“Cryptocurrencies” Phenomenon and Geopolitical Risks

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Abstract

This exploratory study attempts to capture a new and emerging phenomenology, namely the relationship between cryptocurrencies, as an expression of global digitization, as a new business model - a process catalyzed against the backdrop of the Covid-19 pandemic - and the geopolitical, tension-ridden and sanctioned world in which we live. It is from this context that the aim of the study derives, namely to create a theoretical framework that captures the "crypto phenomenon" in an interdisciplinary approach. Being an incipient phenomenon, but booming during the pandemic period (2020-2022), the results of this study are based on an extensive and critical literature review, in order to synthesize, on the one hand, the phenomenology related to cryptocurrencies at the business/geopolitical interface, and, on the other hand, to propose in the literature a convincing and comprehensive phrase defining the new theoretical framework, namely "cryptogeopolitics". The results attest to this double relationship: 1. geopolitical risks have major effects on the crypto market (due to high speculation and increased volatility of cryptocurrencies) and 2. the inverse relationship, where cryptocurrencies become a geopolitical tool or can trigger a geopolitical crisis. Thus, the "added value" of this study lies both in the theorization of the concept of "cryptogeopolitics", filling a gap in the literature, and in the interdisciplinary approach to the business/geopolitics interface. The applicability is evident, both in the theoretical realm, by conceptualizing a current phenomenology, and in the practical realm, given the emergence of the cyber phase of humanity.

Keywords

Cryptocurrencies, Geopolitical risks, Geopolitics, Cybergeopolitics, Cryptogeopolitics.

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Introduction

Phenomenological context: In several recent studies (Neacșu, 2021; Neacșu and Chiciuc, 2021a; Neacșu and Matei, 2021) we have shown that humanity has entered a new phase of geopolitical evolution, namely the cyber phase. This is not a matter of choice or theoretical 'arrogance', as the globalization of the cyber dimension is as real as can be in all areas of life, with new phenomenologies, such as the one that is the subject of this study, testing our capacity for understanding.

The idea and the succession of the geographical phases of mankind, which have also determined the model of the world geopolitical system, through the types of geopolitical powers that have been strengthened, was developed by the great Romanian geographer and scientist Simion Mehedinți (1940), based on an idea of the German philosopher Herder, namely: history is geography in dynamic (Neacșu 2018). Thus, five phases have succeeded so far: I. continental (continental powers), II. maritime (maritime powers), III. aerial (air powers) - elaborated by Mehedinți (1940) -, to which were later added IV. space (space powers) and V. cyber (cyber powers), mentioned in Neacșu and Chiciuc (2021a). Each of these five dimensions cumulatively brought new attributes of power to the main actors on the world stage and shaped the geopolitical pattern. For example, the existence of the two space and nuclear superpowers during the Cold War (US and USSR) led to a bipolar world, followed by a unipolar one (after the USSR imploded in 1991), with a tendency towards a multipolar or nonpolar one (Haass, 2008), “turbulent” (Rosenau, 1994) or “visqueux” (Heisbourg, 2007), characterized through complexity and tense dynamic. It is precisely this latter cyber dimension that has given rise to these characteristics of the world we live in. Moreover, it is an "increasingly geopolitical world" (Neacșu, Neguț and Vlăsceanu, 2018, p. 870) or a "geopolitical society" (Munoz, 2013, p. 4). This phenomenological overlap - geopolitical/geo-economic and cybernetic (see also Neacșu and Chiciuc 2021a, 2021b) - constitutes the substrate of our study, from which we follow a single direction: the crypto boom as a geopolitical enabler and vice versa, the effect of geopolitical risks (developed in Neacșu, Neguț and Vlăsceanu, 2018) on cryptocurrencies.

Academical and theoretical context: These current realities have been under study for a long time in the formal framework of the MA Geopolitics and Business within Bucharest University of Economic Studies, where, among other things, the spatial and cyber dimensions of geopolitics have been thoroughly studied and have derived concepts such as: *exoeconomics* (Șapera 2013, 2015), *exobusiness*, *exopolitics*, *exostrategy* (Neacșu and Matei, 2021), *cybergeopolitics, cybergeostrategy* (Neacșu and Chiciuc 2021a, 2021b). The emergence of the cryptocurrency phenomenon and the geopolitical risks identified as such (until a few years ago, they did not appear separately in the reports of large insurance companies, see Neacșu, Neguț and Vlăsceanu, 2018) requires a new concept and a new term to capture the current phenomenology, the most appropriate being *cryptogeopolitics*. Accordingly, the present study is structured in three sections: 1. The "crypto" phenomenon - review of the scientific literature, 2. Research methodology, 3. Results and discussion: the effect of geopolitical risks on cryptocurrencies; cryptocurrencies as a geopolitical enabler; the emergence of *cryptogeopolitics*.

