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## THE LESSON FROM THE UKRAINIAN CRISIS: CAN CRYPTOCURRENCIES DRIVE A SHIFT FROM POSITIVE TO NATURAL MONEY?

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## THE LESSON FROM THE UKRAINIAN CRISIS: CAN CRYPTOCURRENCIES DRIVE A SHIFT FROM POSITIVE TO NATURAL MONEY?°

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*Questo articolo discute la dimensione morale della moneta e come essa sia influenzata oggi dalle criptovalute nei mercati finanziari globali. Il suo argomento centrale è che nel conflitto tra Russia e Ucraina le criptovalute non solo si siano dimostrate funzionali all'attivismo umanitario, ma abbiano dato corpo ad una nuova comunità monetaria che attesta una radicale deviazione dalla sovranità statale classica sottostante la moneta legale. Di conseguenza, in questo contesto un significativo passaggio dal "denaro positivo" (pecunia posita) al "denaro naturale" (pecunia naturalis) si è già verificato. L'articolo indaga questo cambiamento sia da una prospettiva teorica che empirica, derivando delle considerazioni finali sulla intersezione tra la tecnologia blockchain (lett., "catena di blocchi") e la moralità della "catena umana" alla luce di una potenziale crescita di un nuovo modello di moneta globale a scopo umanitario.*

*This article discusses the moral dimension of money and how it is affected today by cryptocurrencies in global financial markets. Its core argument is that in the Russia-Ukraine conflict not only have cryptocurrencies proven functional to humanitarian activism, but they have also given body to a new monetary community that certifies a radical departure from classic state sovereignty underpinning fiat money. Accordingly, in this context a significant shift from "positive money" (pecunia posita) to "natural money" (pecunia naturalis) has already happened. The article investigates this shift both from a theoretical and an empirical perspective, drawing some final considerations on the intersection between blockchain technology and human-chain morality in the light of the potential rise of a new model of global humanitarian money.*

### Summary:

1. Introduction
2. *Pecunia non olet*: Rome and the *nomos* of money
3. From positive to natural money
4. Supporting Ukraine through cryptocurrencies as global humanitarian money
5. From blockchain technology to human-chain morality: cryptocurrencies as a democratic medium and the future of humanitarian money/community

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° Double blind peer-reviewed paper.

## 1. Introduction

This article looks at the rise of cryptocurrencies as a tool for humanitarian aid within the context of the Ukrainian crisis. More specifically, if the Ukrainian crisis has prompted a global reaction in support of war victims, the capability of cryptocurrencies to work as a decentralised channel for humanitarian aid, independently from governmental infrastructures, leads in these pages to an original investigation on the morality of money and its ongoing transformation in global financial markets<sup>1</sup>.

For this purpose, the article combines a theoretical and an empirical methodology to investigate the morality of money in relation to cryptocurrencies.

On the theoretical side, by contesting the old wisdom of the Latin maxim *pecunia non olet*, the study introduces the idea that the *value* of money is not neutral but *does* depend on its origins and its destination: in other words, the purpose of the payment gives *value* to the means of payment itself when contextualised in the normative order (*nomos*) that characterises the use of money (section 2). This is further explained by introducing in section 3 groundbreaking terminology for future research on the matter, namely the concept of “positive money” (in Latin, *pecunia posita*: state-made currency whose legal tender is imposed) as opposed to “natural money” (*pecunia naturalis*: money embodying a moral dimension, whose value is recognisable beyond the formal legitimacy of *pecunia posita*).

On the empirical side, the article subsequently looks at donations through cryptocurrencies to Ukraine, in relation to their types, destination, and management, as a new form of global humanitarian money whose nature has moved away from the classic notion of fiat money towards democratic *values*. In this context cryptocurrencies have already become a medium to promote values of freedom, peace, and solidarity (hence, *pecunia naturalis*) (section 4).

To conclude, section 5 binds the theoretical and empirical parts of the research to discuss how and to which extent cryptocurrencies can drive a shift from positive to natural money in the global economy. Here, embracing media theory (through Marshall McLuhan) and reflecting on how much *money* (as a medium of exchange) *can be valued in relation to the (democratic) impact of the exchange* itself, final conclusions will be derived on ongoing processes of social (monetary) re-tribalisation beyond the traditional boundaries of fiat currencies and *pecunia posita*. Accordingly, the Ukrainian experience will be interpreted as a “lesson” for future humanitarian action that could potentially lead to the structuring of a new monetary tribe at the

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<sup>1</sup> A preliminary version of this article was written with the research collaboration of Oheobe Esther Ode, who graduated at the School of Law of Birmingham City University, and the funding support of a BLSS Start-Up Grant. The paper was presented under the title “The lesson of the Ukrainian crisis: on the social nature of money and the rise of a global humanitarian cryptocurrency” in the conference *Money as a Democratic Medium 2.0*, co-hosted by Harvard Law School, Cambridge, MA, and Hamburg Institute for Social Research, Germany, 15-17 June 2023. This published version is the outcome of an extensive re-elaboration of the contents. For this, I would like to express my sincere gratitude to the two anonymous referees of IANUS editorial committee who gave me fundamental suggestions to improve the quality of the work.

intersection between blockchain technology and human-chain morality, so to foster a new model of humanitarian money (*pecunia naturalis*) at a global level.

