

# State Adoption of Cryptocurrency: a Case Study Analysis of Iran, Russia, and Venezuela

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## ABSTRACT

The emergence of digital currency is becoming prevalent in the age of globalization – specifically, cryptocurrencies, a subset of digital currency that encompass revolutionary technology. This study postulates that certain governments are more prone to adopting cryptocurrencies, especially those seeking to eschew international sanctions and protect corrupt practices. Three comparative case studies focus on countries (Iran, Russia, and Venezuela) that share attributes that result in adopting what has been called "native cryptocurrencies": corruption, GDP level, economic volatility, and Western sanctions.

## KEYWORDS

Cryptocurrency; Blockchain; Political Science; Law; Foreign Sanctions; Government; Iran; Russia; Venezuela

## INTRODUCTION

The adoption of cryptocurrencies can foster inclusiveness through increased transparency or manipulation to further corruption. What motivates certain countries to adopt native, government-backed cryptocurrencies? This study examines governments that have expressed an interest in cryptocurrencies, the first global decentralized currencies, through groundbreaking and revolutionary technology that facilitates non-traditional currency transactions at a rapid pace. The celerity and originality of these new currencies may make them quite attractive to governments like Iran, Venezuela, and Russia (studied here) that feel constrained or shortchanged by established, traditional currency markets and mechanisms.

This article seeks to assess if cryptocurrency adoption by national governments is most likely to occur in states run by kleptocratic regimes and experiencing well-established challenges to their currency systems, such as U.S. sanctions, economic volatility, and the weight of a "resource curse" (resource-rich countries). I use the terms 'kleptocrat' and 'kleptocratic' according to usages found in the academic literature:<sup>1</sup> rulers and regimes that thrive due to practices that dispossess citizens of pecuniary and other resources, such as land. According to the authors, this is a trait quite common in developing countries that otherwise rely on extractive economies: "Many developing countries have suffered under the personal rule of 'kleptocrats,' who implement highly inefficient economic policies, expropriate the wealth of their citizens, and use the proceeds for their glorification or consumption" (p. 162).

Cryptocurrencies are a subset of digital, decentralized currencies that revolutionize traditional fiat systems as no one entity can control or manipulate the market. The ownership of each transaction is approved cryptographically by other nodes in the network system, forming the Distributed Ledger Technology (DLT), known as the blockchain.<sup>1</sup> Public blockchain ensures the ability to trace the history and application, making it impossible to commit fraud, manipulation, and corruption; this may increase trust in the system. Due to the transparency and high efficiency of public blockchain, each transaction is recorded and validated by multiple stakeholders, limiting corruption and manipulation in nation-states.<sup>1</sup> Private blockchain is similar to public blockchain in the peer-to-peer transactions and a consensus chain of blocks. However, a major distinguishing factor is permission entrance.<sup>1</sup> Unlike a public blockchain that has public transparency and accessibility to the ledger, private blockchain requires permission for the distributed ledger to be visible to those invited. Therefore, transactions are censored and can only be visible to the group. Private blockchains have the authorization to monitor all transactions made by the public. This allocates power in the hands of those invited into the blockchain, allowing room for government control and corruption, and limiting transparency and accountability.<sup>1</sup> As opposed to global cryptocurrencies, native cryptocurrencies run on a private blockchain, which can foster kleptocracy and corruption as well as illicit conduct in efforts to strengthen the ruling elite resulting in expansion of powers and authoritarian politics.<sup>2</sup>

Native cryptocurrencies can push personal agendas of kleptocratic leaders through the private blockchain, only accessible to the issuing government (and invited authorities). This likely enhance corruption and allows kleptocratic behavior by certain states.<sup>3</sup>

The literature suggests that native cryptocurrencies tend to emerge in politically unstable countries that meet certain conditions: inflation, high economic volatility, and Western sanctions.<sup>3</sup> These conditions also seem to be prevalent in resource-rich countries with kleptocratic regimes in power. Kleptocracies have extractive economies, which are characterized as a small group of individuals controlling the domestic market in an effort to exploit the population.<sup>4</sup> They extract wealth from one subset of society to benefit another, restrain free market growth, limit public participation, and facilitate increased levels of corruption. Kleptocratic regimes with extractive economies abundant in resources are known as “resource cursed.”

The resource curse theory holds that countries with a high abundance of natural resources have fewer opportunities for economic growth and democratic governance. In resource-rich countries, political instability occurs when such dysfunctional state policies are enforced, leading to mismanagement of resources and plummeting prices, therefore, hurting the economy.

