio, 2014, p.481). Nonetheless, this approach encounters a problem in empirical applications because it only allows consolidation to be tested in an *ex-post* manner. In other words, the degree of democratic consolidation cannot be tested before its failure. Last but not least, O’Donnell (1998) proposed the notion of “a "double-transition", first to democracy and then to a consolidated democracy” (as cited in Guilhot and Schmitter, 2000. p.141). The problem with this definition is that it does not set a clear limit as to where the transition to consolidated democracy starts, so, in conclusion, these assumptions can be problematic for research applications.

Theories based on the *process assumption* can be considered more adequate because they understand consolidation to be a set of successive improvements in democratic institutionalization. That is, the object of study “is no longer the change in the nature of the regime, but the level, degree or depth of institutionalization of the procedures of the new regime. Theories of consolidation tend, therefore, to be focused on the development of a "social consensus" around the rules and institutions of the political game” (Ethier, 1990, as cited in Guilhot and Schmitter, 2000. p.136).

Ethier’s (1990) social consensus approach has been further explored by other authors to give a better explanation of the social groups that are embedded in this consensus. This is the case of Morlino (1995), who conceptualized democratic consolidation “as a process of legitimization occurring on different “levels”, such as institutions, within the regime itself, and amongst parties, interest groups, and civil society” (as cited in Ambrosio, 2014, p.482). Merkel (2008), on the other hand, proposes his “own four-level schema, which is more chronological in nature and begins with the embedding of constitutional or structural authority, then the spreading of this authority to parties and interest groups, informal political actors, and finally political culture” (as cited in Ambrosio, 2014, p.482)

Finally, Guilhot and Schmitter (2000) offer a more critical posture when it comes to defining democratic consolidation; while they understand that democracy needs certain conditions of legitimacy and institutional stability, they do not share the idea that consolidation is a condition that can be fully achieved by democracies, because this would mean that the regime had overcome any level of uncertainty. Here, they claim that “Democracy is not supposed to be completely consolidated in the sense that it always institutionalizes some degree of uncertainty in the political process” (p.139)

As previously mentioned, consolidation theories first approached the subject by assuming a transition paradigm, claiming that authoritarianisms were weak or unstable regimes that cannot handle a political structure with democratic institutions because their power is not sufficient to achieve high levels of institutional development (Carothers, 2002), and in fact they assumed that the process of strengthening State institutions translated directly into a democratization process. Under this lens, authoritarianisms were treated as a previous stage to democratization, where states had to gain institutional and economic power in order to democratize. However, "both the democratic consolidation and authoritarian persistence literature agree that the structures of State,

the government, and its abilities or effectiveness are central in determining regime survival" (Ambrosio, 2014, p.484). This is why theories on regime consolidation have to be revisited in order to better explain and acknowledge the fact that both democracies and non-democracies can indeed use economic and institutional efficiency to consolidate their regimes

This theoretical discussion reveals a different perspective to explain regime type because contemporary academics have started questioning "The paradigm that autocracies are inherently unstable"(Göbel, 2011, p.176). The doubt cast over the instability of non-democracies came from observing the experience in post-communist countries, with examples of long-standing autocracies that are gaining power consistently over time. This is the reason why this research will argue that "it would be better to approach them as autocratic *(or authoritarian for this matter)* regimes, which are both politically stable and increasingly resistant to internal and external pressures for political change"(Ambrosio, 2014, p.472)

As we have shown, democratic consolidation has been a topic of great interest. In contrast, authoritarian consolidation has not been studied sufficiently, and therefore any effort to understand the similarities between democratic and authoritarian consolidation is important to fully understand how regime structures are consolidated because "building and refining such 'accepted structures' is no less important for authoritarian regimes. Furthermore, 'stateness' and 'a viable bureaucracy', are the two of the most important preconditions for democratic consolidation, according to Linz and Stepan (1996), as relevant for authoritarian regimes as they are for democratic ones." (Göbel, 2011, p.182).

It is crucial to make an effort to understand consolidation not only in democratic regimes but in authoritarianisms as well, because if we look at this concept critically, we can see that "in fact, the concept of consolidation may be more applicable to authoritarianism than democratization" (Ambrosio, 2014, p.483). This is because one of the main virtues of democracy is that its institutional structures are responsive to social inputs and are not fully *"consolidated"*, so democracies tend to favor a level of consolidation that allows institutions to work efficiently and legitimately, but with the possibility to transform them, on the other hand, authoritarian institutions tend to be more rigid, so they can profit to a greater extent from regime consolidation.

To define this type of consolidation, there have been only two authors that have shown an interest in providing a theoretical approach to this topic[13]. These authors have given very compatible definitions, since Göbel (2011) states that "authoritarian consolidation is understood to be a deliberate state project driven by political elites seeking to secure their ruling position (Göbel, 2011, p.182) and (Ambrosio, 2014) states that "Consolidated autocracies are states in which potential for Regime Change is quite low"(Ambrosio, 2014, p.493)

[13] The usage of the term 'authoritarian consolidation' has become fashionable, although this is not yet underpinned by a theoretical concept. At the time of writing, Google Scholar listed 131 references for 'authoritarian consolidation', forty of which originated between 2001 and 2005, and another forty between 2006 and 2009. They are all used descriptively, however, and none of them was formulated as a genuine concept (Göbel, 2011, 188)

These authors have tried to better understand the unexplored topic of authoritarian consolidation**,** and they can both agree that consolidation is understood as "the process by which authoritarianism is solidified and entrenched within a political system to the extent that expectations for democratic regime change in the short to medium-term are consistently pessimistic" (Ambrosio, 2014, p.473).

Authoritarian consolidation can increase regime power, and this can be translated into a longer duration of its control. To explain this, it is important to see that "the durability of an authoritarian regime increases to the extent that regime elites manage to substitute coercion for governing by organization, regulation and the management of discourses" (Göbel, 2011, p.176), so we can see that "elites" play a central role in consolidation because they can be the main supporters or detractors of the regime, and their power within the political system cannot be ignored. This is why "autocracies must manage power-sharing relationships amongst regime elites, as well as between the dictator and his "ruling coalition" (Ambrosio, 2014, p.485)

On the other hand, assuming that simple cooperation between governments and elites can ensure power perpetuation takes away any level of agency from the rest of civil society, so, to clarify, "Just like their democratic counterparts, authoritarian regimes are faced with the task of preventing Breakdown, deepening and organizing the regime and generating legitimacy among elites and the population" (Göbel, 2011, p.181). For all these reasons, the current research will assume that authoritarian consolidation is a "deliberate state project to improve a regime's capabilities for governing society." (Göbel, 2011, p.177)

So, now that both democratic and authoritarian consolidation have been explained, we must give a definition that can be used to describe and judge them both in equitable conditions, so the current research will understand regime consolidation as a process led by governments to improve a regime's capabilities through institutionalization, legitimization and improving bureaucratic viability, all this to maintain political stability among the political actors such as parties, interest groups, and civil society, in order to prevent regime change in the short to medium term.

