

US POWER AND THE MULTINATIONAL TECH COMPANIES OF THE DIGITAL ERA: AN ANALYSIS OF THE OBAMA AND TRUMP GOVERNMENTS OLIGOPOLIZATION (2009-2021)¹

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Introduction

Science and technology are relevant issues in the studies of international political economy. Innovation, at the same time, favors economic growth and impacts the States and non-States players nexus. In the competitive arena of global markets, highly developed innovative organizations tend to provide cheaper and more effective products in a larger scale. In the “anarchic environment” of the international system, technological and scientific supremacy has always been determinant to achieve and maintain power. As power resources do not remain static, their fluidity leads to technological (Kondratieff 1935; Perez 2003) and hegemonic (Arrighi 1996) “long waves” that oscillate during history. After 1945, the United States (US) rose as the hegemonic power and technology, amongst its power resources, was, and remains one of its significant assets of power projection.

Considering the technological-scientific revolutions, the 20th century was one of the most relevant for human history and was characterized by several advances in various sectors. One of these sectors is Information

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and Communication Technologies (ICT) that also increased the power of new players, due to the transnationalization and centralization processes of major corporations after the 1970s (Gilpin 1975). This dual movement, of ICT and multinational corporations rise, were at the core of Susan Strange's (1998) analysis, responsible for presenting a new approach regarding power relations in the International Political Economy (IPE). Strange made a distinction between relational and structural power, introducing as variables elements such as the influx of "knowledge structure", that was already being revolutionized by the built of the information era.

The ICTs, more specifically the internet, have become main issues for economic and strategic policies of nations, mainly in the US. The American government had launched a series of initiatives that helped the rise of the "new economy" and the expansion of the global computer network in the 90s, increasing internet data flow and strengthening the power of the companies in this sector. In the second half of the 21st century, some analysts argue that the financial-industrial capitalism of the 20th century is facing a transition towards a digital capitalism based on the internet and the data in the new millennium, suggesting the start of a "fourth industrial revolution" (Schwab 2016).

In this new stage of world history, information and computers have become central elements in the power projection of the great powers and the holders of the global flow of data. Shoshana Zuboff (2021) coined the term "surveillance capitalism" to define new mechanisms of power concentration and accumulation, which occur through surveillance of the digital world and substantially diverge from the power relations of traditional market capitalism.

Yet, to grasp how this new digital capitalism operates and its interactions with the State, specifically with the US, is an issue not enough studied critically. Facing this reality, the goal of this article is to understand how, in the US, the relation of the State and the major technological multinational companies of the digital area (also known as the Big Techs) is developing in this era of oligopolization. The period of analysis comprises the democratic government of Barack Obama (2009-2017) and the republican one of Donald Trump (2017-2021). To do this, the field of IPE will serve as a unifying element of the theme worked, critically uniting the datafication theories of the digital age and the power relations addressed by International Political Economy.

Added to this Introduction and the Final Thoughts, the text is divided into three parts (each one with its own subdivisions): a conceptual discussion over digital capitalism and the date era in the 21st century, an appraisal of the role played by the Obama administration for the expansion of this sector and a mapping of the Trump administration regarding the so-called restraint

of the Big Techs actions. So, how relations between the US government and the Big Techs had developed during the expansion (Obama) and containment (Trump) periods? Which were the motivations and policies of each of these eras towards these major companies?

Digital Capitalism and the “Data Era”

As the Cold War ended in 1989, the US rose as the sole hegemonic superpower, holding the most significant economic and military power. Without any balancing act to this leadership, financial globalization and the integration of markets was imposed to the world and became dominant. This new world history scenario was only made possible due to the previous Technological and Scientific Revolution of microelectronics that, in part, was financed by the American State and led to the integration of finances and production and the flow of capitals in real time.

By considering the relevance of the new information technologies for its economy and national security, the US advanced a series of initiatives that led to a “revolution within the revolution” in the telecomputing field. As Moraes (2004) stated, telecommunications were a relevant component of US global power, and acquiring the leadership of this sector, was essential to support the nation’s supremacy in the “new world order” that was being established. Amongst the main actions for modernization, Senator Al Gore presented to Congress in 1989 the National High Performance Computer Technology Bill, arguing that the “nation which most completely assimilates high-performance computing into its economy will very likely emerge as the dominant intellectual, economic, and technological force in the next century” (Carr 2016, 51). This project was a turning point in technological policy, and influenced the 90s internet development, based on the advances achieved since the ARPANET⁴, which reduced bureaucracy and paved the way of the private sector participation.

At the same, as the lowering of regulatory entry barriers allowed the access to digital markets to new players it led to a competition among them, that helped to popularize advanced technological products in a larger scale in the 90s. Several “dot com” companies were created to explore the “new economy” services on the internet. Its majority adopted an accelerated growth strategy making their final products available for free so, that in the future,

⁴ *The Advanced Research Projects Agency Network (ARPANET)* was the pioneer computer network for the current internet and was financed by the US Department of Defense for transmitting secret data during the Cold War.

they could profit from the taxation of its services. Their initial expenses and potential losses were safeguarded by risk capital and the stock market exchange sell of stocks. However, most of the “dot com” were not able to secure a solid revenue and their market share value were out of touch with reality. This speculative environment and deregulation led to the burst of the “internet bubble” closer to the end of the millennium. In this context, several companies melted after they spent their risk capital and had no real base of value.

Despite the negative aspects, deregulation and competitiveness had reduced the costs of ICTs production and helped internet’s worldwide expansion during Post-Cold War globalization. The number of users connected to the computer’s world wide web grew considerably since the 90s. According to the International Telecommunication Union (2019, 08), in 2019, almost 93% of the world’s population was living in the reach of some sort of mobile broadband. However, slightly more than 53% of the global population was able to daily access the internet- a 300% growth rate when compared to 16,8% of 2005.

After the internet international boom of the 90s, most of human interactions were thorough the world wide web. The sending of messages and consultations, the buying and selling of products, accessing films and songs, phone calls, financial transactions and so many other relations through the internet were in people’s life in a day-to-day basis. Just in a few years, these virtual relations were able to comprise almost all aspects of the human life in online data, leading to the “datafication” of social action and the creation of a new emerging market.

Social Datafication and the Rise of the Big Data Era: The Emergent Market of Data

In an article published in *Foreign Affairs*, Cukier and Mayer-Schoenberger (2013, 35) argue that social datafication should not be confounded with the concept of digitalization- namely, the transformation of analogical contents (such as books or photos) in digital information. It is a much more complex activity that takes all aspects of human life and turn them into quantifiable and predictable data, that comprehends both the process of information digitalization and the conversion of social interactions in manipulable data.

Even though the ideas of an “information revolution” and “digital era” were present since the 1960s, they only became a reality recently due to the process of social datafication and digitalization. In 2000, only “a fourth

of information in the world was digitally stored”, and the remainder was available through analogical means such as paper, cassette tapes and CDs. In 2013, the estimate was that less than 2% was stored in analogical means, a fact that contributed to the explosion of the production of digital data in the 21st century (Mayer-Schönberger e Cukier 2013, 12-13). When the authors published their 2013 book, they assumed that there was 1,2 Zettabytes (1.200 Exabytes) of data, from several sources, stores in the world. “If all was printed in books, they would cover the whole of US surface, with 52 layers. If it was stores in piled CD-ROMs, it would reach the moon in five separate piles” (Ibidem, 13).

The datafication process of social relations, alongside the internet’s global expansion, considerably increased the amount of data produced and the flow through communication networks. This growth led us to the era of Big Data, a time of production of massive information that in fact consolidated the break of the “Industrial” to the “Information” era, which had begun in the second half of the 20th century. Summing up, the concept of big data can be defined as an area that studies how to store, treat, process and extract information (value) from a set of data, which is too big for traditional systems to analyze. As higher is the volume, the speed of processing and the variety of data, the higher is the capacity to generate value (capital).