## 2. *Pecunia non olet*: Rome and the *nomos* of money

*Pecunia non olet*, commonly translated as “money does not stink” (more precisely, “money does not smell” – the meaning of *olere*, in Latin, is neutral, so that it does not have, in itself, any negative connotation), is a famous phrase ascribed to the emperor Vespasian (AD 9-79).

Vespasian (full name, *Caesar Vespasianus Augustus*) was the founder of the Flavian dynasty and reigned for a decade (1 July 69 – 23 June 79) after the first Roman civil war, during which four emperors ruled in succession (Galba, Otho, Vitellius and, last, Vespasian). The so-called “Year of the Four Emperors” (AD 69) marked a moment of rebellions, harsh disputes, social crisis, and condemnation towards Roman elites: nothing exceptional for ancient times, and certainly not unknown to our contemporary lives as well. According to historians, the first Roman civil war was ignited by the social decadence that started under the reign of Nero (*Nero Claudius Caesar Augustus Germanicus*), in power from AD 54 to 68, who committed suicide at age 30 after being declared a public enemy by the Roman Senate. After the Great Fire of Rome (AD 64, July), as well-known, Nero’s reputation was deeply undermined by the allegation that it was arson committed on the emperor’s behalf.

However, his early administration of the empire was acclaimed by his contemporaries – with Nero’s advisors Burrus and Seneca being credited for this success. Under their guidance, Nero’s fiscal reforms (aimed at imposing stricter control over local tax collectors) were well received, despite the introduction of new taxes. One of them was the *vectigal urinae*, a tax on the disposal of urine. Urine, at Roman times, was an essential ingredient for several chemical processes (such as whitening woollen togas), and for this reason it was collected from public urinals and sold to merchants; the buyers had to pay the tax. The tax was removed after a while but re-enacted by Vespasian to help filling the treasury after Nero’s follies. Not by chance, Italy and France keep the memory of Vespasian in their language, calling public urinals, respectively, *vespasiano* and *vespasienne*. There is no doubt that Vespasian was a very good administrator, who was able to enrich the treasury by the introduction of numerous sources of income – despite the complaints of Roman citizens. History reports that a citizen very close to Vespasian, his son Titus, raised the point of the disgusting nature of the urine tax. To reply to this observation, Vespasian gave him a gold coin and asked him if he felt offended by any smell: at his denial, the emperor remarked that that money came precisely from urine (*atqui ex lotio est*), from which the maxim *pecunia non olet* derives.

However, against Vespasian’s wisdom, the idea that the value of money does not depend on its origins (or its destination) can be put under criticism.

Far from being a neutral medium of exchange, money affects the daily practice of our economic dealings while being intrinsically connected to the whole of legal,

social, and political interactions of the community to which we belong. Hence, one can say that money enjoys its own “morality”, where voluntary customary usage (“moral” from the Latin *mos*, “manner, custom”) is backed by the subsistence of a “normative order”, a *nomos*: the former and the latter being collectively practiced, shared, and endorsed in a certain social group. In the light of this, sovereign power (the beholder of the law, here personified by Vespasian) can hardly posit (i.e., impose) “fiat money” only by decree, if not backed by public trust; in the same way, when mechanisms of inflation, recession, or depression take place, monetary policies are adopted to restore that trust. If this intervention is not effective, “positive money” (money that is *positum*, “imposed” by the state as expression of political power, but also of public order) becomes unable to reflect social “monetary *nomos*” and, then, it is soon replaced by alternative “natural money” that can better work as store of value (for instance, commodities such as precious metals, gold, or silver), unit of account and means of exchange (the rise of cryptocurrencies, e.g. bitcoins, represents the most recent example in this regard). It is indeed the criterion of public trust that fosters the morality of positive money by its convergence with natural money: the public gives political credit to the sovereign to the extent to which through its *nomisma* (currency as “monetary *nomos*”: the etymology of the Latin word *nummus*, coin, relates to the Greek *nomisma* as well) people can trust receiving economic credit in the reciprocity of their dealings. In doing so they use money as something that represents (as store of value, unit of account and means of exchange) their shared/mutual needs and values in/for participating in the same community<sup>2</sup>.

Through the use of the adjective “positive” and “natural” this article has implicitly made here a conceptual link between money and the couple “positive law” (sovereign law imposed by degree) and “natural law” (the kind of law whose legitimacy derives from providing “what is right”, to wit, “rights”), that has been discussed for centuries in Western jurisprudence and on which this study will come back more extensively in its next section. On the same matter, Aristotle, in his *Nicomachean Ethics*, underlines the deep intersection between monetary practice and normative/social order by noting the etymological correspondence in Greek language between “currency” (*nomisma*) and “law” (*nomos*), both related to the need for the subsistence in any given community of a standard for exchanges and social relations established by common agreement. «There must [...] be one standard by which all commodities are measured [...] money has become by convention a sort of representative of common need (demand); and this is why it has the name “money” [*nomisma*, customary currency] – since it

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<sup>2</sup> This paragraph re-elaborates ideas that have been already expressed in CATTELAN, *Sacred Euro: sovereign debt(s) and EU's bare credit in the Corona crisis*, in GEPHART (ed.), *In the realm of Corona normativities*, Frankfurt, 2020, 195-208.

exists not by nature [*physis*] but by “law” [*nomos*, “custom, usage, law as natural/social order”, distinct from *lex posita* or *ius positum*]»<sup>3</sup>.