Gabriel V. Rindborg<sup>5</sup> and Jules Hirschhorn et al.<sup>6</sup> both agree an important concept associated with resource-rich states is high economic volatility. In resource-rich countries with kleptocratic regimes, volatility creates instability attributable to high dependency on resources and the lack of economic diversification.

Another contributing factor that deters the economy is the mismanagement of resources, executed by the elites for corrupt intentions, which creates an inefficient economy.<sup>7</sup> Yadollah Dadgar and Rouhollah Nazari<sup>8</sup> concluded most oil-producing countries are involved in economic corruption and described the foundations of economic corruption; the more transparent an economy is, the fewer opportunities for corruption.

Dadgar and Nazari<sup>8</sup> show that economic corruption can be combated through transparency and institutions that can function effectively. However, limiting economic corruption in kleptocracies is hard, especially if the kleptocratic authority has supremacy over all state resources, severely limiting the possibility of a transparent and inclusive economy.

According to Hirschhorn<sup>6</sup>, cryptocurrencies offer a good chance of curing high economic volatility and enhancing nation-states' ability to break away from traditional systems without compromising security or legitimacy but rather increasing traceability and transparency. Robert Viglione<sup>9</sup> concludes cryptocurrencies allow greater economic freedom because of their decentralized nature and peer-to-peer transactions. He claims that citizens living under highly repressed economies that experience limited freedom, limited political participation, high trade barriers, and inflation tend to transmit funds into cryptocurrencies to maintain the current value of money. Governments fighting Western sanctions find cryptocurrencies appealing as they open more opportunities for economic trade globally. Viglione's statistics on Russia and Venezuela reveal both countries have relatively low economic investment and financial freedom.<sup>9</sup>

Inflation can prompt countries to issue government-backed cryptocurrencies in an effort to bolster the economy.<sup>10</sup> It is controlled by the central bank, which seeks to keep inflation rates within permissible boundaries so as not to harm the economy. There is a positive relationship between a government's budget deficit and inflation.<sup>11</sup>

Cryptocurrencies have become a viable solution that encompasses digital currency and cyber security capabilities while addressing inflation. Publicized cryptocurrencies are immune to hyperinflation, whereas native cryptocurrencies can be inflated in the hands of kleptocratic regimes that manipulate them for self-serving purposes.<sup>1</sup>

Western sanctions are another factor that can prompt the development of native cryptocurrencies. Considering some countries have an unstable economic system with inflation and devalued currency, sanctions intensify these symptoms, forcing governments to find alternative cures to alleviate the epidemic. Most sanctions imposed have the intention to put pressure on another nation to comply with Western ideology. In the long run, this policymaking and stigma of resorting to sanctions undermine the intended purpose of enforcing them in the first place. Kleptocratic regimes are coerced into finding an alternative, and cryptocurrencies emerge as such because they question the power of the dollar.<sup>3</sup>

Deane R. Konowicz<sup>3</sup> shows kleptocratic regimes are more likely to engage in digital currency theft due to their preexisting criminal enterprise behavior. He lists five cryptocurrency strategies that enable countries to circumvent U.S. sanctions; first, state-controlled cyber activities of stealing digital currencies are possible, especially in Russia, whose advanced cyber capabilities allow it to potentially access cryptocurrencies through cyber hacking.<sup>2</sup> Second, countries are experimenting with cryptocurrency mining, which is a process through which transactions are verified and added to the blockchain digital ledger. Governments can employ citizens to mine cryptocurrencies for them, free from reliance or interference from other countries. Third, a national cryptocurrency backed by resources is another solution that gives countries financial independence from U.S. sanctions. The

fourth strategy enables multiple states to form a common cryptocurrency, which will be revisited later in the paper in discussing BRICS. Finally, a state's population could resort to utilizing digital currencies freely because of the economic impact sanctions may create.<sup>3</sup> All these strategies are possible; however, the case-study countries are similar in their reliance on resources, which makes the third strategy most attractive. Thus, for the purposes of this paper and limited resources, the third strategy will be the central focus.

**METHODS AND PROCEDURES**

A complex statistical analysis would be most adept at determining the relationship between the factors identified above, which would typically be classified as dependent variables (adoption of cryptocurrencies) and independent variables (Western sanctions, economic volatility, resource curse, low GDP, and high levels of corruption). But, given the limited availability of data and the fact that the number of cases of state cryptocurrency adoption worldwide is under fifty countries, statistical analysis would not be feasible or even the best option. Instead, I will use Mill's method of agreement, where I will seek to determine if my independent variables of interest, or "attributes," lead to the outcome of cryptocurrency adoption, suggesting a possible correlation, if not outright causality.