In the last few years, this disruptive segment expanded and had become one of the most powerful and valuable markets of the 21st century, as “data” is being considered as relevant nowadays, as oil was in the last century (The Economist 2017). Just as the oil cartels were built to explore natural resources and were able to project significant political and economic influence globally, this new market created its own oligopoly, which explores contemporary digital resources, and has the same relative power in the 21st century. In the next item, we explore the oligopoly that operates the big data and the impacts of this resource in the transformation of present capitalism.

Big Techs and the process of industrial oligopolization in the digital contemporary economy

Until the midst of the century, the paths that would be taken by the development of this “new economy” were not clear. Huge “dot com” companies that had survived the 2000s bubble collapse- such as Google and Amazon- were able to build powerful economic superstructures. Oldest firms, as Microsoft and Apple, turned into true global empires after the 1990s. Since then, a new generation of businesses, that operate exclusively on the internet boomed, mostly after the 2008 subprime crisis. This crisis represented a

challenge to the contemporary capitalist economy and one of the worst global recessions since the 70s crisis. The burst of the real estate bubble ignited a chain reaction not only in the financial sector, but also led several banks, industries, and companies of several segments into bankruptcy, increasing unemployment rates and lowering economic growth worldwide.

In this context, several new models of digital business emerged, such as Airbnb (2008), Uber (2009), WhatsApp (2009), Instagram (2010) and Ifood (2011). This new generation of “dot coms” were renamed as startups and were seen as an outlet for the recession brought by the economic crisis. Several unemployed people were able to support themselves temporarily with these apps, either by Ifood deliveries or Uber rides. New entrepreneurs took advantage of recent social medias as the WhatsApp and similar companies created a few years ago- Facebook (2004) and Twitter (2006) –, to boost their own business and increase revenue in the middle of the crisis.

Despite the temporary help offered during the recession, the migration of formal to digital jobs led to the concept of work uberization, a logic in which informality and the precarization of labor relations prevailed (Antunes 2020). Similar criticism is presented by Morozov (2018) to the “technological solutionism” a concept that, according to the author, argues that the “digital revolution” is the medicine for all the problems that the State and institutions were unable to solve. Due to the changes in the labor market and the popularization of internet services, the term digital economy emerged as a counterpoint to the market economy to explain the new means to generate profit in modern capitalism, a concept that rose “as a beacon in a deeper stagnated context” (Srnicek 2017, 10).

In the last years the Bureau of Economic Analysis (2021) elaborated a series of economic indicators that apply to the industry that operates in the US digital economy. According to this institution the sector is divided into three main branches: (a) infrastructure, responsible for 36% of the category that includes productive sectors of physical infrastructures, hardwares e softwares; (b) e-commerce, that considers electronic trade between firms and consumers, and that is responsible for 22% of the digital economy; and (c) paid digital service, that accounts for 42% of the sector revenue, including cloud services, telecommunication, internet and data services among others.

The digital economy industry was responsible for 9,6% of the America GDP in 2019, slightly below traditional sector such as the manufacturing (10,9%) one and, above others such as construction (4,2%), retail trade (5,4%) and finances and insurances (7,8%). Even though it accounted for almost US\$ 2,1 trillions of the GDP in 2019, the digital industry employed not more than 7 million people, almost 5% of the formal jobs in the country (BEA 2021).

To understand the impacts of this reality in global capitalism, Srnicek (2017) presented the concept of “platform capitalism” to define the contemporary capitalism means of expropriation, based on algorithms and digital data. Such “platforms” emerged as intermediates for buyers and sellers of services and products and act as truly global structures that contribute to the expansion of today’s capitalism. The core subject matter is that,

with a long decline in manufacturing profitability, capitalism has turned to data as one way to maintain economic growth and vitality in the face of a sluggish production sector. In the twenty-first century, on the basis of changes in digital technologies, data have become increasingly central to firms and their relations with workers, customers, and other capitalists. (Srnicek 2017, 10).

In a similar view, Zuboff (2021), developed a more clear-cut theory about the impacts of datafication, that become almost hegemonic in the area. Zuboff (2021) presents the concept of “surveillance capitalism” to explain the monetization process of data collected in the individuals’ private spheres, stating that it creates new mechanisms of power and accumulation, through digital surveillance. For the author, this new economic order and its market potential were uncovered by Google, which was responsible for developing a standard business model that was followed by several other enterprises such as Ford represented a pioneer in the 20th century capitalism.

Whereas industrial capitalism converted nature’s raw materials into merchandise, now, in the digital capitalism, companies are expropriating human behavior as raw materials for the 21st century market’s project. Couldry and Mejias (2019) call our attention to the “costs of connection” of the online world, showing how the historical appropriation of land and natural resources is mirrored by the era of digital capitalism and big data. The grasping of intimate moments of our lives by companies, that, later, extract information to be sold, shows, in the authors’ opinion a new source of “data colonialism”. In the same that great powers and their companies benefited from a privileged exploration of emerging markets in the era of imperial colonialism and, afterwards huge monopolistic cartels gathered in industrial and financial capitalism, new monopolies are now being built to explore digital era resources.

US and its corporations gained strategic advance due to two elements. First, the internet’s and most of ICTs origins dates to the geopolitical dispute of the Cold War. With high State’s investments in R&D, the country has become a leader in the imposition of the informational infrastructure standards yet in

the 20th century and defined it as a strategic priority. Second, data expropriation was Google's invention in the Silicon Valley, a logic that, in a short period of time, soon became a pattern of the whole US technological sector. At the same time, the sponsoring of a globalized and deregulated economy by neoliberal governments, helped the rise of an oligopoly of transnationals in the country that governs the informational infrastructure of the Western world nowadays.

The Big Tech concept, which embodies this digital oligopoly, was incorporated by the media and the academy stressing its monopolistic practices and influence power on all sectors of the economy, politics and day-to-day life of the global population. Based on the political economy view Smyrniotis (2018), examines the oligopolization process of the biggest five US Big Techs (Amazon, Apple, Facebook, Google e Microsoft), highlighting the fact that they make use of their market influence to eliminate competitors and to control the "digital public sphere" even more.

After relative power gains, these companies started to swell competitors in a larger scale, creating a digital monopoly. The concentration of corporations that operate in the digital market is a novelty of the 21st century, a fact that leads to an advantage for further data collection and accumulation by this pre-established conglomerate. The result is a cycle of information and economic and political power concentration in these groups, since the much more data they own (D), greater is their capability to generate capital (C) and control the sector. Expanded economic power allows the engulfing of competitors in a larger scale and makes it possible to increase investments in new extraction technologies (T) and data analysis (D'), leading to a vicious circle of data accumulation, capital, and technologies of big data.

US largest big tech companies have become the most powerful companies of the planet. In 2020, the added value of their market capitalization reached almost US\$ 8 trillion (The Wall Street Journal 2021). This accounts for almost 40% of the US GDP, and 59% more of the Chinese, and is closer to Japan's and Germany's GDP added value. Due to this amount and concentration of economy power, in an interview to *Valor Econômico*, Lévy defined them as a new form of State, which he calls "State-platform". Lévy raises the alert that they "started to concentrate the monopoly of the world's memory, and that they are, charting a new type of economic power, which is clear, but mainly, political power. Several social and political roles that are traditional tasks of the nation State are being redirected to these companies" (Kaufman 2020, n.p.).