With this definition stated, it is necessary to identify the common processes that allow democratic and authoritarian consolidation, because, as Göbel (2011) has argued, they may be more similar than we might expect. To demonstrate some contrast between the processes that regimes have to overcome, we can appreciate how Schedler(1998) has divided democratic consolidation into five distinct processes ('avoiding democratic breakdown', 'avoiding Democratic erosion', 'completing democracy', 'deepening democracy' and 'organizing democracy'). In the same vein, Christian Göbel claims that "Just like their democratic counterparts, authoritarian regimes are faced with the task of preventing breakdown, deepening and organizing the regime and generating legitimacy among elites and the population" (Göbel, 2010), so therefore it is important to acknowledge that any regime oversees a process of power consolidation and can increase its capabilities to prolong its rule.

Göbel understands that democratic and authoritarian consolidation are achieved by the successful optimization of the regime's sources of power. The three main source of power of democratic and authoritarian regimes can be described as: *despotic power*, which is understood as State repression; *infrastructural power*, which denotes the logistics of everyday political control and depends on

institutionalization; and *discursive power*, which refers to the power to change, or at least influence, the cognitive filters through which people interpret and evaluate their environment (Göbel, 2010). These power dimensions can be observed and potentially measured, as shown in *Chart 1*. This research will make use of this approach in order to decide whether E-government is in fact the defining factor for regime consolidation in China and Estonia

Chart 1: power dimensions and observable behaviors

Power dimensions			
Despotic power	Discursive power	Infrastructural power	
Degree by which the state has to exert physical or psychological violence to manage citizen behavior	State source of political legitimation	Extractive and redistributive capacity	Quality of bureaucracy
		State capacity to capture economic resources and redistribute them through its territory to maintain acceptance within the government coalition	Level of organizational coherence, rules and mechanisms within State officials that allow efficient government

Source: Self Made from (Göbel, 2010) research

In accordance with Göbel's theory, the current research will assume that E-government is a source of improvement for quality of bureaucracy. Also, it will be argued that E-government is one factor that gives managerial advantage to authoritarian and democratic regimes. Therefore, it will be hypothesized that E-government have aid Estonia's and China's regime consolidation process.

Methodology:

Now that we have connected our research variables with the existing theories regarding them, it is necessary to explain the methodology that this paper will use. In this section, the following questions will be answered: Which methods will be used to compare the cases? How will the variables be measured? ¿What type of data will be used? ¿What is the origin of, and the methodology by which the data was obtained? ¿Why is this data the most accurate to respond to the research question, and finally, how will this data be analyzed?

After presenting the structure of the methodology section, it is important to say that first this research will try to find the common and divergent conditions of the case studies. This comparative process will show which variables are explanatory, according to the dependent variable. Therefore, this comparison aims to verify whether E-government can explain processes of regime consolidation.

To apply the comparative method to a small number of countries it is useful to employ Mill's (1843) Most Different System Design, especially when the dependent variables show very similar behavior. This method allows us to find out if indeed E-Government is the explaining factor for regime consolidation in China and Estonia. So, to prove the hypothesis using this method we would expect to see that every variable of the research is dissimilar and the only one that seems to be similar would be the levels of E-government development.

For the sake of better understanding this research, itis imperative to choose variables that help us to observe and analyze the differences and similarities between our case studies; this is essential for a responsible comparative politics analysis. Hence, to make this comparison various quantitative datasets will be employed. The data chosen is intended to reflect relevant variables that are causational of regime consolidation processes. Therefore, this research will assess different variables that the theory understands as necessary to allow governments to prevent regime change in the short and medium term. The operative variables are shown in *Chart 2*, which was designed in accordance with *chart 1*, which explains how Göbel understands the three power dimensions.

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Chart 2: power dimensions and key indicators

Power dimensions			
Despotic power	Discursive power	Infrastructural power	
Political Terror Scale (control variable)	World press Freedom index (Control variable)	Extractive and redistributive capacity	Quality of bureaucracy
		GDP per Capita (control variable) Gini Index (control variable)	Government Effectiveness Index (control variable) E-government Development Index (independent variable)

Source: Self Made from Göbel (2010) research

Chart 2 shows the three power dimensions described by Göbel (2010) and it shows some proposed ways to measure them. The variables are going to be compared for the cases of study. The chart was designed specifically to analyze the diverse variables that the literature considers relevant for regime consolidation processes. Throughout this thesis we have considered how our theory supports the idea that E-government may be an explaining factor for regime consolidation in China and Estonia, and therefore to prove this assumption it is necessary to address other variables that may explain regime consolidation. The selection of these control variables was made in accordance with Göbel (201) theory.

Now that the variables to be compared have been described it is important to explain them, and also the logic behind choosing these. This research project will compare a total of seven variables, which include the independent, the dependent and control variables. To contextualize the reader, it is necessary to explain how these variables were constructed, why they were chosen and how they will be evaluated. In the following paragraphs this will be further explained.

Despotic power

Despotic power will be measured by the Political Terror Scale (PTS). This indicator should not be confused or linked with *terrorism* indicators. PTS was developed in the 1980s when political terror was understood as State-led violent Human Rights violations for political reasons, or in other words, actions of despotic power. PTS measures "levels of political violence and terror that a country experiences in a particular year, based on a 5-level "terror scale"" (Political Terror Scale, 2021) this 5 level scale goes from Level 1 to 5, where 1 shows virtually inexistent political terror and 5 where terror is practically merged with the State agenda.