The factors that lead a government to transition to blockchain technology and adopt cryptocurrency have not yet been determined. Blockchain is a revolutionary technology without precedent, therefore, making it challenging to assess historically. Thus, this study faced hurdles when researching transaction volume in governments and overall data in these countries. First, measuring corruption is a difficult task in itself. Next, cryptocurrency is an emerging field with limited publications; hence, specific sources currently published were included to ensure the credibility of this research. Such sources include peer-reviewed journals, projects, and government statistics. Also, the three case study countries have high levels of corruption, bribery, and lack of transparency, which may result in unreliable and tampered data. Finally, cryptocurrency and blockchain are more understood in finance and technology, as these concepts are commonly paired together, whereas this research encompasses an unprecedented perspective that focuses on political science and theory.

I have operationalized each attribute as follows. Higher levels of corruption may result in the adoption of native cryptocurrency. Hence, I quantified kleptocracy on an international scale. I used the Corruption Perception Index<sup>12</sup> to assess the three countries in this study. They were ranked on a scale from 0 to 100 based on public perception of corruption, with 0 being the most corrupt and 100 being the least corrupt. Additionally, I utilized the Economic Freedom Index<sup>13</sup> and Human Freedom Index<sup>14</sup>, which operate on the same scale described above, to further measure kleptocracy. I measured Gross Domestic Product (GDP) using the World Bank<sup>15</sup> with the expectation that all three countries have lower GDPs than other developing countries due to high amounts of corruption. In this paper, I will examine economic growth in terms of GDP annual growth; hence, if the countries display negative percentages of growth, this will define lower levels of economic growth. Alongside GDP, I will examine hyperinflation as consumer prices rise more than 50% a month. When receiving data from the World Bank, if export revenue in natural resources, such as gas or petroleum, comprises over 50%, I classified the country as economically dependent on one main resource. Another critical component in my analysis is Western sanctions. Embargoes and sanctions on resource-rich countries limit trading interactions internationally, which accounts for a lower GDP. Thus, there is a potential relationship between Western sanctions and the depreciation of the domestic currency, which will be discussed below. After Western sanctions had been in place for a while, I measured if the domestic currency had gradually inflated, deflated, or remained the same. Table 1 summarizes attributes based on the literature review and the methods of measurement that will test for common attributes in case study countries.

Attributes	Definition	Measurement
Kleptocracy	Corrupt form of government that "rules by theft"	Economic Freedom, Human Freedom Index, Corruption Perception Index
Corruption	Misuse of power to fulfill individualistic goals to acquire greater power	Corruption Perception Index
GDP	Total value of goods produced annually	World Bank
Economic Volatility	Vulnerability to international fluctuations, possibly due to lack of economic diversification	Export revenue exceeding 50% classified as economically dependent, measuring depreciation of currency, and inflation
Western sanctions	The United States and European Union imposing economic sanctions: penalties imposed on the economy to produce the desired outcome	U.S. and E.U. sanctions on case study countries

Table 1. Main attributes based on literature review.

To best assess the realities that led to the adoption of cryptocurrencies in the three countries, I have conducted detailed case studies of each. I will present these case studies next, followed by a comparative study of the three based on the method of agreement.

### COMPARATIVE CASE STUDY COUNTRIES

#### *Case Study Selection*

I sought to analyze why countries adopt cryptocurrencies since it seemed countries developing cryptocurrencies were resource-rich kleptocratic regimes. Three countries with well-known kleptocracies were chosen to analyze interest in cryptocurrencies. I selected countries currently undergoing development with limited research that could pose a potential threat to the United States hegemon: Iran, Russia, and Venezuela fit these criteria. These countries were selected due to their shared attributes, such as facing Western sanctions, hyperinflated currencies, and abundance in natural resources, all with corrupt regimes in power. This relates back to the idea that government adoption of cryptocurrencies can be either for inclusiveness or furthering corruption, which will further be explored through the case-study countries. Although other countries have adapted or supported state-backed cryptocurrency, such as Estonia, the three case-study countries were chosen to measure what attributes are more likely to result in government adoption of cryptocurrency. While there are other (more democratic, less corrupt) countries that have adopted cryptocurrencies (China, Estonia), the scope of my paper is limited by time and resources, and thus the focus on countries that share several attributes and some lack of variation in the selection of cases. I see the value in the inclusion of more varied cases in a future project. Hopefully, one will develop while completing graduate-level work.