The big techs oligopolization process is a trend that can potentially alter State dynamics. To understand the political and economic conditions that furthered this concentration is essential to perceive the international

system directions in the 21st century. The majority of these corporations grew exponentially in the first two decades of the new millennium, as the result of the financial-economic globalization and of favorable US government strategic policies. Even though these strategies date back to the 1990s end, and that the US government-companies synergy had deepened with W. Bush intelligence community apparatus reform, the oligopolization process was clear only after the 2008 crisis. In the next item, the main political and economic conditions that favored the expansion of the big techs during Barack Obama two terms will be explored, in a context of modernization of the framework and policies of cyber defense.

The Obama Government: Putting the “Big” in “Tech” (2009-2017)

Definitely, the beginning of the 21st century was marked by the digital revolution, paving the way for a new “public space” in which the State and private players were exploring emerging power resources. Since the millennium turn, to guarantee “information superiority” and to protect the cyberspace had become core elements in US National Security Strategies. Although the institutional framing and several strategies to secure the cyberspace were being developed between 1990 till 2005, these initiatives were not able to guarantee domestic security.

The end of the first decade of the new millennium was characterized by a series of major serious cyber incidents in the US, such as the 2006 NSA hacking, the 2007 Department of Defense (DOD) invasion and the DOD’s 2008 attack in 2008, and several other international events such as the Estonian, China, Georgia, and Israel attacks (Giordano e Bosso 2021, 22-23). Added to this, in 2010, the Stuxnet, one of the most sophisticated industrial espionage software ever identified was discovered. He was used to control and generate oscillations in nuclear centrifuges in Iran, representing a new level of threat to international cybersecurity.

The Stuxnet process altered societies’ notions of vulnerability that were more and more connected to the internet. Now, the issue is not only about vigilance, national data theft or industrial espionage, as operations in the virtual world had evolved into a real threat in the real world. A computer virus ability to remotely alter a nuclear power plant standards raised serious concerns over the security and vulnerability of critical US infrastructures and all over the world (Demchak and Dombrowski 2011, 33).

Due to these real emerging threats, Demchak and Dombrowski (2011,

35) presented the State's inclination to control the flow of data through their national frontiers in the 21st century. The main argument is that the Stuxnet officially branded the new "Westphalian cyber era", in which virtual borders and national cybercommands would rise to protect citizens and the economy of foreign risks. In particular in Western democracies, "states are establishing the bounds of their sovereign control in the virtual world in the name of security and economic sustainability" (Ibidem, 32).

In the US, the government of Barack Obama (2009-2017) dealt with a significant share of these rising challenges. Since the first day of his term, the agenda of the former President prioritized a review and modernization of a series of strategies and cyber and digital policies, added to the incorporation of "data science" in his administration. On one hand, the new military doctrines emphasized the impacts of virtual threats to national security. On the other, the recession brought by the 2008 crisis imposed the need to develop a modern digital infrastructure to increase competitiveness and overcome economic problems.

The Modernization of National Security Strategies and the Institutionalization of "Data Science"

Already in the first months of his term, Obama made a speech in the White House, regarding his plans to ensure America's digital future⁵ making it clear that the protection of the informational infrastructure and the promotion of the "digital economy" were priorities. Still in 2009, one of the main cybersecurity initiatives was the creation of the United States Cyber Command (USCYBERCOM), one of the world's first military command to focus on cyberwar. USCYBERCOM birth was at the National Security Agency (NSA) headquarter as a DOD sub unified unit. Its mission is to coordinate operations in cyberspace to safeguard it, as well as to promote US interests in collaboration with national and international partners.

The militarization of the "digital space" earmarked the strategic importance of this field, alongside the aerial, terrestrial, maritime, and space domains of classical geopolitics. Historically, the US had always placed military forces in key regions to project its global power. One can remember as examples, the creation of the US Pacific Command (USINDOPACOM/1947), of the Western European Command (USEUCOM/1952), the South American Command (USSOUTHCOM/1963) and the Central Command for the Middle Central Asia and North of Africa (USCENTCOM/1983). They were all

⁵ Available at: <<https://www.youtube.com/watch?v=wjfyj4eyQM>>. Access 27 mar. 2022.

relevant during the Cold War. In the 21st century, before the creation of the USCYBERCOM, the main structural changes were the creation of the North American Command (USNORTHCOM/2001), as an answer to 9/11, and the USAFRICOM in 2007 in Africa (Pecequilo 2013, 15).

As the influence of the “virtual” world into the “real” soared, “to occupy” and to protect the cyberspace, with a specific military command and other strategies, became one of the main agendas to safeguard national security. In grand strategy documents such as the National Security Strategy (NSS-2010) and the Quadrennial Defense Review (QDR-2010), “the emergence of cyberwars as a reason of concern” (Pecequilo 2013, 27) was stressed. Even though these concerns could be found in previous documents, they were not playing a secondary role anymore, and had become the core in the strategy of defense. As the QDR-2010 states, “in the 21st century, modern armed forces simply cannot conduct high-tempo, effective operations without resilient, reliable information and communication networks and assured access to cyberspace” (United States 2010a, 37).

In the NSS-2010, similar questions were presented, and the digital infrastructure of the country was defined as a “national strategic asset” and its protection a national security priority. To safeguard this asset, the document proposed two initiatives: (a) investments in people and technology and (b) strengthening partnerships (United States 2010b, 27-28). On one hand, R&D investment, innovation technology stimulus, digital literacy, and public consciousness about the importance of cybersecurity would be relevant for the protection of American interests. On the other hand, searching for partnerships with the private sector, national and international, represented a continuity of Clinton and W. Bush’s governmental strategies.

Added to the deepening of public-private relations, the cooperation of civil and military branches of the government, through swaps of specialized knowledge, and the interchange of employees and interdepartmental technologies was central for the consolidation of these strategies. The former President created a specific White House bureau to coordinate answers to cyberthreats to the federal civilian network and ordered a comprehensive review to evaluate US policies and digital structures, leading to the Cyberspace Policy Review (2009). This document proposed a series of initiatives for developing a reliable digital infrastructure network, including the built of a “Digital Nation”, the suppression of “potential barriers that prevent the evolution of public-private partnership”, the establishment of efficient data sharing systems and incentives to digital technological innovation (United States 2009a, 13-35).

Several of the Cyberspace Policy Review proposals were aligned with

the American Recovery and Reinvestment Act edited in the same year, which encouraged the implementation of modern information infrastructure to increase competitiveness and solve urgent economic problems after the 2008 crisis. In 2012, the Digital Government: Building a 21st Century Platform to Better Serve the American People plan was released, and its goal was to increase electronic services offered to the US people. This plan continued digital modernization and searched, among other goals, to “ensure that as the government adjusts to this new digital world, we seize the opportunity to procure and manage devices, applications, and data in smart, secure and affordable ways”, and “unlock the power of government data to spur innovation across our Nation and improve the quality of services for the American people” (United States 2012, 02).

The modernization of digital infrastructure was one the pillars of defense and national security policies and for economic recovery. Although it proposed the breakdown of responsibilities between the DoD (.mil) and the federal civilian government (.gov), to secure safer and reliable networks in both spheres remained an inseparable goal to guarantee US interests in the cyber era.

The new emergent rising technologies of the 21st century such as mobile devices and cloud computing, imposed the need for a new specific strategy to materialize modernization. Since the popularization of smartphones, mostly after Apple launched the Iphone in 2007 and the Android system by Google in 2008, the digital world and the flow of internet data evolved in a surprising way. As an example of these changes, US 2012 digital strategy mentions the episode related to a 5,9 earthquake that hit Virginia in 2011, that was posted in Twitter and New York residents read about in Twitter 30s before they even experience the event (United States 2012, 01).