1. “Crypto” phenomenon – review of the scientific literature

1.1. Premises

The global economy has demanded fast and flexible payment instruments and the Covid-19 pandemic (2020-2022) has led to a globalization of digitalization. The effect? The development of previously non-existent platforms and technologies, individual access to them and investment "from home" (due to health isolation and traditionally unspent financial resources). In one phrase: crypto boom. A new "El Dorado", speculative, attractive by its easy access (from any laptop, tablet or ordinary smartphone) and high capitalization, without the regulations of a centralized system. A set of financial tools adopted by individuals, but also by big players, which, even in the case of the current war started by Russia on 24 February 2022 against Ukraine, have also become geopolitical tools: Russia accepts payment in cryptocurrencies for oil and natural gas sold, while the crypto space is also a refuge from the unprecedented international sanctions (removal from SWIFT), while Ukraine has received financial aid in cryptocurrencies and NFT (Non Fungible Token).

1.2. Brief history of crypto phenomenon. Definitions. Terminology

Brief history. Attempts to create an alternative virtual financial environment began as early as 1998, with projects such as B-Money and Bit Gold being the first attempts to offer an encrypted financial system. A decade later, a geo-economic risk - the subprime mortgage crisis in the US, resulting in the bankruptcy of the Lehmann giant (2007), which became an international financial crisis and then a global economic crisis (2008) - led to the rise of the first digital cryptocurrency, namely Bitcoin - an entire history of Bitcoin can be traced in Desjardins (2014) - "introduced peer-to-peer (P2P) alternative transactions that eliminated the need for financial intermediaries, allowed for anonymity, and also rewarded crypto miners with currency" (Raskin, 2022). Thus, in 2009, Satoshi Nakamoto (pseudonym) mined the first Bitcoin in a single network, laying the foundations of cryptography. It is the trading mode of this cryptocurrency that really reveals the ingenuity of its creator, namely blockchain technology, i.e. a system that stores information in such a way that it is impossible to alter or break it, plus the speed with which it is transmitted. In 2013, one Bitcoin was worth USD 1 000, in 2017 the number of listed digital currencies reached one thousand, and by 2020 the number will exceed 5 000 (Neufeld, 2020). In 2021, the crypto market would have a market capitalization of over $3 trillion (Conte, 2022).

Definitions. Terminology. A *cryptocurrency* is a “digital currency derived from cryptographic encryption techniques designed to protect the network” (Investopedia cited in Neufeld, 2020) and the *blockchain* is regarding “the underlying technology for cryptocurrencies, a public ledger that records transactions digitally” (Bankrate cited in Neufeld, 2020). Cryptocurrencies were just the beginning, innovations such as NFTs followed: assets identifiable by unique numeric codes (IDs) stored on the blockchain, unlike Bitcoin, for example, which is a fungible asset (one Bitcoin is the same as another Bitcoin). The fungibility of cryptocurrencies allows them to be traded, because by being identical the exact value is known. In the case of NFTs this is not possible given the uniqueness of each asset on the blockchain (the price represents an exclusive bid of a buyer; used in art, in particular, but, for example, Ukraine has also received donations in the form of NFTs). The latest trend, which is booming in the crypto market, is P2E (Play to Earn) games, which combine NFT technology with conventional coins.

To capture this new and dynamic phenomenology, the literature has seen a whole series of terms and concepts such as *techonomy* - "technology has become a central part of the economy in which we operate and the society in which we live" (Kirkpatrick, 2011) or *crypto economy* (Viens, 2019a) for the virtual economy, while McCormack (2021) speaks of *mass cryptography* and Melinon (2022) of *tokenization of society*. Digital finance has been enriched with specialist terms such as *crypto tokens*, *crypto currencies*, *crypto commodities* (Frankenfield, 2021; Sharma, 2021) or *cryptocurrency ecosystem* (Viens, 2019a). Even tourism has entered the "crypto era" - *crypto tourism* - Seth (2021) defining it as: "a form of tourism that caters to cryptocurrency enthusiasts by offering a packaged travel tours that can either be paid for with digital currency or offer lectures or classes about cryptocurrency as part of the tour". A term very close to the subject of our study is crypto politics (Ledbetter, 2021), but given the global reach of power games, economic games and digital finance, we propose the notion of *cryptogeopolitics*.