This indicator was chosen because it can show the degree of violence that a State has to exert over its citizenship to maintain power stability and the elite's support. If a State is somehow experiencing a regime deconsolidation, we would expect to see how the government *fights back*, to retain its power and discourage the citizenship's desire for regime change. We will assume that level 1 and 2 on the terror scale are considered low and level 3 to 5 high, because, according to the scale, level 3 is where the political terror becomes "*extensive".*

Discursive Power

Discursive power will be measured with a proxy indicator which will be the World Press Freedom Index (WPFI), which measures "the degree of freedom that journalists have in a particular country. This index is the result of a qualitative and quantitative analysis that intends to look at the degree of "pluralism, media independence, media environment and self-censorship, legislative framework, transparency, and the quality of the infrastructure that supports the production of news and information" (Reporters Without Borders, 2021). The indicator goes from 0 to 100, with 0 meaning a very free country and 100 meaning a highly oppressed country.

The World Press Freedom indicator was chosen because discursive power is a very qualitative variable in essence, and therefore it can be awkward to measure. Nevertheless, mass media can influence public opinion, citizen behaviors and encourage political agendas (Nabiyurrahma, 2011). Therefore, it can be assumed that a country that limits journalism or censors dissent is proactively working to implant information to Influence or change people's perception and favor a political agenda. On the other hand, a country that ensures press freedom can protect and promote the diffusion of a multiplicity of ideas. In sum, the degree of press freedom can signify how authoritarian or democratic discursive power is.

Infrastructural power

Infrastructural power may be the most complex of the three power dimensions. This is because it is also divided into two convergent aspects, *Extractive and redistributive power*, and *bureaucratic quality*. Furthermore, these aspects cannot be captured by a single indicator because they are broad terms that have to be addressed with a more comprehensive perspective. Therefore, this subsection will be the most extensive of the methodology.

Extractive and redistributive capacity

Extractive power should not be confused with *extractivism* related indicators. It is the capacity of the State to extract economic resources in general. Extractive power will be measured by GDP per Capita of each country, and this indicator can show us the level of economic wealth that a country perceives per habitant.

This indicator will allow us to see the capacity of a State to capture resources that can be potentially redistributed. It is expected that a country with a low GDP per capita cannot distribute resources in an optimal way, because it lacks them. Therefore, GDP per capita can be seen as a requirement to redistribute resources.

Redistributive capacity will be measured by the Gini Index. This indicator quantifies the level of inequality that exists in a population by measuring income distribution across society. Therefore, if a country has the capacity and the will to redistribute resources to the citizenship in general, it is clear that the distribution of income would be more equal across the population.

Quality of bureaucracy

Quality of government will be measured with two different indicators, the Government Effectiveness Index from the World bank and the E-government Development Index from the UN. Bureaucratic quality can usually be measured merely using the Government Effectiveness index as a proxy because it can reflect the level of aptitude within the governmental bureaucracy. Nevertheless, the literature review has shown that E-government can be used as an advantage by the government to increase its efficacy, and therefore the methodology design will acknowledge E-government development as a variable related to the quality of bureaucracy.

As stated, the Government Effectiveness Index will be employed, as this captures the "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" (Kaufman, 2010). All of these attributes can provide a good indication of the quality of the bureaucracy that a country enjoys. The Government Effectiveness Index is measured from -2.5 to 2.5, and the higher the index, the greater government effectiveness.

Regarding the independent variable, itis important to clarify that this variable will be measured by the E-government Development Index (EGDI). EGDI is a comprehensive survey that assesses national E-government tools. Also, it is composed of three dimensions: first, the Online Services Index (OSI), which reflects the scope and quality of online services index, measuring directly the degree of development and public value that governments have achieved through their E-government implementation. Second, Telecommunication Infrastructure Index (TII**),** which

measures the technological tools that are needed to implement E-government. Finally, the Human Capital Index (HCI) shows the skills, knowledge, and experience possessed by a country's population that allow them to use E-government tools in an adequate manner.

In sum, the current research will use three different indexes in order to measure the independent variables. The magnitude and balance of these three dimensions will show how successful E-government implementation is for the case studies. Considering that E-government is the dependent variable for this research, it is important to clarify that if this is shown to be the explanatory variable for regime consolidations in Estonia and China, it would deserve a more *in-depth* analysis, and therefore, the three sub-indexes that constitute EGDI should be analyzed separately.

First is the Online Services Index. The United Nations has gathered various researchers and experts to assess governmental websites from a number of countries. The assessment is intended to count the existent services and judge how easily they can be accessed. Therefore, this index can determine if the average citizen can perceive services as "usable". This assessment was designed as a survey that reflected the perceived quality of the online services to the researchers. Then the values were statistically normalized to give a 0 to 1 value.

Second, the Telecommunication Infrastructure Index is necessary to measure how developed ICTs are for each country so that we can observe their technological preparedness to implement E-government tools. TII is an index which evaluates the level of technological adoption that a country has, through data[14] that reflects how present ICTs are within a certain population.

Finally, the Human Capital Index gives E-government a social dimension. In fact, it shows the degree by which citizens are intellectually prepared to use E-government tools. This index consists of four[15] indicators that basically give information about average educational development of the population.

The current research will collect the data of these three indexes from the last ten years for China and Estonia, then it will explore their trends to give an overview of the behavior of this dimension over the years, and this will be compared to world averages, in order to determine if the values are comparatively high or low.

Regime consolidation

With regard to the dependent variable, the current research will use the Fragile State Index (FTS) from the Fund for Peace. FTS uses multiple indicators[16] to measure the risk of a country becoming

[14] (i) estimated internet users per 100 inhabitants; (ii) number of main fixed telephone lines per 100 inhabitants; (iii) number of mobile subscribers per 100 inhabitants; (iv) number of wireless broadband subscriptions per 100 inhabitants; and (v) number of fixed broadband subscriptions per 100 inhabitants (UN, 2020)

[15] (i) adult literacy rate; (ii) the combined primary, secondary and tertiary gross enrolment ratio; (iii) expected years of schooling; and (iv) average years of schooling (UN, 2020)

[16] Security Apparatus, Factionalized Elites, Group Grievance, Economic Decline, Uneven Economic Development, Human Flight and Brain Drain, State Legitimacy, Public Services, Human Rights and Rule of Law, Demographic Pressures, Refugees and IDPs, External Intervention

a failed State. This research will use the data from the *decade trends* to see whether or not the cases of study have become less fragile. This index should be a good proxy for observing regime consolidation because, if a country enjoys political stability and a well-developed regime consolidation agenda, this index would reveal how its fragility levels decrease over the years.