Obama had acknowledged these changes and the emergent mobile technologies potential in the State-Citizen relation. As his Digital Government Strategy mentions, “today’s amazing mix of cloud computing, ever-smarter mobile devices, and collaboration tools is changing the consumer landscape and bleeding into government as both an opportunity and a challenge” (United States 2012, p. 01). To reap the benefits at the federal government level, the document set out four overarching principles that would drive digital policy in the “data age”: an “information-centric”, a “shared platform”, “customer-centric” and a platform on “security and privacy” (Ibidem, 05).

The first “information centered” approach had become a cornerstone for the support of all this digital strategy. It considers the wealth of information kept by the Federal Government as a “a national asset with tremendous potential value to the public, entrepreneurs, and to our own government

programs” (United States 2012, 09). As it raised information to the status of a national strategic asset, the core idea was that the administration would collect and frame all and any kind of data to make them public, either structured data (data bank, census) or non-structured (documents, releases, videos etc). Added to making interoperability of information access amongst the public-private sector through “shared platforms” available, the metadata disclosure by the State, was seen as a fundamental issue to support new digital business and to advance economic prosperity.

One of the main assets of this strategy was based on the Open Data philosophy, which argues in favor that some types of data should be available without copyrights restrictions so that all can make use and edit them. This line of thought is part of the Open Government idea, and the democratic government was one of the forts to uphold it. The institutionalization of open data was fundamental for the consolidation of the Open Government in this digital strategy. However, one of the main problems that was identified in the process of its political concept was how to collect and organize huge set of complex data from several sources, since the process of social datafication in the 21st century generated an exponential growth of digital information on the internet making it difficult to collect and analyze data through traditional means. Another obstacle was that most of the available information was stored in private servers of huge corporations nationwide. Therefore, to materialize a digital policy and the open data it would be necessary a non-stop development of new knowledge extraction technologies and a long-term partnership with the companies that controlled the major datacenters in the country.

In 2011, to overcome these setbacks the government created the Big Data Senior Steering Group (SSG) to identify and create national initiatives for research and development of big data technologies, which became the main coordinating branch of R&D of data science in the country. Soon later, the group was renamed as the Big Data Interagency Working Group (BD IWG) and incorporated members of several governmental agencies as DARPA, DoD, DHS, NASA, and NSA staff. The BD IWG answers directly to the Subcommittee on Networking and Information Technology Research and Development (NITRD), a branch linked to the Committee on Science & Technology Enterprise do National Science and Technology Council (NSTC), that, for its turn, is linked to the White House’s Office of Science and Technology Policy (OSTP).

Almost a year after the creation of the BD IWG, the White House announced the Big Data Research and Development Initiative (2012) which goal was to improve governmental capacity to extract knowledge of complex digital data. As a means of financing, the initiative handed over more than US\$

200 million to six federal departments and was led by the OSTP, responsible for the coordination of the NSF, DARPA, DoD, National Institutes of Health (NIH), Department of Energy (DoE) e da US Geological Survey commitments (OSTP, 2012). It is important to highlight that even before this initiative was created, big data research was already being developed in the federal level. The Big Data initiative was designed to accelerate the rate of the area development, to create apps for analyses and to train the next generation of data scientists to meet the market demand for specialists. Since then, several undergraduate and graduate courses on data science appeared in the country (Kalil, 2012).

Added to the incorporation of branches in the administration's framework, Obama ordered a full review on how "data" affected the American's way of life and work, resulting in the Big Data: Seizing Opportunities, Preserving Values report. Despite big data potential to promote social welfare this document raised some issues on how automatic decisions based on codification could promote and increase social discrimination already in place (United States 2014, 59). A few years later, the White House, through the BD IWG, launched the Federal Big Data Research And Development Strategic Plan (2016), one of the main documents since the foundation of the group in 2011 and the Big Data R&D Initiative (2012). The institutionalization of this development policies created a "national big data innovation ecosystem" in the US, composed of several key agencies such as the NSF, DARPA, DoD, NIH, DoE, and DHS. The priority of the Big Data R&D Strategic Plan was to guide towards a common plan for all of the administration and to "outline the key Big Data R&D strategies necessary to keep the Nation competitive in data science and innovation and to prepare for the data-intensive challenges of tomorrow" (United States 2016, 04).

Public-Private Vertical Integration and the Expansion of the Big Techs Economic and Political Power

Obama's governmental strategies supported a revolution in digital technologies and platforms. The institutionalization of digital policy and "data science" was widely reported by the US media at that time and considered Obama "the big data president" (Scola, 2013) and the "first truly digital President of America" (Wortham, 2016). To fulfill its plans, the government needed to forge an intimate partnership with Silicon Valley companies that controlled the necessary know-how for this challenge.

Obama was always able to feed connections with US high-tech entrepreneurs, being know for the promotion of policies that pleased the

sector when he was a Senator. The former President fought for Silicon Valley shared philosophies, as open networks, civil liberties, and limited regulation and is one of the greatest sponsors of innovation. Still in 2007, Obama was invited by Google's President Eric Schmidt, to present his innovation agenda to the company's employees⁶. Even though John McCain, his major electoral contender was also invited, the multinational preference for the democratic candidate was clear. As the Federal Election Commission data compiled by OpenSecrets.org shows, the majority of campaign donations from the telecommunication and internet sector in the 2007-2008 cycle was directed to the democratic candidate, a trend that remained in the 2011-2012 cycle⁷.

This preference reflected Obama's own profile, since his two presidential campaigns were oriented towards "almost obsessive" practices based on evidence, centered on the analysis of digital data and social scientific research (Trish 2018, 30), another philosophy shared with high-tech companies. As Wortham (2016, n.p.) states, the 2007-2008 campaign "mostly relied on social media to take him [Obama] from the shadows". One of Facebook co-founders Chris Hughes even left the company to become the democrat online campaign leader. The 2012 was structured to focus even more on data science. At that time, "the data and technology departments accounted for almost 30-40% of the campaign staff" in the campaign strategy (Trish 2018, 31).

After being elected for his first term, Obama created a series of policies and executive posts in his administration that benefited the sector, maintaining his connections with the major technological entrepreneurs. Beyond the prosperity of "older generation" Silicon Valley companies, the conducive environment created by the government furthered a "second wave" of new digital businesses that operate on the internet as Airbnb (2008), Uber (2009), WhatsApp (2009), Instagram (2010) and Ifood (2011). Both, the modernization of national security strategies as well as the open data, big data and digital government policies were fundamental for the prosperity of this business models. Several of them had become suppliers of military technology and prospectors of the digital economy.

The administration acted as a catalyst for the sector through direct financing and subsidies. In 2009, the government released a stimulus package of almost US\$800 billion including US\$100 billion in "financing and subsidies for the discovery, development and implementation of several

6 Fully available at: <<https://www.youtube.com/watch?v=m4yVlPqeZwo>>. Access 01 mar. 2022.

7 Available a: <<https://www.opensecrets.org/industries/indus.php?ind=B&cycle=2008>>. Access: 01 mar. 2022.

technologies” (Rich 2017, n.p.). In 2012, as seen, the Big Data Research and Development Initiative conceded over than US\$100 million distributed over several federal agencies to boost the development of technologies for big data analysis (Kalil 2012).

Several Silicon Valley companies had somewhat become an extension of the corporate arms of the administration providing services, consultations, and interchange of specialists in State’s projects. The government shared a lot of its federal employees with these companies, in some sort of public-private integration. As an example: “in 2014, Uber hired David Plouffe, Obama’s senior advisor and his former campaign management to fight the regulation” of the sector (Rich 2017, n.p.) – as Microsoft did against the antitrust investigation against its monopoly on the PCs market, in the mid turn of the millennium. For its turn, Airbnb, as a product of the National Democratic Convention in 2008, in Denver, reached a market value of US\$1 billion shortly after this meeting (Ibidem, 2017). Obama took advantage with his ties with this company to bolster his diplomacy, bringing “Brian Chesky, Airbnb Executive President to Cuba as an economic endorsement to the revolutionary powers of beginners companies to change the world” (Wortham 2016, n.p.)