#### *The Islamic Republic of Iran*

In Iran, clientelist relations and corruption have been affiliated with the high-ranking clerics of the Islamic Republic, who have access to innumerable political and economic privileges. The source of income is the rentier state and oil.<sup>15</sup> Oil is an abundant resource that has given Iran the opportunity to achieve vast amounts of wealth if managed wisely. However, Iran's natural resources are in the hands of the state and of its kleptocratic leaders.

In 2017, Iran's GDP growth dropped 3.8% due to dissipating oil prices and the effects of Western sanctions. According to the World Bank,<sup>16</sup> growth came from non-oil sectors, such as services (4.4%). Iran's GDP from 2018 and 2019 will be interesting to note due to the high influx of Western sanctions and travel bans intact.

Global relations open doors to international trade and greater wealth, and Iran's GDP could be impacted by the severance of Western ties. For these reasons, the government will have to devise strategic plans accordingly to circumvent the impact of sanctions. According to the 2019 Index of Economic Freedom,<sup>13</sup> Iran scored 51.1, ranking 155th freest in the world. Public debt is equivalent to 40% of the GDP. Investment freedom scored the lowest, revealing Iran has repressed opportunities to advance its economy through foreign direct investments. State-owned commercial banks and specialized financial institutions, appointed and reviewed by the Supreme Leader, account for most of the financial sector.

Iran is not part of the WTO, and Western sanctions decrease the openness of the Iranian economy<sup>8</sup> leading to less transparency and more opportunity for corruption.

In 2011, seven state-owned and private Iranian banks were involved in a \$2.8 billion embezzlement case, possibly including forged documents. Subsequently, in 2014, there was another embezzlement scandal worth more than \$4.5 billion from the Tejarat Bank. Scholars have found a positive relationship between the number of corruption cases and oil revenue – there was an \$11 million increase in oil revenue from 1984 to 1989 and almost double the number of corruption cases during this time as well. Dadgar and Nazari<sup>8</sup> noted that Iran was ranked 138 out of 180 countries internationally.<sup>17</sup>

Before the Nuclear Deal was officially implemented in 2012, Iran endured sanctions on the Central Bank of Iran, importation of oil in seven major customer countries, and other economic sanctions. The United States was hoping sanctioning Iran could ultimately pressure the regime to forfeit any possibility of developing nuclear weapons. Consequently, economic sanctions and oil sanctions caused volatility in the exchange rate of Iran. The rial lost 80% of its value, and the reliance on the importation of goods led to increasing inflation rates.<sup>18</sup> According to the World Bank, Iran's inflation rate rose 19.6% from 2011 to 2013. Another impact of Western sanctions is blocked access to Society for Worldwide Interbank Financial Telecommunication (SWIFT) which is an internationally recognized identification code for banks around the world. Iran no longer has access to SWIFT and cannot pay for imports or receive payments for exports.<sup>19</sup>

The Supreme Leader of Iran has introduced a new concept to circumvent the hurdles of Western sanctions, known as Resistance Economy.<sup>19</sup> This plan was expected to help combat Western sanctions and keep Iran's economy afloat. To save the deflated currency, the regime is in the process of developing a native government-backed cryptocurrency.<sup>20</sup>

Because Iran lacks modernization in technology, medicine, and architecture, the country relies heavily on imported items which drives inflation rates higher, depreciating the value of the rial. If executed correctly, the Resistance Economy should alleviate the impact of threats issued by the West and help regenerate the economy. Adopting cryptocurrencies is another viable option for the regime. Given the series of imposed Western sanctions and efforts to improve the economy, Iran's adoption of cryptocurrency is permissible under Shari'ah law and, in fact, could bring a new era to the Middle East region.<sup>20</sup> The future of Iran's economy might hinge on the creation of native cryptocurrencies.

Iran is appealed to developing native cryptocurrencies in an effort to dodge brutal conditions the economy is enduring at a consequence of Western sanctions. The head of the Civil Defense Organization of Iran stated that "cryptocurrencies can help bypass certain sanctions through untraceable banking operations," clearly indicating Iran will privatize blockchain if transactions are "untraceable."<sup>21</sup> The adoption of cryptocurrencies will stabilize economic conditions by tokenizing the rial, facilitating trade in cross-border transactions, and bypassing Western sanctions. Iran has developed a native cryptocurrency, but the United States has passed the "Blocking Iran Illicit Finance Act," forbidding the use of digital currencies, like Venezuela in the preliminary stages of adopting the petro.<sup>21</sup>

Iran shows evidence of increased use of digital currencies among the population. Hadi Nemati, an Iranian cryptocurrency researcher, stated, "Bitcoin is a utility because it gives access to the world economy."<sup>23</sup> Iranians invest in Bitcoin because they have limited financial freedom and access to international fiat currencies. The population and government are seeking cryptocurrencies to skirt sanctions, which could pose a potential threat to the dollar.<sup>3</sup> With another round of sanctions, specifically targeting Iran's petroleum industry, the adoption of native cryptocurrencies remains a priority.