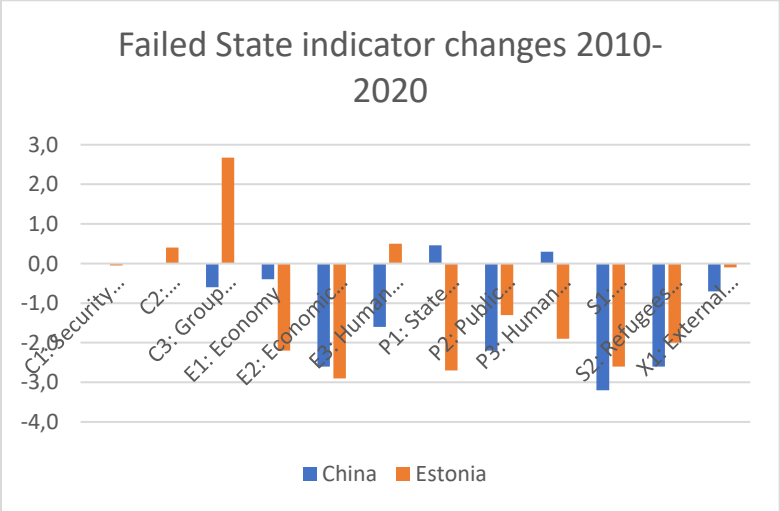
Analysis

Regime consolidation:

The independent variable, Regime Consolidation, had a high score in both countries. Between 2010 and 2020 the *decade trends* collected in the Fragile State Index showed that China and Estonia moved even further from been considered failed States, and instead became more powerful regimes in the last decade. China scored -13.1 and Estonia, -12.2 for overall change to FSI between 2010 and 2020. This means that they have decreased their level of Fragility over the decade.

Nevertheless, the factors that influenced regime consolidation were somehow different in both countries, as shown in *Graph 9*. China stands out because most of the indicators showed high improvement and the indicators that became worse showed very insignificant changes. Estonia showed very similar behavior, with the exception of the indicator C3: Group Grievance. This means that divisions based on social or political characteristics have augmented in the country and the response of the government regarding political inclusion has been poor.

Graph 9: Failed State indicators: changes 2010-2020



Source: self-made from the Fund for Peace Failed State Index (2021)

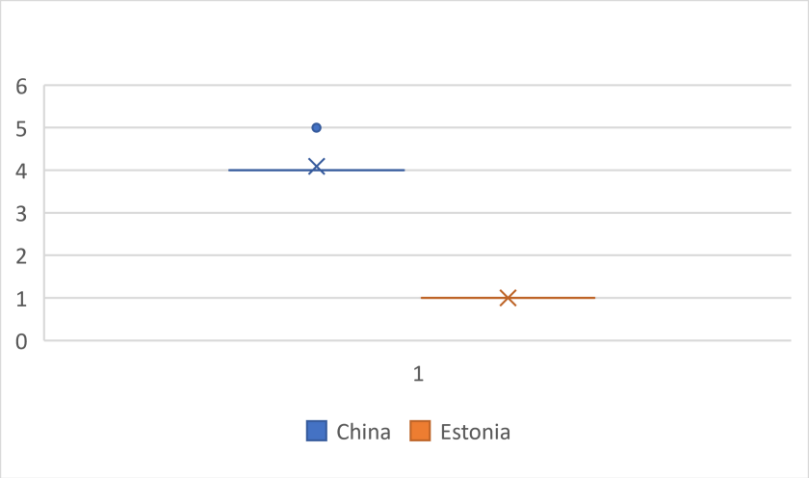
This graph allows us to see that China and Estonia have, overall, similar levels of Regime consolidation. Minor differences can be seen, but in general their behavior is remarkably similar.

Therefore, it is necessary to examine the power dimensions that are associated with regime consolidation processes to better understand how they have achieved this.

Despotic power

China and Estonia have displayed opposite behaviors regarding political terror. As shown in *Graph 3,* China has high levels of political terror, while in Estonia it is practically inexistent.

Graph 3: Boxplot political terror scale 2010-2021



Source: self-made from Political Terror Scale (2021) data

Graph 3 shows a boxplot of the political terror scale for the research timeframe. Even though the graph does not show *"boxes", this* type of graph was chosen to show the reader the high levels of homogeneity of this indicator between 2010 and 2020. The variance of the data was practically null; therefore, we can conclude that Chinese levels of political terror are not the result of a contingency or isolated accidents but a Strategy of the government to inflict power, and potentially to prevent regime instabilities. In contrast, the consistency of Estonia's low levels of political terror show that this country does not need to exert this type of power to consolidate its regime.

Since 2010, China has been graded 4/5 on the Political Terror Scale, except for 2020 when it was graded 5/5. The observed levels of political terror mean that China has been recognized for violating civil liberties and political rights, affecting a large number of populations through murders, disappearances, detentions and torture. In 2020 the situation became worse for political activists in China. PTS found that in 2020 terror had expanded to the whole population and the limits of the government have become practically inexistent.

What PTS reflects is the reiterative oppressive attitude of China's government towards minorities and political activists. Since 2010, China has failed to achieve its first ever plan for Human Rights protection. The National Human Rights Action Plan was intended to stop torture, illegal detentions and the death penalty, but none of these goals was achieved in the first year of the plan. In subsequent years, behavior regarding Human Right did not improve.

Human Rights Watch has been following Chinese government violations over the years and has found the following: The Chinese government has been accused of a systematic persecution of Turkic Muslims within its territory. This attack includes mass arbitrary detention, torture, enforced disappearances, mass surveillance, cultural and religious erasure, separation of families, forced labor, sexual violence and violations of reproductive rights; all of these violations were committed by government in the name of *Vocational training* and *deradicalization*.

One of the most grievous cases of Human Rights violations by China was the imprisonment of Liu Xiaobo, a critic of China's government who was awarded the Nobel Peace Prize in 2010. He was imprisoned in a labor camp for supporting peaceful protests, sentenced to 11 years in prison for the crime of *inciting subversion.* Liu died in isolation in 2017 due to a liver cancer complication. Cases like Liu Xiaobo's are not isolated[17] and they have become a tactic of the government to manage opposition and create a climate of political repression.