Google provided diplomatic assistance to Obama in Cuba through a joint initiative to promote internet expansion in the country (Mullins and Lee 2016) and is one of the companies that benefited the most by the logic of “vertical integration”. As exposed by Dayen (2016) to *The Intercept*, Google representatives were present at several White House meetings in the White House from 2008 till 2015. In a similar report *The Wall Street Journal* indicated that the amount of these visits increased whereas the company was targeted in an antitrust investigation in 2012-2013, that was closed without any accusations (Mullins 2015). Over 250 people passed through the Google-Government “revolving door”, and 55 individuals left the company to work in the Federal Government and 197 moved from the governmental service to Google (Dayen 2016).

Obama’s closeness to Silicon Valley reflected in his digital strategy for the solution of economic problems created by the 2008 crisis. To materialize it, someone needed to manage the “technological solutionism” project, a school of thought that argues that the digital revolution will heal all the problems that the State failed to solve. Major technological companies that controlled the needed know-how in emergent technologies were the most prepared for the mission, which served as justification for the association of these companies, the State and the aforementioned public policies. The dominant “data era” big techs gained economic power and rose as a relevant lobby force in US politics, producing as a result the country’s digital oligopoly with non-competitive

practices.

Historically, the formation of monopolies and lobbying practices were always seen as challenges for representative democracy and the idea of “free competition” mainly in key sectors such as railroads, oil, energy and telegraphy/telephony in the 19th and 20th centuries, but the same does not hold true whereas considering today’s digital industry. Although some of the online market dominant companies were born in the 1970-1990s decade, the oligopolization trend only exacerbated due to Obama’s administration favorable strategies. All of the US five major multinational technological companies, leaders in market capital and market brand value, grew exponentially during the democratic government.

As Figure 1 shows, even though Microsoft opened its public capital offer in the stock market in 1986, its capitalization exponential growth was only stable after mid-2014, and its lobbying power and expenditures hold steady during the 90, reaching a peak in 2013, when almost US\$10.490.000,00 were invested by the company.

In Apple’s case, market capitalization grew exponentially only after mid-2009, with the introduction of new digital technologies and the Iphone launch. Lobbying expenses significantly grew in this period. The number of active lobbyists jumped from 16 in 2009 to 40 in 2017. Total spending allocated to this practice grew from US\$1.500.000,00 in 2009 to US\$7.150.000,00 in 2017.

Amazon followed the same trend. The company’s initial public offer was made in 1997, however it only grew exponentially in capitalization after mid-2013. The same applies to lobbying practices: from 12 active lobbyists in 2009, the number jumped to 94 in 2017, and if in 2009 US\$1.810.000,00 were spent, the expense was raised to US\$13.000.000,00 in 2017.

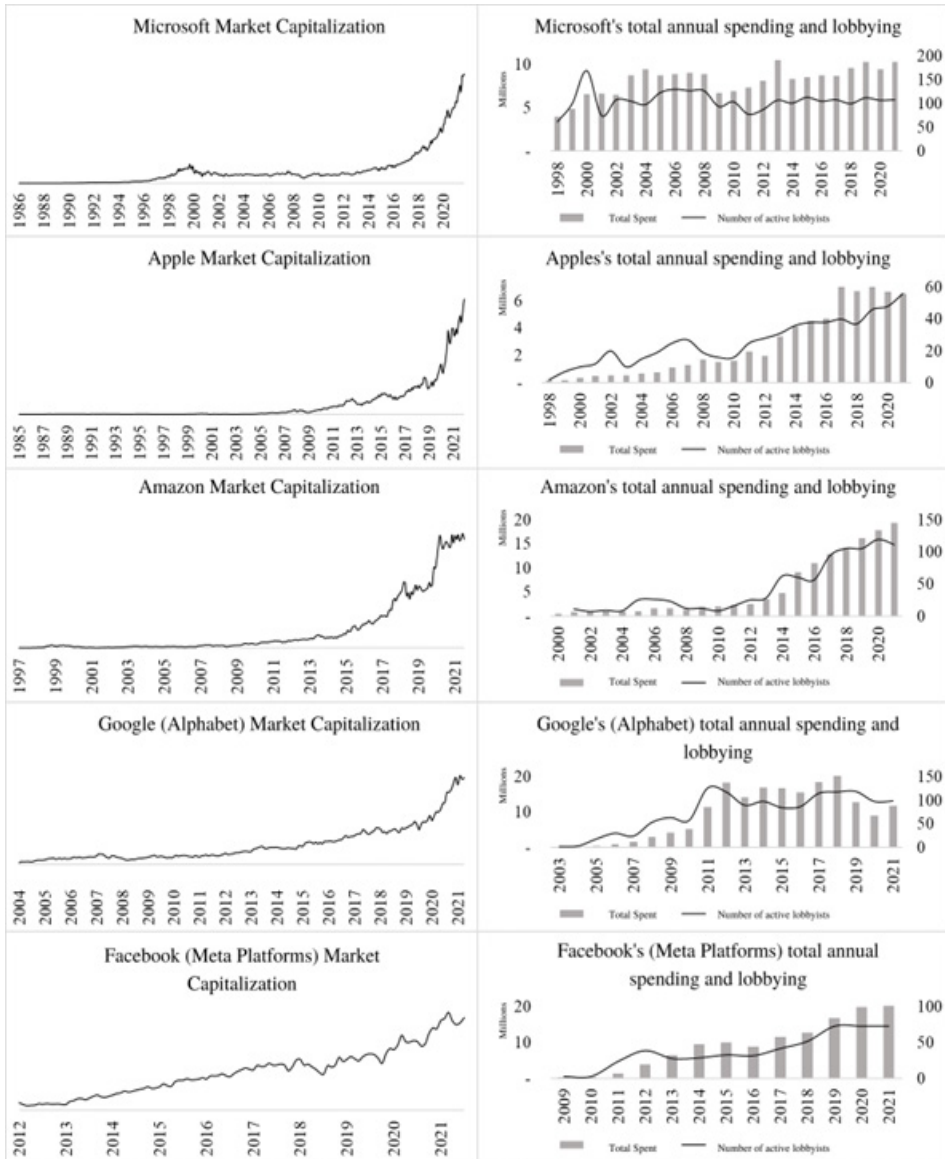
For its turn, Google, which had become closer to the Obama administration and played a significant role in digital, open, and big data strategies, launched its initial public offer in 2014. Since then, the company gained a relatively constant capitalization. Taking aside the 2020 period, in which all big techs benefited from the COVID-19 pandemics, the greatest growth gap happened from mid-2015 to 2018. The number of active lobbyists jumped from 2 in 2003 to 125 in 2011, a record high. The total amount spent increased from US\$80.000,00 in 2003 to US\$18.220.000,00 in 2012. After the restructuring conducted by the Alphabet holding, the total outlay reached another record high of US\$21.850.000,00 in 2018.

The Facebook conglomerate public offer, that now operates under the alias Meta Platforms, was released in 2013. Its market added value grew

exponentially, especially in mid-2014. The amount destined to lobby followed the trend of rising stock values: the number of active lobbyists raised from 2 in 2009 to a 72 peak in 2019. At the same time, amounts raised from US\$207.878,00 in 2009 to U\$16.710.000,00 in 2019.