#### *The Russian Federation*

The economy in Russia made a gradual transformation from a centrally planned system into a market economy, its newly formed ruling oligarchy determined to capture the state's wealth, becoming a kleptocracy. The income inequality gap grew, shielded by weak legal and political institutions.<sup>22</sup>

Corruption is consistent in Russia, be it petty corruption, the bribing of low-ranking officials, or high-level corruption: large and illegal appropriation of state resources (privatization) by kleptocratic elites.<sup>23</sup>

Russia has an abundance of resource-rich commodities. Russia's natural gas extraction grew by 8.2% in 2017, accounting for over one-third of global growth. Russia's oil reserves rank 6th in the world and possess 18% of the largest gas reserves in the world, similar to Iran and Venezuela. In 2009, oil and natural gas accounted for 80% of the country's export. These attributes result in an economy volatile to global market fluctuations.

Recent Western sanctions have placed limitations on Russia's foreign policy ambitions and impacted its economy. The ruble depreciated by 50%, foreign direct investment has decreased by 5%, and oil prices have dropped 50%.<sup>24</sup> Devaluation of the ruble against the dollar has been caused by falling oil prices. Because Russia's economy depends on resources, Russia has developed a native government-backed cryptocurrency, known as the CryptoRuble, with an alternative version to blockchain called MasterChain to alleviate U.S. sanctions.<sup>25</sup>

A buffer layer is coded in MasterChain; any funds will be accessible to the Russian oligarchy and hidden from the Federal Reserve, United States Government, and the European Union. The development will grant Russia's monetary system independence from Western central banks' supervision. Hence, the CryptoRuble could effectively launder money through the Russian authorities and kleptocrats while escaping Western sanctions and privatizing the blockchain system.<sup>25</sup>

Russia's cryptocurrency would be backed by commodities such as gold and oil. President Putin's advisor, Sergi Glazyev, stated, "cryptocurrencies may help Russian banks avoid international sanctions" and supports the creation of a digital ruble.<sup>3</sup> Russia has utilized the functions of cryptocurrency mining, and Russian energy companies, such as Gazprom and EuroSibEnerg, recently declared they were negotiating the sale of 70 Bitcoin-mining companies.

#### *The Bolivarian Republic of Venezuela*

Venezuela is a petro-state with three interrelated attributes: export revenue is highest in natural resources, economic and political power is concentrated in the kleptocracy, and political institutions are weak and unaccountable, resulting in increased amounts of corruption.

Corruption permeates the political, social, and economic realm in Venezuela, with bureaucrats disregarding regulations and citizens paying bribes to compensate for the lack of basic government services.<sup>26</sup> According to the 2018 Transparency International Corruption Perception Index, Venezuela was ranked 168 out of 180 countries. Venezuela has an extensive history of political instability caused by mismanagement of resources, lack of transparency, and high amounts of corruption committed by the ruling elite – Maduro’s administrative party.<sup>6</sup>

Oil constitutes 98% of Venezuela’s exports, creating heavy dependence and high economic volatility.<sup>27</sup> Washington imposed sanctions targeting Venezuela’s oil industry to deplete Maduro from obtaining a vital stream of income, leaving a profound effect on the economy.

Venezuela’s cryptocurrency, known as the petro, is backed by oil, gold, gas, and diamond reserves<sup>28</sup> and is aimed at controlling the money supply and avoiding Western sanctions imposed by U.S. President Trump in 2017.

President Maduro stated that his “government would issue nearly \$6 billion of petros as a way to raise hard currency and to evade financial sanctions imposed by Washington.”<sup>27</sup> This development was accomplished with the assistance of Russia’s cyber capabilities and speculated to be a practice-run of how the CryptoRuble would operate.<sup>3</sup> The petro’s value has been pegged on the market price of oil and is backed by a “purchase-sale” contract. The petro is controlled by the Venezuelan Executive, making this the first state-backed national cryptocurrency.<sup>28</sup>

In efforts to fight hyperinflation, Maduro announced that the “Sovereign Bolivar” will have its value anchored to the petro. The Sovereign Bolivar is a new currency that eliminates five digits from the current currency, with the value linking to the petro.<sup>28</sup> The petro fluctuates in accordance, forming an interdependent relationship between these two currencies.