What is relevant in this passage by Aristotle is that he refers to the Greek concept of *nomos*, not of *lex* (which is what the Latins would have opposed to *ius*, the “normative science of what is right or wrong”, more in a social / moral sense). *Lex* relates to the rule that is “enacted” and so “imposed” (hence, “positive” [better, “posited”] law) by means of enforcement by the entity in power in a certain territory, from which the English concept of “law” derives (which corresponds to the German *Gesetz*, the French *lois*, or the Italian *legge*). The perils of translation here (re)appear, since, as noted by MacCormick, in English language: «“[l]aw” is at best an imperfect rendering of *ius*, for there is as much of *lex* as of *ius* in “law”. [Instead,] *Recht*, *droit*, *diritto* work better as translations [of *ius*], precisely in being ambiguous between the English “right” in various of its sense and the English “law”»<sup>4</sup>.

In this sense, the Greek concepts of *nomos* (normative order) and *nomisma* (monetary order) certainly align more with *ius* rather than *lex* in referring to a set of social system that is recognised within a certain human community. Hence, as indirectly suggested by Aristotle, money itself becomes a vehicle of meaning (and so, possibly, of a “good smell”), a medium of “values” whose *nomos* is never purely neutral from an economic perspective but relates to a “narrative” of leaving together, where we «inhabit a *nomos* – a normative universe»<sup>5</sup>. As remarked in a famous article by Cover, «law and narrative are inseparably related. Every prescription is insistent in its demand to be located in discourse – to be supplied with history and destiny, beginning and end, explanation and purpose. And every narrative is insistent in its demand for its prescriptive point, its moral»<sup>6</sup>.

If the nature of money (*nomisma*) equals that of law (*nomos*), the “morality” of money should be judged in relation to the purpose towards which money is used, especially if one aims to the construction of a global society that aspires to values of sustainable development, democracy, and financial inclusion. In this light, the narrative of the Ukrainian crisis (see Cover, previous paragraph), with the extent to which it has prompted a global reaction in support of the victims of the war, represents a significant case study to investigate the morality (*nomos*) of money not only in relation to its destination, but also through a process of forging (natural) money in a situation of collapse of institutionalised channels of capital creation and investment transmission through traditional fiat currency. In fact, going beyond the limits of national currencies and domestic monetary regulation within state jurisdictions (the traditional sources of “positive money”), in the period of conflict a new form of “natural money” has appeared by means of a

<sup>3</sup> ARISTOTLE, *The Nicomachean Ethics*, Book V, 1133a.

<sup>4</sup> MACCORMICK, *De iurisprudencia*, in CAIRNS - ROBINSON (eds.), *Critical studies in ancient law, comparative law and legal history*, Oxford – Portland, 2001, 81.

<sup>5</sup> COVER, *The Supreme Court, 1982 Term - Foreword: nomos and narrative*, in 97(1) *Harvard Law Review*, 1983, 4.

<sup>6</sup> *Id.*, 5.

global movement that has found alternative instruments of fund channelling mainly through crypto donations to support Ukrainian citizens.

Elaborating on the employ of an alternative currency as a form of “natural money”, this article interprets the spread of cryptocurrencies in our global society as further evidence of the social dimension of money. This interpretation will concentrate on the impact of the moral engagement in favour of Ukraine in relation to values of freedom, peace, democracy, and solidarity that go beyond the boundaries of national systems of monetary governance.

### 3. From positive to natural money

*Pecunia posita* (“positive money”) can well summarise the idea of fiat money, the state-made currency which has legal tender and is “posited” (hence, “imposed”) by a certain national government, like the dollar in the US, or supranational institution, like the euro in the EU.

As outlined in the previous section, this concept can be borrowed from a much long-established tradition of legal thought which focuses on the idea of “positive law” (*ius positum*, from the Latin verb *ponere*, “to put”) in terms of law which is applied by the will of the ruler. In this sense, Vespasian’s motto *pecunia non olet* was certainly “positive”, as direct effect of a tax that was imposed to the population. In a nutshell, and more literally translated, *lex posita* is “posited”, rather than “positive” in the common sense of English language, as it directly derives its legitimacy from the political power(s) that has(have) enacted it. As much the theory of the modern state is grounded on the sovereignty of the ruler over a territory, so the power to mint coins and create fiat money relies on *pecunia posita*. If the notion of “positive law” belongs to the core of European legal philosophy, it found its jurisprudential epitome in the *Pure Theory of Law* by Austrian legal philosopher Hans Kelsen<sup>7</sup> and in Herbert Hart’s *The Concept of Law*<sup>8</sup>, where the idea of “legal positivism” reached its most prominent expression. One of the central assumptions in Hart’s conception of law is that laws are human commands that do not necessitate any relation with morality, since law is a closed and logical system where each decision can be deduced from an auto-referential legitimacy (in this legal formalism Hart’s jurisprudence has strong points of resemblance with Kelsen’s theory). Correspondingly, in a positivist conception of money, only money having legal tender (i.e., established by the state as sovereign political authority) is, by definition, the sole valid medium of exchange, as well as store of value and instrument of payment, without any need to justify its function in relation to moral values, origins, or destination (hence, from the perspective of positive money, *pecunia non olet*).