2. Research methodology

This research, mainly investigative and qualitative, was based, given the newness of the phenomenology addressed, on an extensive and critical review of the literature, in order to understand, on the one hand, the "geopolitical risks" (Caldara and Iacoviello, 2018, also measuring a specific index of geopolitical risk), and on the other hand, the crypto phenomenon. As a result, recent academic studies and research in geopolitics, reports and studies by several institutions, agencies, transnational companies and think-tanks have been used to reveal the emergence of cybernetics in general and cryptocurrencies in particular, which reconfigure the great global power games and bring new power advantages. Also, in order to outline a theoretical framework that analyses the phenomenology at the cryptocurrency/geopolitical risk interface, the study proposes the notion of *cryptogeopolitics*, to be tested in the literature through future research.

3. Results and discussion: the emergence of cryptogeopolitics

3.1. Effects of geopolitical risks on cryptocurrencies

As we have seen above, at the very root of the emergence of the first cryptocurrency (Bitcoin) was a geo-economic event, namely the global economic crisis of 2008. Thus, Nunes (2022) places the emergence of cryptocurrencies in a "turbulent geo-economic context" and, at the same time, paradoxical: as globalization was supposed to lead to an increasingly integrated and interconnected world - see the theory of complex interdependence (Keohane and Nye Jr., 1973, 2000) - as all actors became dependent on the financial market and the global supply chain, and as the liberal economic order was supposed to enhance and outweigh the national interest - a scenario imagined as early as the late 1980s by Fukuyama (1989) through the end of history - this did not happen. In reality, globalization has not only failed to enhance the global interest, but it has catalyzed tensions between certain states and international institutions, it has led to the centralization of power within global institutions such as the International Monetary Fund (IMF), the World Bank - real "private empires" (Neguț and Neacșu, 2022) -, the current conflict between Russia and Ukraine demonstrating that the SWIFT interbank system can also become a weapon or a geopolitical instrument ("the weaponization of international payment" in Nunes, 2022) used by one state against another (we disregard context and premises).

Then, every major geopolitical event (geopolitical risk) had immediate implications for the crypto market. For example, the Greek crisis (2009-2013), a government debt crisis that generated the so-called PIGS/PIIGS states phenomenon (Portugal, Italy, Greece, Spain, whether or not including Ireland) and even Grexit - the likelihood that Greece would have exited the Eurozone (see also Nelson, Belkin and Jackson, 2017) -, caused Bitcoin to rise by 87% (Raskin, 2022). Likewise, the Covid-19 pandemic led to a 50% collapse in March 2020, from $10,000 to $5,000 (Roberts, 2020), subsequently bursting to record highs and reaching over $66,000 for a Bitcoin in October 2021 (Bovaird, 2021). Escalating geopolitical tensions, the massing of Russian troops on the Ukrainian border and the perspective of war in Europe in early 2022 resulted in another collapse of around 50% in the value of Bitcoin to $35,000 (Ostroff, 2022), but the failure of a blitzkrieg desired by Vladimir Putin and the drawn-out military conflict led to further increases to around $45,000 (Makheel and Kharpal, 2022) as cryptocurrencies became a geopolitical tool. Moreover, a number of studies show evidence of a direct link between the the predictive power of global geopolitical risks (GPR) index and price volatility of Bitcoin (Aysan et al., 2019) or between geopolitical risks and the cryptocurrency market (Cheng, Yen and Chiu, 2022).

Geopolitical risks not only influence the evolution of cryptocurrency prices, but also lead to internal reconfigurations of financial systems, with the ouster of Iran (2021) and Russia (2022) from the global financial system (SWIFT) forcing both the Islamic State and Russia to adopt Bitcoin as a legal means of payment (Nunes, 2022), and the equivalent of $63 million in digital currency donations in March 2022 pushing the Ukrainian government to legislate the cryptocurrency field (Patel, 2022).

3.2. Cryptocurrencies as a geopolitical weapon

Several studies (Allyn, 2022; Dempsey, 2022) have put forward the idea of cryptocurrencies, and crypto-assets in general, as a geopolitical weapon or tool, especially in the context of the ongoing conflict between Russia and Ukraine. "Russia's invasion in Ukraine is the first crypto war" stipulated Allyn (2022): on the one hand, Ukraine was receiving financial assistance in cryptocurrencies, both to fight against Russian invasion and occupation and for humanitarian purposes, and on the other hand Russia could avoid international sanctions using the same tool. Also, Numbrs (2021) announced: 'Bitcoin has become a geopolitical phenomenon', firstly by turning it into a financial weapon against centralized systems, in order to gain independence from American global financial dominance, and secondly by geopolitical reset, with states/players getting on an equal monetary footing, which could lead to some kind of balance by boosting financial diplomacy.