By analyzing Facebook data, one can notice a considerable fall of its market capitalization in 2018 and 2019, and a rise in its lobbying activities from 2017 till 2020. These variations are a result of the Cambridge Analytica scandal during the 2016 American election. Facebook suffered a strong blow after the revelation that data from 50 million users of the network were leaked, without consent to Donald Trump's campaign. At that time this accusation was revealed by The New York Times and The Guardian and raised questions about privacy in the digital era and the impact of networks in democratic electoral processes. Ever since, the company is being targeted by the Legislative power, and, in a short period of time, these pressures hit all the big techs during the Trump Era, leading to the greatest ever antitrust investigation against the sector. After this period of expansion, the Trump era was characterized by the beginning of these companies' containment.

Figure 1: Market Capitalization and Lobbying Annual Expenditures of the five major multinational technological companies of the US



Source: Own Elaboration with Yahoo! Finance e Opensecrets.org (2022) data).

The Trump Era: The Beginning of Containment? (2017-2021)

As argued, the Obama administration created a favorable environment to the consolidation and expansion of technological companies. This sector had grown significantly and acquired even more economic power. At the same time, corporations that were better positioned in the market started the incorporation of competing business in a larger scale, building a digital oligopoly that started to exercise a greater influence in today's internet as we know it. Therefore, the US big techs that are part of this oligopoly turned into the main players of this "digital capitalism".

Calvano and Polo (2021) argue that one of the main components that favored this monopolization was the "network effects", a similar concept to the dynamics of the "rich getting richer". As a platform gains more users, the more attractive and popular it gets, adding more users, that, for their turn, bring more data- a similar logic to the proposed cyclic formula (D-C-T-D'-C'). The "Big Data, collected through usage of services, allow digital platform to calibrate their algorithms and profile their clients. In an antitrust perspective Big Data has been considered a source of incumbency advantage and a barrier to entry for new, small competitors" (Calvano and Polo 2021, 17). Added to the entry barriers generated by the accumulation of "asymmetric information" in the monopoly, risk capitals prefer to invest in already consolidated companies, which makes competition even more difficult.

In the mid-2016, an open public debate regarding the big techs power begun, beyond its economic dimension. The 2016 electoral cycle was characterized by a series of scandals involving the digital platforms as the usage of cyber tools by Moscow, benefiting Trump, Facebook data manipulation by Cambridge Analytica and the disinformation mass campaign (fake news) that blurred the sense of reality, inducing the "post-truth era" (D'ancona 2018). Data exploitation was determinant in the elections results. This raised the question that data have the potential to create political capital and influence democracy and could be explored by State and non-State players to manipulate public opinion and engine (Pybus 2019).

Compared to Obama, Trump's term had continuities and breaks. On one hand, his exaggerated nationalism promoted a revival of isolationism, imposing free trade barriers and harming multilateralism. On the other hand, as Obama, Trump argued in favor of digital modernization as an alternative to governmental shortcomings, keeping cybernetic issues as priority. The economic and technological rise of "revisionist powers" – mainly China-redirected the focus of national security to interstate competition, and clashes over emerging technologies once more were at foreign policy's core, as in the

Cold War.

However, Trump was not closer to the high-tech sector. His campaign was characterized by an exchange of accusations with the main Silicon Valley entrepreneurs, which did not support his nationalist, anti-migration, and anti-globalization narratives. Nevertheless, there were convergent issues such as the promises of deregulation and tax cuts. Yet, in the last years of the government tensions deepened, and Trump tried to cut down the power of these companies with Executive Orders, and, at the same time, the main platforms banned the President from their networks.

This process took place in a moment when in-depth issues were being discussed. The big techs' economic, political, and societal influence provoked a series of Legislative and Judiciary regulatory investigations, at the federal and state level in the US, and in other countries. Summing up, they created popular products that are part of most of the world's population daily life and the government's concern is that they had become too dominant, holding some type of structural power that no country ever had. So, both Congress Houses, the main moderator of monopolistic power, launched a comprehensive anti-trust investigation against the big techs in 2019.

Continuities and Changes in Cybersecurity Policies and Impacts of China's Digital Rise

Donald Trump was not a conventional President, being considered an outsider, apart from the political life. His campaign was characterized by a nationalist narrative and anti-system conservative, exploiting his image of a businessman as an alternative to Washington's political establishment. The electoral cycle that had brought him into power was surrounded by a series of controversies, such as mass disinformation campaigns (fake news) that messed up with the sense of reality, due to the sell and manipulation of private data of digital platforms users- making use of determined political content to direct and induce voting- and suspicious towards foreign interference. During 2017-2018 these scandals gained ground in the media. Among them, accusations of Russia's interference in favor of Trump were confirmed in 2017 by the Director of National Intelligence in the study *Assessing Russian Activities and Intentions in Recent US Elections*, a result of CIA, FBI and NSA collaboration. In the document's declassified version, the intelligence community had identified the use of cyber tools by Moscow to influence public opinion and undermine people's faith in US democratic process through the internet.

The Cambridge Analytical scandal was uncovered in 2018 involving Facebook's data violation. The case was discovered by a joint press investigation conducted by The Observer, The Guardian, and The New York Times, that "published, together, at the same time the article entitled How Trump Consultants Exploited the Facebook Data of Millions" (Fornasier and Beck 2020, 185). This company, which focus was the mining and treating of social network data was hired by Trump and played a relevant role in his victory. At that time, it extracted private data form Facebook, without users' consent, to create and spread segmented political campaign in the networks. "Federal Election Commission (FEC) records from 2016 compiled by the Center for Responsive Politics (CRP) show disbursements of \$5.9 million from the Trump campaign to the data firm" (Trish 2018, 33).

As Pybus (2019, 227) argues, this data manipulation was determinant in the 2016 electoral results. The case showed that "the data that we generate, are not only producing economic value, but also gaining political influence [...]". Added to the logic of economic capital extraction of digital capitalism, the data that is being held by these big companies has a huge potential to create political capital in the 21st century.

It is important to highlight that data analysis application to electoral processes was neither new nor discovered by Trump in 2016. Obama also had made use of these techniques in his presidential campaigns. In the 2012 dispute when the new medias and smartphones were already popular and spread on society, as mentioned, a significant part of the campaign staff was focusing on it- as "Donald Trump dedicated 44% of his campaign budget for digital media" (Ayres Pinto and Moraes, 2020, 72).

Despite the similarities on big data exploration, when compared to his predecessor, 2016 elections brought up a new logic due to the applied methods. The issue was not only related to information analysis. The main issue was the violation of individuals' privacy, whose data was extracted from the platforms without consent by malicious agents. These agents gathered privileged information, manipulated them, and created mechanisms to spread propaganda and fake news against opponents. Several times, the contents of this misinformation campaigns are linked to people's emotions and spilled over quickly on the networks. This leads to the "internet's "opinion bubbles in the post-truth era, in which there is a closeness with similar thoughts profiles that distance themselves from what is different" (D'ancona, 2018).

The increase of the internet's and social media influence on political campaigns and democracy overlapped with the rise of the extreme right in the Western world, mostly in the United Kingdom, Brazil, and the United States. Radical groups were effective in taking part in the platforms, employing

methods of data extraction and misinformation campaigns to rise into power. This logic was present not only in Western democracies and was utilized by the Islamic State which make use of social networks to broadcast its terrorist ideology (Câmara, 2016). Therefore “we can notice that the internet- first seen as a tool for democratization that would increase popular participation and freedom of expression- is being manipulated by political groups against its own institutions and democratic values” (Ayres Pinto and Moraes 2020, 81).