Another reason for cryptocurrency is to help alleviate debt. The petro serves as an instrument of financing for the Venezuelan government to issue debt to be traded among parties and accompanied by the illegal promise of an oil reserve guarantee. Looking deeper into the Presidential Decrees, it was discovered the petro was a creative tactic developed to address Venezuelan debt by using blockchain technology disguised as currency.<sup>27</sup> These oil reserves that were allegedly supposed to back the petro were “potential” and not yet developed. Therefore, the petro was sold at the price of the Venezuelan oil basket at the time but was illegitimately backed by nothing.<sup>28</sup> The main purpose of the petro was formed to relinquish the kleptocracy from exorbitant debt, whereas the Sovereign Bolivar aimed to control hyperinflation.

The petro is considered a variation of cryptocurrency; it was a promise from the Maduro regime that one petro could be traded for a physical oil barrel.<sup>27</sup> The Maduro administration misled the population to create an illusion of stability, but with the ulterior motive of addressing debt. At best, the most beneficial aspect of the petro is trade. For example, the petro can trade goods or services, other cryptocurrencies, or pay the state with no interest rate.<sup>28</sup> If the state were to correctly execute this, the petro could have alleviated hyperinflation and provided a stronger economic base in Venezuela. However, given Venezuela’s past of constant corruption with issuing debt and illicit drug trade, blockchain can also assist with strengthening Maduro’s kleptocracy. If the distributed ledger is privatized, this will allow the government to fulfill its agenda of illicit trading and further corruption scandals. The illicit drug trade has been a constant epidemic, and governments may be lured into moving this operation onto a private blockchain to hide their transactions more effectively. Private blockchain only allows access to those invited, and transactions are anonymous. Thus, if governments continue their drug trade agenda, they can potentially succeed through the private blockchain. Venezuela is ranked the most corrupt country in this study and has officially adopted a native government-backed cryptocurrency on false pretenses.<sup>6</sup> Hence, this affirms the potential relationship between corruption and the adoption of native government-backed cryptocurrencies.

## RESULTS

The shared attribute of depreciating currency is the most probable reason for prompt cryptocurrency adoption, alongside Western sanctions, which isolate economies, whereas cryptocurrencies offer a revolutionary system of backing currency through state commodities, uninfluenced by the dollar. The main finding of this paper includes a potential relationship between certain attributes and the rapid adoption of cryptocurrency, which calls for future statistical research, but this analysis provides a starting point by identifying shared attributes that might drive this shared outcome. Within the case study countries, Venezuela’s findings demonstrate highly corrupt regimes (alongside other factors) are more likely to adopt native cryptocurrencies. However, in all three cases, it is worth noting that these governments are more prone to privatizing blockchains to enhance illicit activities. Iran, Russia, and Venezuela have expressed interest in various forms of illicit behavior, and because these countries are relatively corrupt in the global eye, a private blockchain can continue to fulfill such agendas.

Figure 1: There is a distinguishable pattern when measuring corruption, social, and economic freedom in the case study countries. Venezuela scored the highest in all three indexes, translating to high corruption with high amounts of social and economic repression. The Corruption Perception Index is measured out of 180 countries, and the value assigned correlates to how corrupt the country is; hence, the higher the number, the more corrupt a country is. The Economic Freedom Index is measured on a scale of the lowest number representing freedom. Hence, the lower the number, the more economically free that country is. Because Venezuela scored 177, this translates to a highly restrained or repressed economy. Finally, the Human Index measures freedom based on the higher the number, the less free a country is.

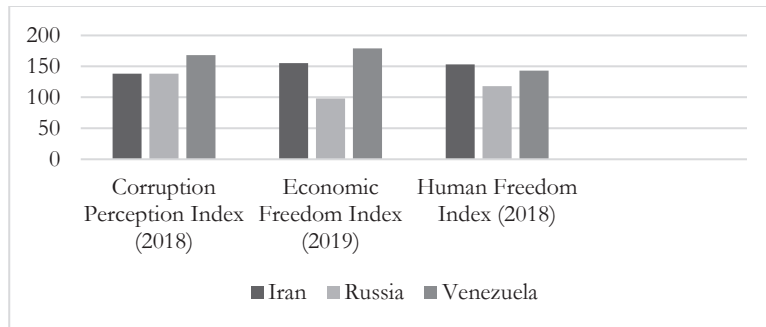


Figure 1. Corruption and freedom in Iran, Russia, and Venezuela Source: CPI (2018), EFI (2019), HFI (2018)