China is constantly exercising despotic power towards citizens who express discontent with their political institutions. Governmental strategy is clearly working proactively to minimize minorities that can endanger State ideology and political identity. Additionally, it is coercing activists through selective violence and creating an ambience of fear by exerting psychological violence on the masses.

Estonia obtained a score of 1/5 for all the years considered in the timeframe. This country is considered to have a secure rule of law, where human rights violations are considered extremely rare. In fact, the U.S. department of state declared that there were no reports of significant human rights violations; no reports of torture, arbitrary detentions, disappearances. On the other hand, Amnesty International reports that Estonia is having issues defending minorities, stateless individuals and LGBT+ community from discrimination, nevertheless these complications are considered as minor problems and they do not represent the State agenda.

Estonia's government has an institutional structure that ensures the identification and punishment of Human Rights violations. The few cases of human rights violations are not civil and political rights related, but rather economic, social and cultural rights violations of minorities. Nevertheless, these violations are produced by non-State agents. Even though these violations are regrettable, they do not represent a government project and they are not a systematic attack that threatens political rights. Therefore, itis clear that these minor events are not a despotic power performance that the government is implementing to prevent regime breakdown

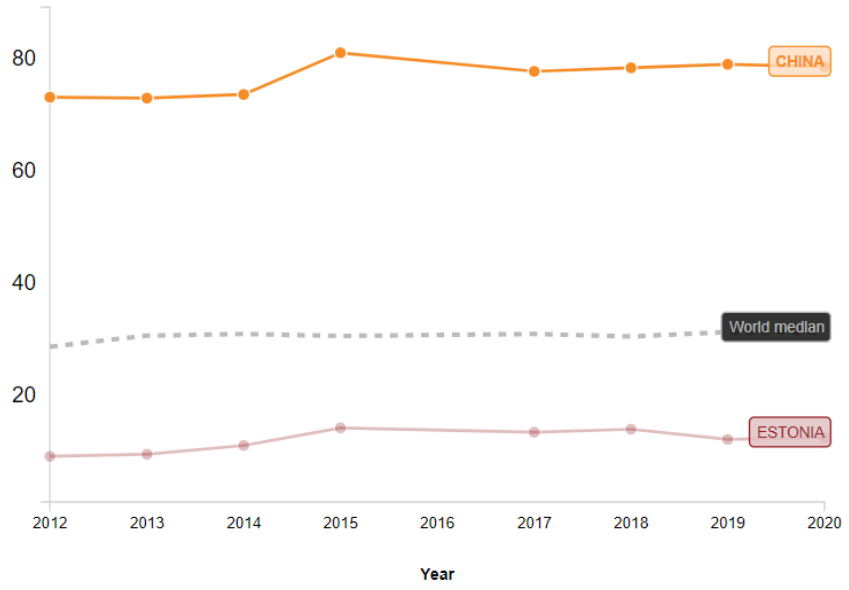
Discursive power

Freedom of press was also very dissimilar for China and Estonia, with each placed at the opposite poles of the spectrum. As *Graph 4* shows, China is close to the highest scores, while Estonia is close to the minimum. Also, it is important to point out that the trends for press freedom for both

[17] Other examples of this conduct are the detention of Cao Shunli, an activist who defends human rights, the Dalai Lama a Tibetan spiritual leader accused of being *separatist*, and Dolkun Isa, a well-known ethnic Uyghur activist. Additionally, UN officials have reported that they have been harassed and intimidated by the Chinese government.

countries are very stable, and therefore it can be inferred that the violation or protection of press freedom in both cases are institutionalized processes..

Graph 4: Press freedom in China and Estonia



Source: press freedom index from Reporters Without Borders, collected by the World Bank (2021)

China scored 76.7 on average in the World Press Freedom Index; this score places China within the three most repressive countries for journalism. This result denotes a very serious situation [18]for journalism, meaning that freedom of speech is repressed and independent journalists are in constant danger. The results are a consequence of China's control of information diffusion, according to Reporters Without Borders (2021). The Chinese government owns most media organizations, and private organizations are controlled by the State. Also, there have been many detentions of journalists that broadcast information that is not convenient for the CCP, and in fact China is the world's number one jailer of press freedom defenders.

China has been characterized as a country where access to media is not universal. In addition to this, its mass media is usually censored and contains high doses of CCP propaganda. So there exists a high degree of information distortion from the government. This behavior has resulted in a strong acceptance of regime institutions (Inglehart, 2008). It is clear that China is succeeding in generating discursive power through propaganda, censorship and control of media diffusion.

[18] Reporters Without Borders proposes the following scale to better understand the index. From 0 to 15 points: good situation; From 15.01 to 25 points: Satisfactory situation; From 25.01 to 35 points: Problematic situation; From 35.01 to 55 points: Difficult situation; From 55.01 to 100 points: Very serious situation

Estonia scored an average of 12.1 on the World press Freedom Index, and, according to Reporters Without Borders, journalism in the country is in a good situation. The biggest danger that this organization reported was *verbal insults* towards journalists. Also, some government officials have refused to give some information to journalists. Nevertheless, there were no significant risks to press freedom in the timeframe studied. Actually, Estonia has managed to stay in the top 20 of the most liberal countries regarding the media.
Estonia has managed to restructure political culture during its democratic years. Free media has become an important factor in its process of building political values, because Estonian "citizenry that is socially active, politically trustful, and protective of its fundamental freedoms, seems to define (or embody) a democratic culture in which the mass media have the greatest potential to carry out their statutory functions" (Lašas, 2015, p.16). Therefore, itis clear how, within a limited time, Estonia has managed to legitimize democratic values within its population. Consequently, it has built a culture that trusts democratic institutions, and this is not only admirable, but should be considered as the achievement of a well exercised discursive power display.

These indicators show us that China and Estonia have high levels of discursive power; the main difference lies in the type of discourse power that they have exerted over their population. Both countries have achieved public acceptance of their own regime values by their citizens. Therefore, the difference regarding discursive power is not a matter quantity but a divergence of type.