Apart their ideological difference, both Trump and Obama argued that a stiff governmental bureaucracy was making citizens’ life and prosperity harder. This rigidity works against the flexibility demanded in a much more connected and interdependent world and can hinder economics. So, governments shared the same view in fighting for digital modernization as a means to surpass these governmental deficiencies, upholding cyber issues as a priority in their National Security Strategy (United States 2017) and later on the National Defense Strategy (United States 2018a). Added to these most well-known documents, Trump’s White House released the National Cyber Strategy (United States 2018b), reassuring cybersecurity strategic plans. In all these documents, the rise of rogue states in several areas, in the technological and economic ones were seen as a source of concern.

With the economic and technological rise of new players, mostly China, “inter-state strategic competition, not terrorism, is now the primary concern in U.S. national security” (United States 2018a, 02). This national security paradigm was framed in a context of fast changes generated by technological disruption, as the control of emerging technologies by “revisionist powers” pushed the DoD towards the modernization of forces since globalization transferred most of the advanced technologies to commercial and civilian branches, inside and outside the US. DARPA, in its 60th-anniversary commemorative book, showed some concerns regarding the diffusion and popularization of dual use technologies, that this agency once developed as a leader, stating that this historical change demands more caution (Atta 2018).

The military’s adaptation to this new international environment (both technological and geopolitical) had become a cornerstone of the Trump’s era defense strategies, to improve US competitiveness. Amongst the technologies that changed the character of war and that lacked modernization, the National Defense Strategy highlights “advanced computing, “big data” analytics, artificial intelligence, autonomy, robotics, directed energy, hypersonics, and biotechnology” (United States 2018a, 03).

In addition, the White House, with the OSTP, sustained a series of policies to support key civil industries to strengthen innovation and the economy. Among them, one can mention the American Artificial

Intelligence Initiative, which goal was to ensure American leadership in Artificial Intelligence (AI) technologies and the National Strategy to Secure 5G, that searched to assure US leadership of the next internet generation (United States 2020). Besides these incentive strategies, the publication of the Foreign Investment Risk Review Modernization Act (FIRRMA/2018) by Trump as a relevant action to protect forthcoming industries from foreign players interference, mainly Chinese influence in the global economy and in the development of new technologies.

Trump and The Big Techs Convergences and Divergences: From an Attempt of Closeness to the Historical Ban of the Executive Chief

To uphold his technological and digital policies, Trump depended on the partnership with the private sector, but his relations with the high-tech sector were not so friendly. His campaign was characterized by some squabbling with the main entrepreneurs of the Silicon Valley that sustained previous years trends, financing the democratic ticket. In a Fox News interview, Trump accused Jeff Bezos (Amazon) of buying the Washington Post to gain political power and to avoid paying taxes with the support of Legislative representatives. Google was blamed for “hiding” bad news about Hillary Clinton, his main opponent in the presidential run. When it comes to Apple, the former President pushed the company to stop making its iPhones in China, redirecting its production lines to the US to create jobs. Trump made non-stop criticism to Apple’s investments in foreign plants and the accumulation of billions of dollars in fiscal paradises, to avoid US tax system, as in the case of its Irish branches, as uncovered by a Senate investigation in 2013. At the same time, his chief strategist, Steve Bannon’s narrative was that “Asians detain a lot of power in Silicon Valley”, hinting that the sector was serving Chinese interests (Solon 2016, n.p.).

The chief executives of these companies were very critical of Trump’s electoral proposals. The former President was in favor of imposing barriers to immigrants’ entry, ending trade deals and making Chinese imports difficult. However, most of the Silicon Valley business are dependent on the import of technologies and gadgets from China, benefit from trade deals and hire highly qualified immigrants’ services- and the sector is in high demand for this kind of visa- deepening the conflicts with the Republican during the electoral race even more. Nevertheless, after his victory there was some sort of appeasement. On one hand, companies come to an understanding that the new President would soon have power to make decisions on critical issues

for them and their stockholders and in the establishment of governmental contracts and antitrust operations opening. On the other hand, Trump, in the same way as Obama, needed to feed his big tech connections to sustain the strategies of digital and military modernization as well as new policies due to these companies' know-how and the governments dependence on them.

Tensions rose once more at the end of 2018. The peak was reached in 2020, amid a new electoral cycle, which was characterized by a stronger big tech influence in the democratic process. In a different manner when compared to 2016, the main digital platforms tried to contain the spillover of fake news in their networks, either the ones related to the election itself or the ongoing COVID-19 pandemic. Among the measures upheld by social media, mainly Facebook, Google (Youtube) and Twitter, one can highlight the flagging of "fake either/or suspicious content" posts and the definitive exclusion of users and the blocking of profiles in the network.

Trump was one of the most affected by these companies' corporate policies. During all 2020, the former President posted a series of fake news about the electoral process, suspicious of groundless cheating practices and negationist comments related to the pandemics. Several of his posts were flagged with warning labels or definitely removed from the platforms. With the companies standing up to him, the ex-President increased the attacks against them, frequently threatening to regulate them. One of Trump's (2020) main initiatives towards were the release of the Executive Order on Preventing Online Censorship, had, as it goals to limit the companies' power "to censor opinions form which the disagree".

Even though the justification for these attacks was to cut down the power of these companies and to "protect democracy", the former President attitudes against institutions during the 2020 presidential race represented a greater threat. After his electoral defeat, Trump called upon his social media followers to gather in Washington on January 6th, 2021, a data in which both Legislative House were going to ratify his opponent win. At that time, he claimed that elections were fraudulent and summoned his supporters to press Congress to reject Joe Biden's victory, which led, as result, to the historical US Capitol invasion. Because of January events, Facebook, Twitter, Instagram, Twitch and Youtube definitely banned Donald Trump from social networks. For the first time in US history, an Executive Chief faced the silencing of his voice, making the big techs companies' huge power clear- a power that neither the Legislative nor the Judiciary can immediately access.

The Legislative Antitrust Investigation: Breaking the Oligopoly to Protect the Market or the Power of the State?

All these facts had taken place when deeper issues were being discussed in US Congress. Besides Trump, the Congress and the Judiciary were already debating the range of big techs power since 2018, mostly after the 2016 elections Cambridge Analytica scandal. The companies influence on the day-to-day people's life led to a series of investigations in the US Legislative and Judiciary as mentioned (at federal and state level), and outside the country, mainly in the European Union. In the US, the US Department of Justice, together with the Federal Trade Commission (FTC) – an agency responsible for upholding antitrust federal laws- launched a series of investigation against the monopoly of tech companies.

Legislators from both Congress chambers, put pressures on the big techs with their own antitrust initiatives. US Congress, who represents the Legislative, is composed by the Senate and the House, and, during most of the American history was the power that fought against monopolies the most. One of its core missions is to “provide common defense and the general welfare of the US”, sharing powers with the Executive (Pecequilo 2013, 10). Therefore, both chambers acted so that no group was able to control the US economy and democracy, historically facing off, powerful monopolies in past centuries.

One of the core investigations against the power of the technological oligopoly was led by the Subcommittee on Antitrust, Commercial and Administrative Law do House Judiciary Committee, the older second major permanent committee on Congress. In June 2009, the committee announced a comprehensive bipartisanship investigation with the purpose of investigating digital market competition in the 21st century. The scrutiny was justified to protect the market from transgressions, keep the principles of free competition and market afloat and alive and study if antitrust laws needed to be adapted to the “digital era”.

The targets were Amazon, Apple, Facebook, and Google, and were an answer to concerns raised about the platforms by several national and international agencies that had been denouncing its abusive practices and opening procedures in several instances. During the investigation, Congress was able to gather 1,3 million documents and collected depositions of executive leaders of each firm, to find elements of non-competitive practices that were affecting US economics and democracy. In October 2020, the committee released its final report under the title Investigation of competition in digital markets: majority staff report and recommendations, presenting

the results of the 16-month inquiry and indicating the main findings and recommendations.