Other studies have captured the effects of cryptocurrencies in the field of domestic geopolitics, with Sim (2020) investigating the impact of blockchain through the creation of the secure digital ballot box (a smart solution for electronic voting specific to any democracy), while Nunes (2022) highlighted the risks of using centralized financial systems as "an attractive model to even control citizens domestically, such as the case in Canada with the Trucker's Convoy".

Moreover, the resilience of centralized financial systems to the emergence of the crypto phenomenon has also been highlighted in the literature McCormack (2021) citing the IMF and Fleming and Pickford (2021) the G7 as reluctant to the new phenomenon: "a growing number of crypto investors can trigger a crisis that could potentially ruin the global economy" (McCormack, 2021).

“New kinds of digital money might become geostrategic vectors” CryptoMinded (n.d.) also states, referring to a kind of "Thucydides trap" (Allison, 2022) in a "digital Atlantis - a new continent floating in cyberspace where old powers fight and new powers emerge". It is also known that some countries have banned cryptocurrencies, e.g. China in 2021: "China is reportedly planning to prevent payment systems with outside technology, such as cryptocurrency development, from playing a major role inside China because... they have recognized... that this could be a direct threat to sovereignty." (former Secretary of State Hillary Clinton, cited in Numbrs, 2021).

3.3. The emergence of *cryptogeopolitics*

In addition to the above, we cite another example that illustrates the relationship between crypto and geopolitics, the case of Kazakhstan. In January 2022, large-scale and violent protests took place, which could have turned into a kind of "colorful revolution" (overthrowing the government, getting out from the influence of the Kremlin - which, incidentally, also intervened militarily to put down the protests and in the light of the upcoming events in Ukraine - and bringing about a trend towards Westernisation). Initially, the reason given was the rising price of natural gas, but there was another factor: many of the companies that were mining cryptocurrencies migrated to Kazakhstan, as the price of electricity was low (since mining is an energy-intensive process), but this led to an increased demand of energy. Kazakhstan had to import to cover this demand, and the price of electricity went up, and the victims were Kazakhs who were forced to pay over the odds. This is how the crypto phenomenon has triggered the manifestation of geopolitical risk, another example of the emergence of cryptogeopolitics (see Figure no. 1).

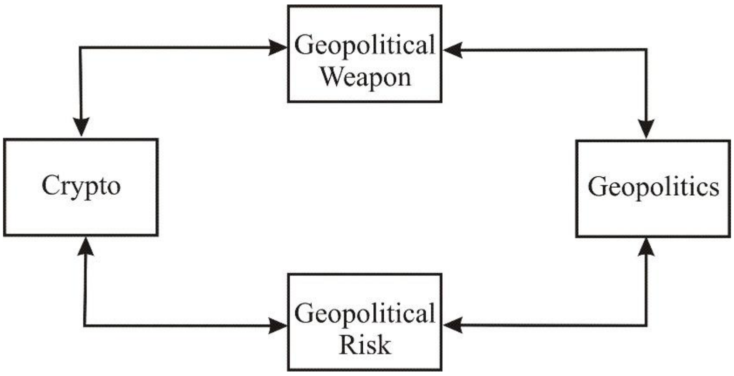

Figure no. 1. A simple schema of Cryptogeopolitics

Features of the cryptocurrencies that can increase their geopolitical potential. These (see also Viens, 2019a) include: (a) border lessness; (b) decentralized financial activities cannot be blocked by governments or relevant institutions (censorship-free), which can be a safety gate in case of international sanctions (see the cases of Iran or Russia), as the owners of these digital wallets have full control over the funds; (c) they are quite secure against cybercrime; (d) the transaction costs of cryptocurrencies are low, with few or almost no intermediaries; e) they are global in nature, with no spatial restrictions; f) they can provide a financial alternative to cyber or hybrid wars, which have this cyber component, given the vulnerability of traditional banking systems to cyber attacks on one side, and blockchain technology on the other, in an interconnected but globally decentralized information system used by cryptocurrencies; g) they can be traded offline/without internet access, via "meshnet"/"mesh networks" (Nunes, 2022), i.e. local networks connected directly to each other.