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<sup>7</sup> KELSEN, *Pure theory of law* (trans. by Knight from the original in German language, *Reine Rechtslehre*, 1960), Berkeley, 1967.

<sup>8</sup> HART, *The concept of law*, Oxford, 1961.

In the philosophy of law, legal positivism stands in opposition to the idea of “natural law” / “natural right” (*ius naturale*) – whose essential assumption, contrary to *ius positum*, is that legitimate law needs to be grounded on morality. In the Western tradition the concept is documented in ancient Greek philosophy, for instance in Aristotle, and found one of its main assertors in Cicero in ancient Rome. Christian philosophers, such as Albert the Great and Thomas Aquinas, postulated that no valid law can exist without having foundational elements in a theory of ethics and religious morality. Modern natural law, in the Age of Enlightenment, moved from religious morality to human reason as background for valid law. Consequently, from the tradition of *ius naturale* the idea of human rights stemmed, as embodied through numerous documents of constitutional and international law in the last centuries.<sup>9</sup>

In the persistence of the Ukrainian war, not only may the concept of *pecunia naturalis*, as correspondent of “natural law” in relation to monetary order, offer significant insights into money as a medium of social relations<sup>10</sup>, but also a more critical perspective about the extent to which money (usually depicted just a medium of exchange) can become a *medium of democracy* through the rise of a “global humanitarian community”. If, in the first months of the conflict, the humanitarian support to Ukrainian people found a multiplicity of vehicles (probably the most inventive one was the booking of fictitious accommodations through AirBnB)<sup>11</sup>, a more persistent impact can be seen in relation to the use of cryptocurrencies: in fact, humanitarian aid has found in the use of cryptocurrencies<sup>12</sup> an innovative channel that is completely detached from the classic notion of fiat money as the outcome of *pecunia posita*.

On the one side, the use of cryptocurrencies for donations in our global society provides further evidence of the social nature of money<sup>13</sup> in relation to community engagement beyond national boundaries. In a certain sense, within a reality where the national political economy could not be sustained anymore by formal governmental institutions, financial technology has certainly offered alternative means of funding in support of the local government and population. In this way,

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<sup>9</sup> Core examples can be seen in the Declaration of Independence (1776) of the United States, the Declaration of the Rights of Man and the Citizen (1789) of France, the Universal Declaration of Human Rights (1948) of the United States, as well as the European Convention on Human Rights (1953) of the Council of Europe.

<sup>10</sup> INGHAM, *Money is a social relation*, in 54(4) *Review of social economy* (Special Issue on Critical Realism), 1996, 507-529.

<sup>11</sup> FORBES, *Why people are booking AirBnBs in Ukraine when they have no plans to go*, 2022, available at <https://tinyurl.com/2s43t7yh> (last accessed 10 June 2023).

<sup>12</sup> This use of cryptocurrencies does not imply that the trading volume in the cryptocurrency market has increased in relation to the war. The first findings, in fact, indicate that the Russia-Ukraine war reduced Bitcoin trading volume, especially at the very start of the invasion: APPIAH-OTOO, *The impact of the Russia-Ukraine war on the cryptocurrency market*, in 4(1) *Asian economics letters*, 2023, <https://doi.org/10.46557/001c.53110>. On the same topic, see also LEJNIECE, *Crypto takes center stage in the war in Ukraine and sanctions against Russia*, in *Revue européenne du droit*, 2022, available at <https://tinyurl.com/ykv94arv> (last access 24 May 2025).

<sup>13</sup> DODD, *The social life of Bitcoin*, in 35(3) *Theory, culture and society*, 2018, 35-56.

the social nature of money – as described in section 2 of this article in relation to a daily practice of economic dealings which is intrinsically connected to a whole of legal, social, and political reality of a certain community – has been re-affirmed and, at the same time, has moved from a national (the specific arena of the monetary sovereignty of *pecunia posita*) to a transnational level of interaction. More specifically, national currency, in the event of conflict, has been replaced by an alternative monetary *medium* at a global scale. While academic literature has already highlighted how the humanitarian sector has recently evolved towards direct currency injection linked to the empowerment of communities to create their own local complementary currencies<sup>14</sup>, the Ukrainian war seems to have shifted this complementarity from the local to the global arena, according to new patterns of “tribalisation” on which this article will reason in its conclusions.

On the other side, and more significantly in terms of the conceptualisation of the nature of money, the global community of donors has given rise to an innovative example of *pecunia naturalis*, underpinned by global values of freedom, peace, democracy, and solidarity – hence embodying a moral dimension that goes beyond the formal legitimacy of *pecunia posita*, whose value, in reverse, *non olet*, “does not smell (good or bad)”.