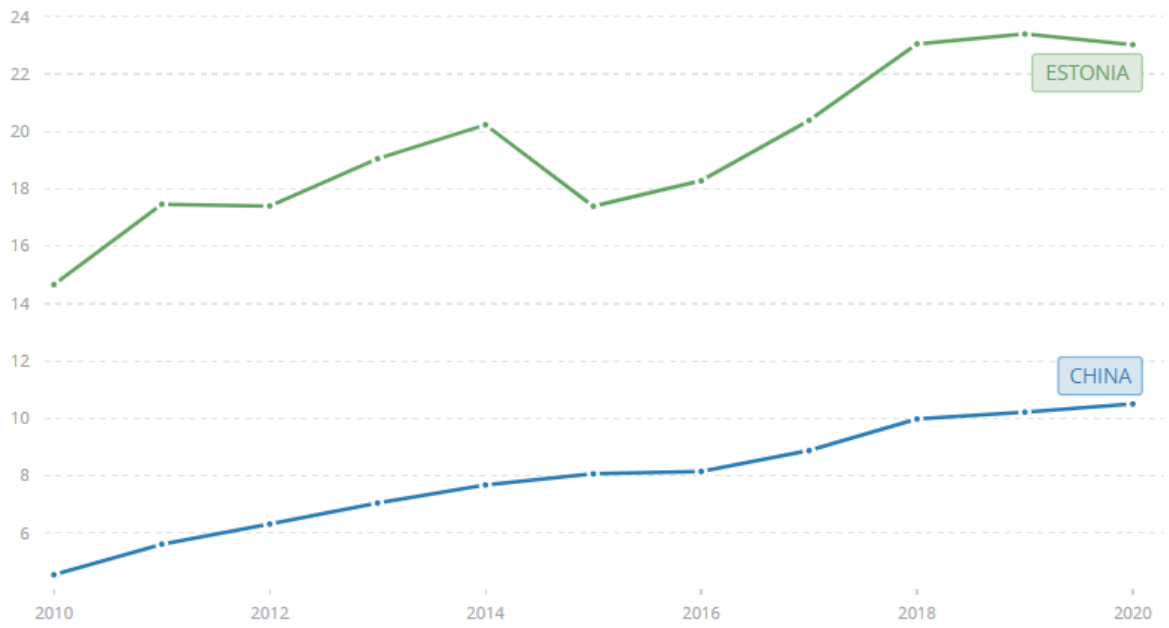
Infrastructural power

Extractive and redistributive capacity

The assessment of China and Estonia has shown very dissimilar capacities. Even if both countries are considered major economic powers, China and Estonia have very different levels of extractive and redistributive capacity, as China's economic development tends to be considered as one of the most developed in the world, yet its flaws tend to be overlooked.

As we can see in *Graph 5*, both countries show a GDP per Capita growth trend, but China's rates of growth can be percieved as *slow* when we consider that it is an *emerging economy*. Furthermore, Estonia and China have very different levels of extractive capacity, in fact, Estonia has double China's GDP per Capita and its income inequality is much lower. As shown in *Graph 6*, its Gini index shows very different behavior as well. China presents a high level of income inequality, while Estonia does not, so it is clear how the high income of the chinese economy has not translated into a better distribution of income. Therefore, Estonia, with less resources has managed to build a far more powerful and equitable economy.

Graph 5: GDP per capita in China and Estonia

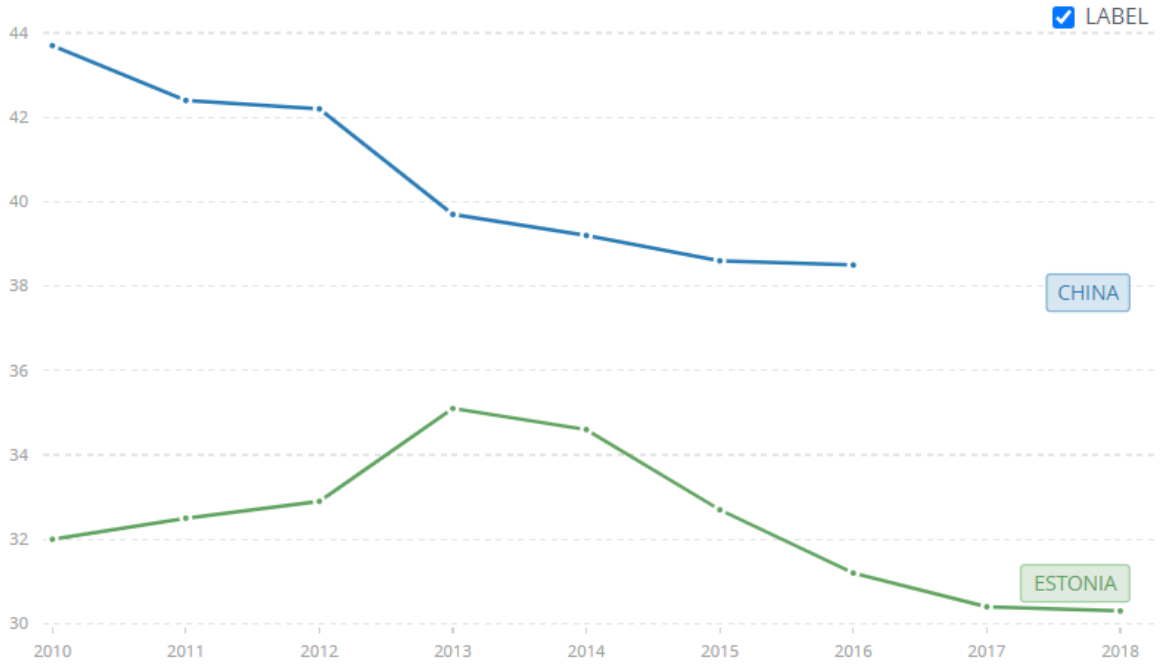


Source: World bank GDP per capita (2021)

China has one of the highest GDPs in the world and its economic growth rate is incredible. Nevertheless, its indicator of GDP per capita and income inequality is not as impressive. For the years studied, China had a median of 7,9 thousand dollars, yet this amount of money is not really satisfactory for China's society because it is low compared to world averages. This phenomenon can be explained due to China's huge population. China has the largest population of any country in the world, and this is reflected in the indicator. Even though China presents itself as one of the world's major powers, it is clear that its production is suboptimal when we consider the amount of labor that is employed to achieve its growth. In sum, it can be said that, regarding extractive capacity, China has very poor performance considering the number of people that are needed to maintain its level of economic growth.