Iran and Venezuela had similar annual GDPs. According to the World Bank, in 2017,<sup>15</sup> Iran and Venezuela were in the bracket of \$400,000 million, whereas Russia exceeded \$1.5 trillion in annual GDP. However, further economic growth varies in these countries. Iran declined to 3.7% due to a shortage of oil export, Russia increased to 1.5%, and Venezuela scored -3.8%. Regardless of Venezuela's resemblance in GDP to Iran, the economy is rapidly shrinking and provides little economic growth, which explains the prompt adoption of cryptocurrency. Venezuela is suffering from a 254% consumer price inflation in 2016, labeling this as hyperinflation. Iran and Russia's economy experiences devalued currency with inflation, but insignificant compared to Venezuela. With Western-imposed sanctions, GDP growth is expected to fall and inflation rates to rise. According to the CIA Factbook,<sup>27</sup> 60% of export revenue is based on oil in Iran, and Russia scored similarly to this at 68%, while Venezuela's export revenue accounts for 98%.

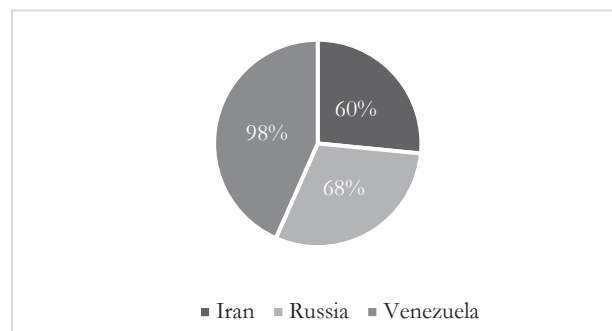


Figure 2. Crude Oil Export Revenue % (Source: CIA Factbook, Russia "B.P." (2018)).

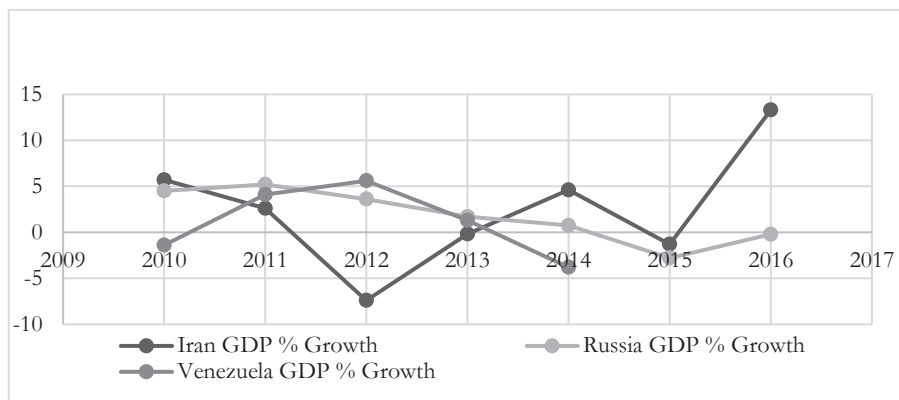


Figure 3: Iran, Russia, Venezuela GDP growth % (Source: World Bank).

Figure 2 shows the common attribute of economic dependence on crude oil, which may increase economic volatility in the market. In addition to oil, Iran and Russia’s export revenue also depends heavily on natural gas.

Figure 3: This graph highlights the rise and decline of GDP growth according to the World Bank.<sup>15</sup> Iran’s GDP growth declined to -7.4% in 2012 as the regime refused to comply with the nonnuclear proliferation agreement (the “Nuclear Deal”). In 2015, Russia’s invasion of Crimea resulted in Western-imposed sanctions, which accounted for -2.8% GDP growth. Furthermore, Western sanctions on Russia were enforced until January 2019, causing economic backlash. In 2014, Western sanctions were imposed on Venezuela due to the humanitarian violations, thus, resulting in -3.8% GDP growth. While this decrease might be caused by other factors besides sanctions, the impact of international sanctions on GDP is well established in the literature in several other cases.<sup>29; 30</sup> After 2014, Venezuela’s GDP was not recorded in the World Bank<sup>15</sup> and could not be graphed in Figure 1.7

Iran, Russia, and Venezuela have kleptocratic political systems that revolve around exploiting resource-rich capabilities and corruption for self-serving purposes. These kleptocrats have numerous characteristics in common, such as consolidating absolute power, committing election fraud to secure eternal reign, and inefficient state policies, amongst others.

The high deficit, depreciating currency, and inflation are the most significant factors that incentivize the adoption of cryptocurrencies. In 2013, the exchange rate between the Iranian rial to the dollar was fixed at 25,912 but dramatically increased to almost 33,000 in 2017, and currently, the rial has lost 80% of its value. In the wake of increased Western sanctions under President Trump, the rial is expected to depreciate continually.