#### 4. Supporting Ukraine through cryptocurrencies as global humanitarian money

In relation to the analysis of available empirical data about the quantity and quality (type/origin of cryptocurrency; destination of funding) of the donations (made both governments and non-governmental actors) towards Ukraine, this article relies on two fundamental sources:

- a first report by the Netherlands-based consultancy company Crystal Blockchain, a company that offers advanced blockchain explorer and analytics tools to crypto businesses and regulators;
- a second report released in 2023<sup>15</sup> by the British blockchain analytics company Elliptic.<sup>16</sup>

Both the documents refer to a variety of crypto assets.

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<sup>14</sup> USSHER - EBERT - GÓMEZ, RUDDICK, *Complementary currencies for humanitarian aid*, in 14 *Journal of risk and financial management*, 2021, 557 ss.

<sup>15</sup> ELLIPTIC, *Crypto in conflict. How the role of crypto assets has evolved in the Russia-Ukrainian war*. Elliptic Report 2023, available at <https://tinyurl.com/yc2h49yc> (last accessed 4 June 2023). At the moment of publication of this article, the report can be found at the link <http://www.elliptic.co/resources/crypto-in-conflict> (last access 24 May 2025).

<sup>16</sup> Elliptic is a well-known consultancy company, whose clients comprise both banks, commercial institutions, crypto businesses, and regulators. Investors in Elliptic include JPMorgan Chase and SoftBank. In 2020 Elliptic was recognised as a Technology Pioneer by the World Economic Forum for its contributions in the field of anti-money laundering detection in crypto markets. In the light of the reputation of the company, the Elliptic report to which this article refers can be deemed to be a reliable source of information.

Their attention focuses mainly on cryptocurrencies, from Bitcoin (or BTC), the first widely adopted cryptocurrency, to Ethereum (Ether or ETH), Binance Coin (BNB) and Tether (USDT). As well-know, cryptocurrencies are digital currencies that are decentralised (and so alternative to sovereign-issues currencies, *pecunia posita*) and are secured by cryptography, where blockchain technology regulates the generation and the transfer of currency units. The blockchain also verifies the execution of payment transactions within the decentralised network. A subtype of cryptocurrencies are stablecoins, whose digital nature assumes that their value is linked to another asset (e.g., gold or a fiat currency) to maintain a stable price that reduces the risk of high volatility.

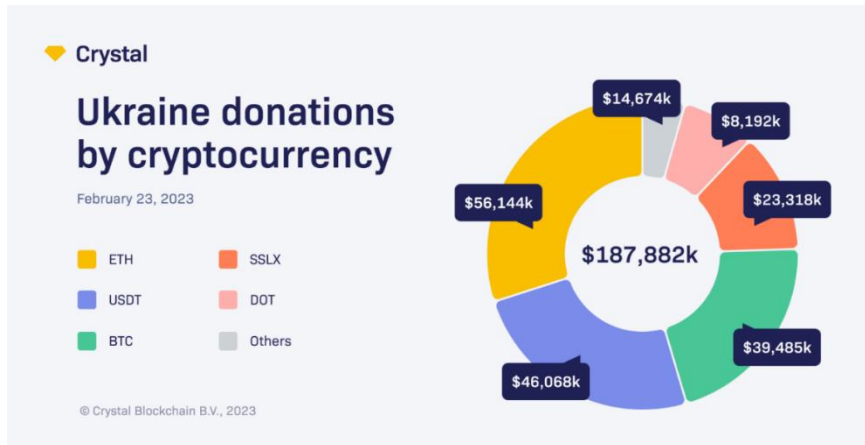
NFTs (“non-fungible tokens”) have been used for donations too. NFTs are like cryptocurrencies in relation to the employ of blockchain technology to record and transfer them. However, differently from cryptocurrencies, they are not mutually interchangeable, since “non-fungible”: the certification of authenticity and ownership of the specific asset makes it unique in relation to a digital identifier that cannot be copied or reproduced.

Coming back to the two sources of information that have been mentioned at the start of the section, Crystal Blockchain<sup>17</sup> produced a report on March 4, 2022 (two weeks after the attack on Ukraine’s democracy by the Russian Federation, beginning on February 24, 2022) that was updated on February 23, 2023. Crystal Blockchain shows that the surge in online donations was impressive, most likely the biggest crypto donations drive so far in history, also because «the tech-savviness of the Ukrainian government and their supporting teams has allowed for official crypto donation portals for the various currencies to be created almost immediately».<sup>18</sup> Around \$188 million were rapidly collected, with an average distribution in the type of cryptocurrencies and donations made both in ETH (Ethereum), BTC (Bitcoin), USDT (Tether) and others.

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<sup>17</sup> <https://tinyurl.com/msbw539y>.

<sup>18</sup> <https://tinyurl.com/38x73cdp>.