Estonian GDP is not very impressive compared to other European countries, or even the rest of the world, but the small country is not called the *Silicon Valley of Europe* for no reason. The tech services industry in Estonia has managed to give it a market advantage for a very small country, and its GDP per capita is a median of 19,4 thousand dollars, this indicator puts it easily over the world average. This level of economic capacity reflects how this country with its low population has managed to optimize its labor resource to produce a high income that can sustain its economy. The level of Extractive capacity in Estonia has given the country the power to distribute wealth among the population.

Graph 6: Gini index in China and Estonia



Source: World bank Gini Index (2021)

China scored an average of 40.6 on the Gini index, though the actual figure could be higher[19]. According to the UN, this represents a big income gap[20], and means that most resources in China are held by the few. This is usually explained by the country's city-centric economic growth because "China's overall development strategy has focused on cities and neglected villages. A city-oriented strategy has led to public services concentrated in urban areas, and hurt the economy in rural areas and the income growth of residents there"(Bloomberg, 2021, p.1). Therefore, China has failed to distribute the resources that its industrial economic growth has granted to rural areas.

Estonia scored a median 32.4 on the Gini Index, which means that it enjoys *adequate inequality*, according to the UN, so, even though there are inequalities, these have not surpassed the threshold at which the income gap is problematic and starts to erode the development of society.

In conclusion, China has low levels of *extractive and redistributive capacity*¸ because they show escarce resource compared to their amount of population. Regarding the redistribution of resources, it is evident how its political institutions and economic plans have failed to reduce inequalities, especially between urban and rural areas. Therefore, it could be expected that the levels of regime consolidation in China may also be very unequal because regime perception in rural areas may be more negative than in urban areas.

[19] The indicator was based on a household survey, which is not as exact a proper income analysis.

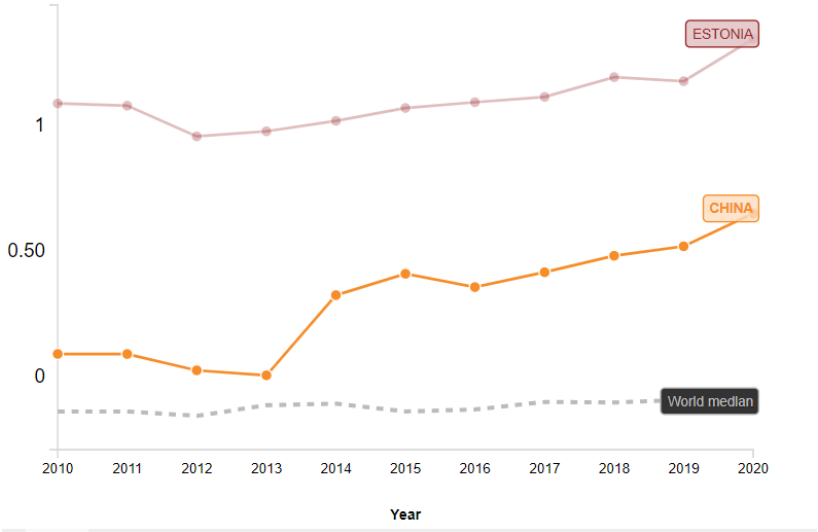
[20] Although there are no internationally defined standard cut-off values, itis commonly recognized that Gini index<0.2 corresponds with perfect income equality, 0.2–0.3 corresponds with relative equality, 0.3–0.4 corresponds with a relatively reasonable income gap, 0.4–0.5 corresponds with high income disparity, above 0.5 corresponds with severe income disparity.

In contrast, Estonia enjoys high levels of *extractive and redistributive capacity,since* income is high compared to population and it is also well distributed across society. Therefore, Estonia should enjoy high levels of acceptance because, in economic terms, the government manages to please most of the population, and so the economic motivations to drastically change the regime are lesser in Estonia compared to China.

Quality of bureaucracy

China and Estonia show similar government effectiveness index trends, as shown in *Graph 7, with* Estonia higher than China. Nevertheless, China achieved higher rates of growth for the same timeframe. In any case, both China and Estonia's Government Effectiveness Index surpassed by far the world median, and therefore we can say that this is a similarity that Estonia and China share.

Graph 7: Government Effectiveness Index in China and Estonia



Source: World Bank Government Effectiveness Index (2021)

China's *Quality of bureaucracy* can be observed in its Government Effectiveness Index average, with a score of 0,3 which is considered to be higher than average. The explanation behind these results is that, according to Göbel (2011), China had two main waves of government effectiveness, one in the 60s that resulted from a series of administrative reforms and a second in the 2000s, when the government started implementing ICTs to improve their performance. However, Liou (2017) argues that China has been working non-stop to adapt its government to modern needs, so China has been constantly adapting its administrative system in a comprehensive and multimodal way. The reforms embrace aspects including the Civil Service, economic deregulation, anti-corruption and ICTS.

China has managed to transform its state apparatus and structures to respond to the needs of a globalized, competitive and market-focused country, and this has been reflected by a growth in

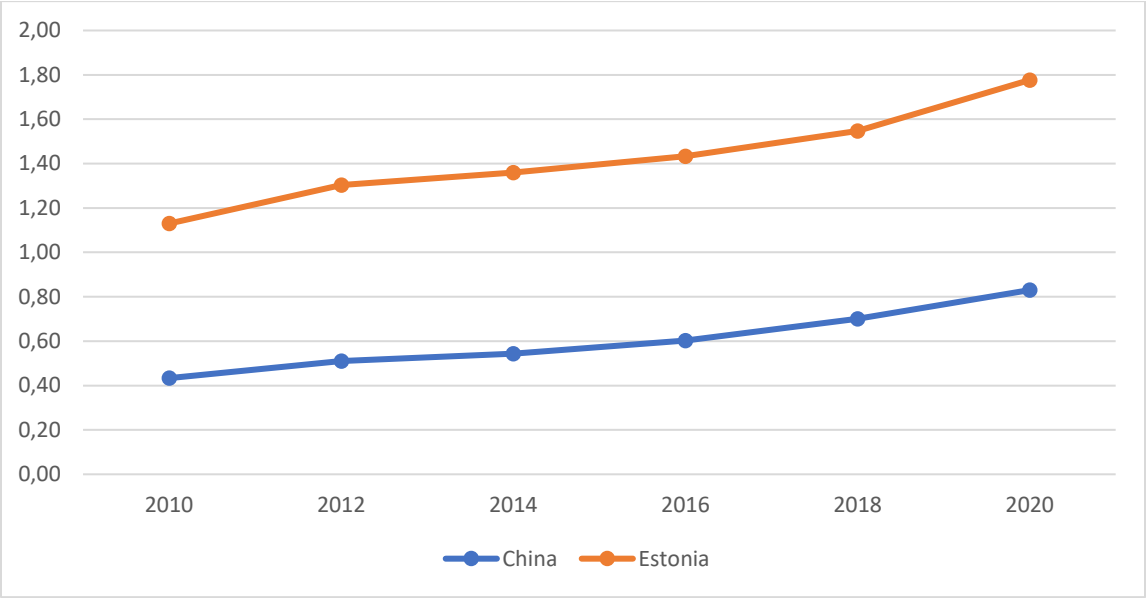
effectiveness. Due to this behavior, China is recognized as one of the most effective governments in Asia (Kim, 2011). All of these factors show how China possesses responsive institutions and structures that enhance bureaucratic quality.