Iran is now attempting to salvage the economy by utilizing its native cryptocurrency, even with the United States forbidding exchange. The case is similar in Russia and Venezuela. Russia’s ruble has significantly depreciated, but President Putin’s kleptocracy is developing CryptoRuble to alleviate economic pressures. Venezuela’s poor economic policy, extreme hyperinflation, and high amounts of debt led President Maduro to adopt the petro. The population has adopted Bitcoin to informally pay for basic goods because the domestic currency is devalued, depreciated, and essentially worth very little.

Kleptocrats have passed various economic policies to relieve these conditions – Maduro raised the minimum wage five times, causing inflation, Ayatollah Khamenei’s resistance economy plan, and Putin’s expansion of the private sector, which increased corruption. Ineffective efforts to alleviate long-standing damages to their economies have backfired due to poor execution. Hence, the creation of a new national cryptocurrency backed by commodities is appealing. The similarities in the political and economic realms explain factors in agreement; highly corrupted statist economies run by kleptocrats, abundance of resources, limited economic growth, Western sanctions with increased inflation, and devalued currency. Iran, Russia, and Venezuela’s socioeconomics resemble one another, which explains their shared interest in developing cryptocurrency.

Table 2 highlights the methods of agreement approach and outcome in case study countries: adoption of cryptocurrencies. The inputted number in corruption is based on the 2018 Corruption Perception Index.<sup>12</sup> GDP is primarily dependent on oil and natural gas, which can form an economically volatile country. While Iran and Russia experience growing levels of inflation and lower economic growth, Venezuela has severe economic conditions that likely pushed the Maduro administration towards the formal government adoption of a cryptocurrency immediately. In Iran, Western sanctions blocked the petroleum industry, pushing the regime to launch a native government-backed cryptocurrency.

	Iran	Russia	Venezuela
ATTRIBUTES:			
Corruption*	138	138	168
GDP Dependence on Natural Resources	✘	✘	✘
Inflation	✘	✘	✘
Low Economic Growth	✘	✘	✘
Economic Volatility	✘	✘	✘
Depreciated Currency	✘	✘	✘
Western Sanctions	✘	✘	✘

Table 2. Methods of agreement and outcome

Legend: X’s indicate present factor



In comparison to the other countries, Venezuela has the greatest economic dependence on resources, is impacted severely by Western sanctions, hyperinflated currency, negative economic growth, and is ranked the most corrupt country. However, GDP is not as significant in determining the country's likelihood of adopting cryptocurrency, and the more important distinction lies in GDP growth. Lower levels of economic growth, such as growing inflation rates, devalued currency, and lack of diversification, can lead countries to resort to using cryptocurrencies.

Internationally, there has been growing interest in adopting native cryptocurrencies. In developing resource-rich countries with kleptocracies ruling, the intent for cryptocurrency culminates in efforts to expand power and exploitation. To some extent, Iran, Russia, and Venezuela's kleptocracies view cryptocurrency as a bargaining chip to threaten the hegemonic power of the United States. This is distinguishable in BRICS, a unification of sanctioned countries under one blockchain and currency due to a shared set of attributes or a common goal. These kleptocracies have aligned interests in consolidating more power and circumventing Western influence.

Blockchain can easily enhance corruption in every socioeconomic sector through illicit state monopolies that leave greater room for mismanagement of resources and, consequently, lower levels of economic growth. Alongside mismanagement, reliance on export revenue solely generated from resources; increases volatility and allows for potential instability in all three countries. Cryptocurrencies emerge as a potential solution to stabilize conditions politically and economically in kleptocratic countries while still granting innumerable rights to conduct corrupt behavior.

The goal of this paper was to analyze factors that may result in the adoption of native government-backed cryptocurrencies in three countries: Iran, Russia, and Venezuela. The findings of this research are notable: shared attributes common in each kleptocratic country; resource-rich capabilities that are heavily exploited, unstable economic conditions such as inflation, Western sanctions that limit international trade and raise inflation, high economic volatility due to lack of economic diversification, and increasing rates of corruption likely lead to the adoption of native cryptocurrencies, and illicit state behavior through a privatized blockchain.

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#### PRESS SUMMARY

Advancements in technology are influencing and shaping international politics in an unprecedented era of changing times. This article analyzes the new trend of digital currency being cutting-edge and the application of governments adopting such technology. While digital currency transforms the political and financial realm, a select few governments are privatizing cryptocurrencies and blockchains to further break international law or threaten security of nations. In studying specific attributes these governments share, their conduct is more discernable, and international powers can conglomerate to prevent further corruption.