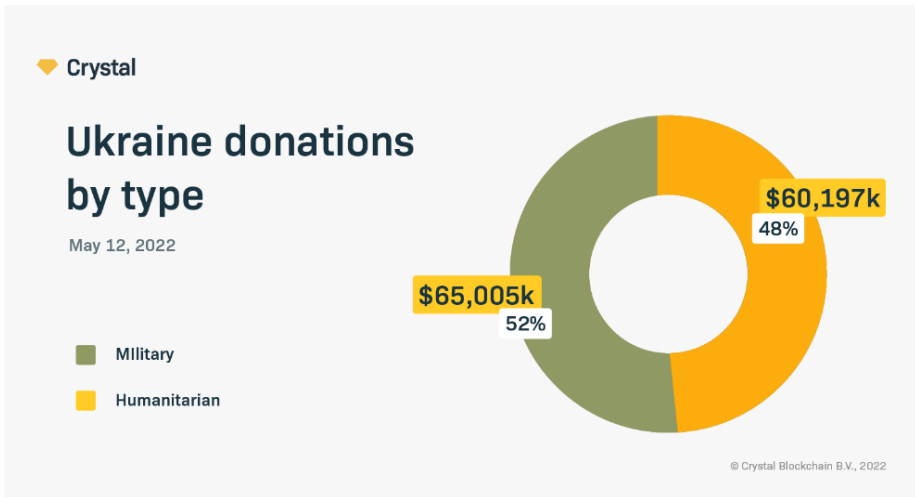


*Crystal Blockchain's website (2023)*

In terms of destination of funding, Crystal Blockchain reveals that «a majority of the crypto donations made so far have been targeted to support the Ukrainian army, with a slightly lesser amount of donations having been made to humanitarian programs supporting the cause».<sup>19</sup> It is interesting to note that if this ratio was 52% in favour of the Ukrainian army<sup>20</sup> and 48% for humanitarian programmes on 12 May 2022 (when the total amount of donations was about \$125 million), after one year of conflict (23 February 2023, with a total amount of donations of around \$188 million) this ration changed respectively to 61% and 39%.

<sup>19</sup> CRYSTAL BLOCKCHAIN'S, *Crypto Assets and Blockchain Industry Report, 2022*, available online at [crystalintelligence.com/rohiov/2022/12/Reports\\_compressed.pdf](https://crystalintelligence.com/rohiov/2022/12/Reports_compressed.pdf) (last access 24 May 2025).

<sup>20</sup> An article by FORBES, published online on 25 February 2022, notes that immediately after the start of the conflict (24 February 2022) «[w]ithin the first few hours, Come Back Alive, a Kyiv-based foundation providing support to the Ukrainian army, raised around \$400,000 in bitcoin, according to blockchain analytics firm Elliptic. As of 5:30 a.m. ET Friday, the organization's wallet appears to have received 109 BTC (approximately \$4.1 million) over more than a thousand of donations in total» (FORBES, *Bitcoin donations to Ukrainian army surpass \$4 million, 2022*, available at <https://tinyurl.com/yasyz86z>, last accessed 4 June 2023). The link between democracy and legitimate military reaction in defence of national borders seems to find here evident correlation.



*Crystal Blockchain's website (2023)*

On the point, please compare the previous graphic (12 May 2022) with the following one, referring to data on 23 February 2023.



*Crystal Blockchain's website (2023)*

A more comprehensive overview of the role of crypto-assets in the Russia-Ukrainian war can be found in the report entitled *Cripto in Conflict (2023)* by blockchain analytics firm Elliptic,<sup>21</sup> whose key findings are summarised below:

<sup>21</sup> ELLIPTIC (2023), see note 15 for details.

- «Pro-Ukrainian causes have raised over \$212.1 million in cryptoassets, outnumbering pro-Russian donations by a margin of 44:1. They consist predominantly of donations to official Ukrainian government wallets (\$83.3 million). Around \$30 million was raised in the first four days after the invasion began.
- Innovations in blockchain technology – including DeFi, non-fungible tokens (NFTs) and decentralized autonomous organizations (DAOs) – have played a significant role in facilitating crypto fundraising for Ukraine, raising over \$78 million in donations. Around 10% of this (almost \$8 million) has been facilitated by NFT campaigns.
- Pro-Russian entities – including those fundraising for the Russian military and associated militias – have raised a smaller \$4.8 million in crypto donations. Attempts by certain entities – including some related to sanctioned groups – to emulate Ukraine’s success with NFTs and DeFi have failed.
- Pro-Russian crypto activity poses significant sanctions and anti-financial crime compliance risks to virtual asset services. Over 10% of pro-Russian donations originate from illicit sources, including dark web markets, sanctioned entities and stolen credit card vendors. Many entities raising crypto have also openly advocated and glorified potential war crimes and crimes against humanity.»<sup>22</sup>