Estonia's government effectiveness is also higher than the world average, since Estonia obtained 1.1 on the government effectiveness index on average for the years studied. The above results are explained by various convergent factors: First, a heritage of good administration practices from the Soviet Union. Second, the high ICT incorporation in their government services. Third, educational programs offered by the State to public servants. And finally, structural reforms have had a positive effect on government effectiveness levels. Most of the reforms can be framed as New Public Management adaptations by the administration.

All of the strategies presented above have made Estonia one of highest ranked countries for government effectiveness amongst post-Soviet countries (Ivanova, 2018). With the various measures that Estonia has adopted to increase government effectiveness, it has strengthened bureaucratic quality.

Both countries have shown increasing trends in government effectiveness and one of the stated causes is the adoption of ICTs. This reaffirms the necessity of including E-government as a component that can enhance the quality of bureaucracy. China and Estonia showed similar rates of growth in their E-government development index, as *Graph 8* reflects. The World average was 0 for all the years studied, so Estonia and China were also above the World average, and therefore they can be considered as highly developed in terms of E-government.

Graph 8: E-government development index



Source: self-made from UN E-government Development index (2021)

As we have argued before, China and Estonia have shown very satisfactory levels of E-government development. As *Graph 8* shows, they have been growing in this regard consistently. Estonia demonstrated higher levels of development but they are both considered countries of very high e-government development. They stand out because their levels of Online Services Development are significantly higher than the world average and they also have high levels of Human capital and telecommunications that permit them to build effective E-government tools.

Conclusion:

Regime consolidation is a complex process in which multiple variables serve to deepen governmental resources of power. The present research intended to ascertain whether E-government tools were relevant within these set of explaining variables for China's and Estonia's regime consolidation. Therefore, other variables apart from E-government have been assessed in order to discover whether these also influenced regime consolidation.

Chart 3: China and Estonia: Comparative assessment

Country	Despotic power	Discursive power	Infrastructural power				Regime consolidation
			Extractive and redistributive capacity		Quality of bureaucracy		
	Political Terror Scale	World press Freedom index (proxy)	GDP per Capita [21]	Gini Index	Government Effectiveness Index	E-government Development Index	Fragile State Index: *decade trends*
China	(**high** political terror)	**(Authoritarian discourse)**	(**Lower** than world avg.)[22]	**(Big income gap)**[23]	(**Higher**[24] than world avg.)	(**Higher** than world avg.)[25]	**(improvement)**
Estonia	(**low** political terror)	(**Democratic political culture)**	(**Higher** than world avg.)	**(Adequate equality)**	(**Higher** than world avg.)	(**Higher** than world avg.)	**(improvement)**

Source: Self-made

As *Chart 3* shows, there were clear differences between China and Estonia, as most of the control variables were divergent. Nevertheless, it is important to remember that Göbel (2010) understands the power dimension as sources of regime consolidation that compensate for one another. Therefore, we could speculate that Chinese discontent caused by the lack of *Extractive and redistributive capacity* could be countered by the exertion of political terror over citizens that express dissent. Additionally, discursive power may explain the presence of citizens that, even in a precarious economic situation, do not express regime disapproval.

Estonia, on the other hand, may not be tempted to exert despotic power over the population because of its high levels of *Extractive and redistributive capacity*. This, in addition to a well-developed democratic culture, may be discouraging the citizenship from taking actions that would result in democratic breakdown, and also the probability of experiencing a social crisis is smaller.

The results have shown that China and Estonia share two main similarities, a high level of Government Effectiveness and E-government development, and these two factors have given both countries an advantage in their *quality of bureaucracy*. Therefore, this power dimension may be the explaining factor of regime consolidations in China and Estonia. E-government development alone cannot explain this process. It is the interaction between E-government tools and government effectiveness that explains why China and Estonia achieved such high levels of regime consolidation.

[21] GDP per capita values are measured in thousands of dollars
[22] World's average GDP per capita for the last decade was 10,666$ (thousands of Dollars)

[24] The media for government effectiveness index is -0.004, according to the World Governance Index dataset
[25] World's average E-government development index between 2010 and 2020 was 0.5 0ut of 1

It is important to say that Government effectiveness and E-government development seem to be closely linked, and therefore this research suggests that future studies address the interaction between these two variables, in order to explore how they may be related to processes of regime consolidation.

As it was stated in the theoretical framework this research will adopt a socio-technical approach, therefore the conclusions should be in line with this in line with this theory. The analysis of the cases of study demonstrate that E-government tools creates synergy between ICTs, governments and society.

countries that enjoy satisfactory levels of government effectiveness, human capital and high usage of governmental ICTs usage, it could be expected that on one direction governments increase their *quality of bureaucracy* to increase the capacity to exert power over the population. in the other direction, a society than possesses adequate levels of human capital to utilize E-government tools, would perceive their government as more capable and responsive of their political demands. Therefore, E-government can enhance government´s power exertion on citizens and it can intensify citizen´s political legitimation on the government.

The relation exposed above may be seen as a reciprocal relation that can consolidate both authoritarianism and democracy. Finally, the type of regime to consolidate may be influenced by the type of discursive power that governments intend to exert. Therefore, we can conclude E-government takes place in a system where governments, society and ICTs interact and it gives technical advantages that helps governments to set up institutional arranges as more responsive and efficient, all. hence, the improvement of this interactions may perpetuate both repression and freedom, therefore, it can lead countries to *dystopic* or *utopic* types of regimes.

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