Although each of these four companies focus differ, the Congressional document revealed common problems in their business practices. One of the issues pointed out was the fact that they make use of their strategic position to uphold market power. Since they control most of the digital infrastructure and the datacenters with global privileged information, they map rival potential rival companies so that, eventually, they could by, copy or eliminate competition threats to maintain its dominance (United States Congress 2020, 06). In fact, the rise of big data controlled by smaller groups generated concerns either related to antitrust questions or consumers. “All of the classical market failures – asymmetric information, negative externalities, market power, and bounded rationality – are potentially exacerbated or face new complications due to data” (Jin and Wagman 2021, 02).

These practices favor the monopolization of pre-established dominant groups, erode innovation and entrepreneurship due to the lack of competition and affect democracy and the privacy of citizens constantly violated by companies. To contain this influence in US Constitution core principles, the Congress committee presented some recommendations to be implemented in the short and long run. Among them can be mentioned the breaking of monopolies through “structural separations and prohibitions of certain dominant platforms from operating in adjacent lines of business”; “interoperability and data portability”, requiring platforms to make their services compatible with various networks to make content and information easily accessible and portable – thus aiming to break the monopoly of sectoral data and information; prohibition of future acquisitions, and finally, reform of antitrust laws for the digital age and strengthening of law enforcement agencies (United States Congress 2020, 19-21).

Although Congress investigation was justified to “protect the free market”, reading the document one can notice that the representatives’ real concerns were deeper. When addressing the CEOs depositions, already in the third paragraph, Jeff Bezos (Amazon), Tim Cook (Apple), Mark Zuckerberg (Facebook) and Sundar Pichai (Google), the document points that “their answers were often evasive and non-responsive, raising fresh questions about whether they believe they are beyond the reach of democratic oversight” (United States Congress 2020, 06).

Later, whereas dealing with the effects of market power, concerns are raised as the power of the platforms may harm not only economic freedoms but mainly political freedoms (Ibidem, 18). In addition, legislative authorities and the courts of justice had found out that platforms

repeatedly violating laws and court orders. This pattern of behavior raises questions about whether these firms view themselves as above the law, or whether they simply treat lawbreaking as a cost of business. Lastly, the growth in the platforms' market power has coincided with an increase in their influence over the policymaking process. Through a combination of direct lobbying and funding think tanks and academics, the dominant platforms have expanded their sphere of influence, further shaping how they are governed and regulated (United States Congress 2020, 19).

Therefore, theoretically, the pressures from Congress are not only directed to "protect the free market" but, as well, are initiatives that seek to remedy the lack of regulation. The main concern relates to the political power that these companies conquered in their actions inside the State and in US democracy. The capacity of the oligopoly to control the flow of global information and to define who can access them, the control of technical knowledge of rising military technologies and to provide the digital infrastructure that allows the integration of global world chains of production is some sort of novelty structural power.

Big techs economic power is only one of the matters of concern of several State institutions in the US and should not be taken for granted. As Knorr (1973) mentions, economic power is constitutive of a nation's military power and can be used as an efficient "weapon" against rivals and has the potential to cause more damage than a direct military attack. Therefore, economic power significantly broadens the ability to act in other dimensions of structural power.

The Trump era was characterized by an initial attempt to control the power of these companies. This containment was a consensus amongst all US political sectors and was desired by Donald Trump and Joe Biden's presidency nowadays, both Houses of Congress, and Democrat and Republican representatives as well. The ultra-conservative Senator Josh Hawley (2021), one of the main critics on the Republican side, even stated that these companies, formerly seen as symbols of American freedom and democracy, had become "tyrannies" that threatened the whole pillars of the American Way of Life.

This control attempt rises in a context of bipolarity revival with China, in a fight for international hegemony, a reality overshadowed since the Soviet Union fall. To sustain its technological leadership whereas confronted by China's rise, the US need to promote the competitiveness of its "innovation ecosystem", encourage the R&D of emergent technologies in the public and private sectors and safeguard itself from intellectual property theft and the transfer of critical information to this Asian country, The concentration of structural power in the digital oligopoly is an obstacle to these geopolitical

strategies, which justifies State's actions in search for a greater control in the "data era", similar to the defining role it exercised during Cold War's "information era" in the 20th century.

Final Remarks

The goal of the article was to analyze the relationship between the big techs and US politics, in the Obama and Trump governments, dealing with the periods of expansion and containment of each presidency. The hypotheses were based on the idea that the attempts to contain the big techs in the Trump era were not only limited to fight for the "free market", but also as initiatives to repair the consequences of this very own free market, which led to the oligopolization and centralization of power in huge technological corporations.

The results of this research showed that the oligopolization of the big techs was, in fact, a consequence of a rampant free market, of deregulation and the dismissal of antitrust laws. This context favored economic concentration on smaller pre-established groups that, for their turn, gained influence in public decisions through lobby. Added to their economic and political power, another element to be considered was the concentration of privileged and sensitive information in the tech oligopoly. Besides being able to make the economy crumble due to "asymmetry of information" effect, this component affects other aspects that balance the functioning of international relations in the post-Second War.

The ability to control the flow of information in the "digital public sphere" (mostly by the Facebook group and Google), to hold the technical knowledge for the development of military and security emergent technologies (in particular Microsoft, Apple e Amazon) and to provide security systems that allow the integration of global value chains of production and finance (all five companies), represents a concentration of structural power in a few private players that no State was ever able to retain. Recently, these companies' investments in cryptocurrencies show their desire to enlarge their influence even in the flow of money, trying to evade the control of central monetary authorities.

It is possible to ascertain that the oligopoly built expanded its actions to other known dimensions of structural power and despite some particularities and divergencies, the largest five big techs act as one and indivisible unity in the pursue of its similar and shared interests. As Susan Strange (1988) defined, structural power is the power to change the structures in which States,

companies and institutions operate, going beyond known international rules and norms. These companies are framing the global environment in each they act even more, taking stances on issues that the States failed to oversee. They have influences on technologies and services that will drive the next industrial revolution and determine how powers project power in the 21st century.

Therefore, the attempts to contain the big techs that had begun in the Trump era are not measures to “protect the free market”. They are, in fact, initiatives to repair the neoliberal consequences that led to the oligopolization and centralization of structural power in huge technological corporations. This containment attempt searches to rebalance the unequal balance of power, since the concentration on the technological sector led to an imbalance in the global political economic structures. One can pinpoint that US government pressures had come in a moment of revival of bipolarity with China in a hegemonic clash.

To sustain its technological leadership in the ongoing fourth industrial revolution, the US needs to assure permanent innovation, R&D investments and to protect itself from privileged information transfers to its rivals. The formation of monopolies is a reality that disturbs these strategic and geopolitical goals and justifies the current State’s actions to regain control in the “data era”, as it was in the 20th century “information era”. If Trump and Congress representatives really wished for a free market, they would certainly not banish Chinese technological companies in the US, or apply sanctions, but would rather leave the invisible hands of the market self-regulate the economy.

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ABSTRACT

The 21st century is characterized by the transition of industrial to digital capitalism. In the last few years, an oligopoly was built in the US to explore these emerging digital resources, gaining ground during the Obama government. After this economic expansion the Trump era was faced by problems regarding the political power of the huge corporations of this sector. It was the beginning of an attempt, by the Executive and the Legislative, to contain them and protect the free market and individual freedoms. But are these containment attempts really an initiative to only protect the “free market”? To answer this question, the goal of the article is to analyze the relations of the big techs with US policies during the Obama (enlargement period) and the Trump governments (containment attempts).

KEYWORDS

Big Techs; Digital Capitalism; United States.

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