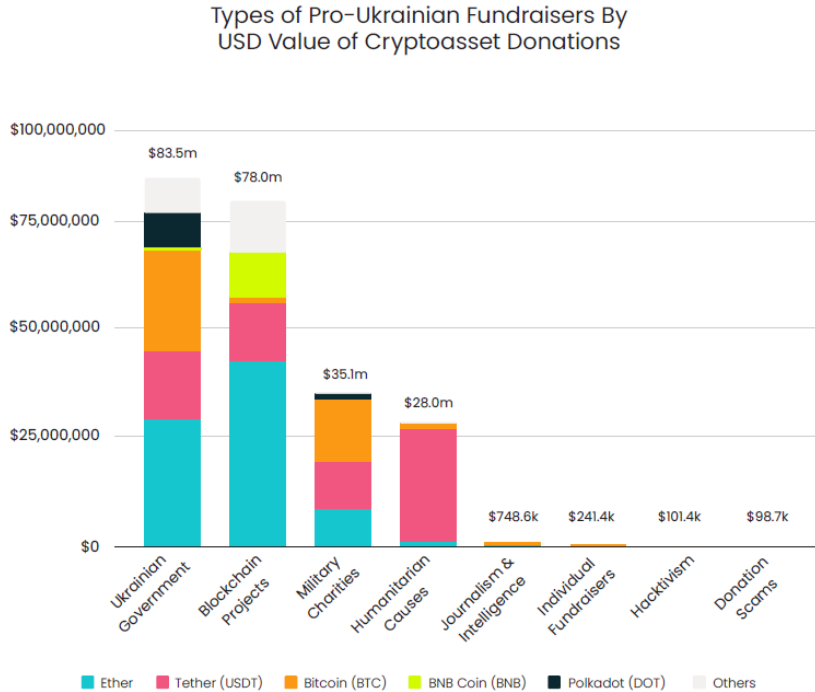
The report adopts a broader approach that also looks at NFTs as system of funding (which has counted for the 10% in the collection of donations). It refers to an overall estimation of \$212 million of donations for pro-Ukrainian causes<sup>23</sup> and highlights the central role of official Ukrainian wallets in the collection of funding (for a total of \$83.3 million out of \$212.1 million, hence nearly the 40%). This is a significant piece of information in relation to the re-adaptation of governmental action when institutional channels of currency-creation (hence, *pecunia posita*) are not performative anymore, and the government itself “shifts” to (global) community-based model of money (*pecunia naturalis*).

The Elliptic report has also the advantage to offer a comparative analysis of the role of crypto assets in relation both to Ukraine and Russia, with a final section about aspects of regulatory developments and compliance implications. With specific reference to Ukraine, the central role of governmental wallets can be seen in the following graphic (p. 13 of the report) about the types of fundraisers, where governmental bodies represent the most active player. Humanitarian collectors, in this light, represent around the 30% of the total.

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<sup>22</sup> ELLIPTIC (2023), 5.

<sup>23</sup> A figure which makes sense if compared to the one provided by CRYSTAL BLOCKCHAIN, if the value is extended to any type of crypto assets.



*Crypto in Conflict, Elliptic Report 2023, p. 13*

The reason behind the rise of fundraising through cryptocurrencies in Ukraine is explained by Lejniece (2022) in relation to a variety of factors, from the familiarity of the population with cryptos to the establishment in 2019 of a Ministry of Digital Transformation and the legal recognition of cryptos in 2022.<sup>24</sup> The central role of the government is confirmed by Kumar and Raghuvvera

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<sup>24</sup> Regarding the familiarity of the Ukrainian population with cryptocurrencies, LEJNIECE (2022) underlines that: «Ukraine is no stranger to crypto, so it comes as no surprise that it is taking advantage of the crypto space in its time of need. Ukraine is ranked first worldwide in terms of cryptocurrency adoption, with over 12.7% of Ukraine's population owning crypto. In August 2019, Ukraine established its Ministry of Digital Transformation, which is in charge of elaborating and implementing State policy in the sector of digitization, open data, national electronic information resources and interoperability, the introduction of electronic services, electronic trust services, e-government, as well as improving the digital skills among Ukraine's population. On 16 March 2022, President Volodymyr Zelensky approved a bill formally legalizing cryptocurrency in Ukraine. After the war started, Ukraine quickly took advantage of crypto's speed and decentralized nature by using it to raise funds. These efforts have taken two main forms: the sale of NFTs and direct cryptocurrency donations».

(2022),<sup>25</sup> who underline how the Ukrainian Ministry of Digital Transformation, immediately after the start of the conflict, began accepting Bitcoin, Ether, and other cryptos by sharing its wallet addresses. They also remark that, although Ukraine is not the first country to have received crypto assistance in relation to an emergency,<sup>26</sup> «the volume of aid through crypto that Ukraine has received is unparalleled», as it is also related to the role of leadership of Ukraine in adopting crypto and developing its Central Bank Digital Currency (CBDC), the e-hryvnia, as well as to the infrastructures that it developed for the use of crypto donations.<sup>27</sup> The government manages donations through the Ukrainian crypto exchange platform, Kuna.io.<sup>28</sup>