Crypto powers. Among the stakeholders owning and using cryptocurrencies are both state actors - governments (Venezuela), central banks (China, Sweden, Saudi Arabia) - and non-state actors - private investment funds (Harvard Endowment Fund, Crypto Hedge Funds), cryptocurrency exchanges (Coinbase, Bitstamp), banks and private financial institutions (J. P. Morgan, Fidelity Investments, Swissquote), transnational companies (IBM, Microsoft, RWE etc.), other organizations (Crypto Valley Association, Global Digital Finance etc.), see also Neufeld (2020). In fact, in 2020, the main countries mining Bitcoin were: 1. China 59.33%, 2. Russia 6.72%, 3. USA 6.68%, 4. Kazakhstan 4.63% of the world total (from Statista, 2022). After China banned both mining and trading of cryptocurrencies in the summer of 2021, a few years before being an "el dorado" of their own (in September 2019, mining 75.5% of the total), thanks to lack of regulation and low-cost electricity, their place was taken by the US (1st place), which reached over 35%, followed by Kazakhstan 18% (2nd place) and Russia 11% (3rd place) in August 2021, followed by Canada, Malaysia, Germany, Iran and others (Lu, 2021). Thus, in just two years (from September 2019 to August 2021), the US grew from 4% to over 35%, Russia from almost 6% to over 11% and Kazakhstan from 1% to 18% (for more details on annual medium values see Table no. 1).

Table no. 1. Distribution of medium Bitcoin mining hashrate (%), by country (09.2019-08.2021)

No.	Country	2019	2020	2021
1.	China	74	59	35
2.	Russia	6	7	8
3.	USA	5	7	21
4.	Malaysia	4	5	4
5.	Iran	2	3	4
6.	Kazakhstan	2	5	10
7.	Canada	1	1	5
8.	Germany	0,5	1	3
9.	Ireland	-	1	3
10.	*Others*	*5,5*	*11*	*7*
11.	**Total**	**100**	**100**	**100**

Source: adaptation after Statista, 2022.

Also, the main cryptocurrency regulations, at the national level, were mapped by Viens (2019b) and can be split into three categories: 1. banned (China, India, South Korea), 2. grey area - partial or pending regulations (UK, Lithuania, Russia in Europe, USA in America, Singapore, Japan in Asia, Nigeria in Africa), 3. regulated (Switzerland, Luxembourg, Malta, Estonia in Europe, Canada, Mexico in America, Australia).

The main dimensions of cryptogeopolitics. The current cyber-geopolitical world involves new configurations, which individualize, at least at the level of conceptual framework, cryptogeopolitics, as follows: A. *new players*: “those nations that will be able to absorb and accommodate bitcoin, through sensible legal frameworks, will have an advantage over those unable to compromise by virtue of their centralised systems” (Numbrs, 2021); B. *new game*: Bitcoin *versus* USD, as a store of value; for example, El Salvador used cryptocurrencies as a tool to achieve independence from US financial dominance (US dollar as the world’s reserve currency, US Federal Reserve, gold standard, SWIFT etc.); C. *new rivals*: using Bitcoin and other cryptocurrencies as a *financial weapon* (Thiel cited in Numbrs, 2021) against USD and US financial hegemony; D. *new system*: a new international world order which is based on a multipolar or non-polar reality – “a world dominated not by one or two or even several states but rather by dozens of actors possessing and exercising various kinds of power” (Haass, 2008); Bitcoin strengthens decentralised liberal democracies to the detriment of authoritarian regimes; E. *new equilibrium*: from geopolitics and geoeconomics to multilateral financial diplomacy (Numbrs, 2021).

Conclusions

The present research enriches the scientific literature with a new theoretical concept and term - cryptogeopolitics - to be tested by further studies, which have the potential to deliver a comprehensive and relevant theoretical framework for the analysis of a current and dynamic phenomenology at the interface between crypto and geopolitics. In the cyber phase of humankind that we are now experiencing, a geopolitical event may be local or regional, but the outcome is global and with immediate impact.

Cryptogeopolitics brings significant inputs on one side in analyzing and understanding the relationship between geopolitical risks and the crypto phenomenon, and on the other side it investigates how the crypto boom can provide additional geopolitical tools, e.g. the use of cryptocurrencies as a weapon. Moreover, we are now living in an era of a hybrid conflict (conventional conflict is combined with economic, cyber, informational, imagological conflict, all of which is well illustrated by the current war between Russia and Ukraine and its global implications).

In both the theoretical and practical aspects, the results presented in this study may constitute a mini-guide towards an understanding of current international phenomenology, which is useful for business as well as for any public official, in a framework with a strong international component and beyond.

The results presented in this study have some limitations, given that the phenomenology approached (the complex relation between cryptocurrencies and geopolitics) is current and in manifestation and this means: a gap in the academic literature, the volatility of the crypto and its unknown manifestation possibilities as both, finance and geopolitical tools, with all implications, uncompleted understood by now etc. Possible future research directions should aim at developing and enhancing the concept of cybergeopolitics, elaborating a specific definition and outlining the main components and areas of application and manifestation.

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