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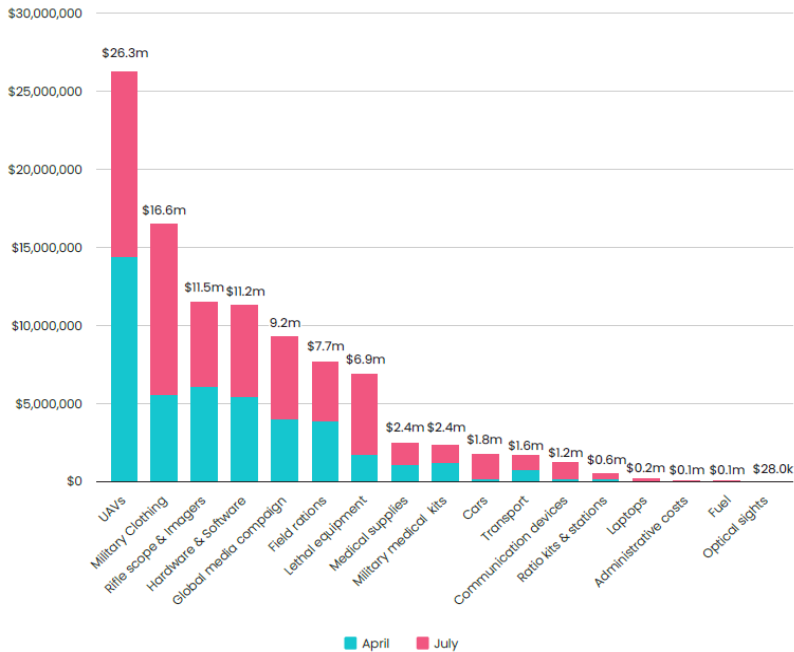
<sup>25</sup> KUMAR - RAGHUVVEERA, *Can crypto deliver aid amid war? Ukraine holds the answer*, in *New Atlanticist*, 2022, available at <https://tinyurl.com/5fe9335d> (last accessed 17 June 2025).

<sup>26</sup> A previous significant experience, just a month before the invasion of Ukraine, was the role of Coinbase in supporting Haitian population impacted by earthquakes and civil unrest: WRIGHT, *Coinbase joins NGO's efforts using crypto to help Haitians impacted by earthquakes, civil unrest*, in *Coin Telegraph*, 2022, available at <https://tinyurl.com/5557m892> (last accessed 10 June 2023).

<sup>27</sup> On February 28, the Ukrainian government authorized "Aid for Ukraine", a decentralized autonomous organization (DAO) in collaboration with blockchain service Everstake and crypto trading firm FTX Trading Limited, to collect cryptocurrency. Solana was one of the first blockchain platforms to join the community, which now includes Bitcoin, Ethereum, Doge, Tether, and others. A Ukrainian crypto exchange platform, Kuna.io, helps the government manage donations (KUMAR - RAGHUVVEERA, 2022).

<sup>28</sup> More than 60 percent of all donations (around sixty million dollars) have travelled through Kuna.io to the government, which has primarily used them to purchase non-lethal military supplies. The government uses suppliers willing to accept crypto and converts some of the money to dollars and euros. So far, fifteen million dollars have been spent on military supplies. But the government-approved route to crypto aid is not the only avenue. UkraineDAO, a collective effort of private platforms PleasrDAO, Trippy Labs, and Pussy Riot, is raising crypto funds for the Ukrainian Army. In one effort, it collected \$6.75 million, largely in ETH, for a non-fungible token (NFT) depicting the Ukrainian flag. Crypto donations are also supporting NGOs: Unchain Fund, for example, offers wallets requiring multiple signature-based approvals to provide greater security in spending collected funds (KUMAR - RAGHUVVEERA, 2022).

## How the Ukrainian Government Spent its Crypto



*Crypto in Conflict, Elliptic Report 2023, p. 19*

In relation to the role of the government in the collection and management of funding, not by chance, Alex Bornyakov, Ukrainian Deputy Minister for Digital Transformation, declared in an interview to *The Economist* (5 April 2022) that «[c]rypto really helped during the first few days because we were able to cover some immediate needs».<sup>29</sup> In this regard, another interesting piece of information relates to how donations were spent by the government – which shows the employ of funding mainly for military equipment (as for the Crystal Blockchain report), in particular drones (UAVs – unmanned aerial vehicles): see figure above, p. 19 of the report, which refers to data expenditures in relation to April and July 2022.

The Elliptic report has the merit to unveil two (seemingly) contradictory elements of the rise of cryptocurrencies in support of the Ukrainian population: a) at the level of monetary sovereignty, *pecunia posita* has been substituted by global donations underpinned by moral values of democracy in defence of Ukraine, hence by *pecunia naturalis*; b) at the same time, in terms of management

<sup>29</sup> THE ECONOMIST, *How is Ukraine using crypto to fund the war?*, 2022, available at <https://tinyurl.com/myf2jhb7> (last access 15 May 2025).

of these resources, governmental actors have come back in their sovereign role by embracing these new sources of funding as *democratic medium*.

The two aspects are not contradictory in relation to the new primary function of this money, that is not (anymore) just an expression of (national) sovereignty but witnesses a *morally superior use of money* by embodying (global) democratic values in defence of Ukraine. The *democratic function beyond national boundaries* of this money appears even more evident (next to the employ of funding for military self-defence, that can be justified in the light of “just war theory”, *bellum justum*) when looking at a variety of projects that have been sustained using cryptocurrencies, as can be seen in the list below<sup>30</sup>.

1. Stellar Aid Assist – «With input from the United Nations High Commissioner for Refugees (UNHCR), the U.N.’s refugee agency, SDF developed and launched Stellar Aid Assist in less than 10 months». It «allows humanitarian organizations to send bulk stablecoin payments to recipients in need»- Stellar Aid; Stellar Aid Assist Creates New Relief Fund Delivery Platform for Ukraine | The Fintech Times

2. Unchain – UNCHAIN – #Unchain\_Ukraine | Unchain Fund

3. Palianytsia – aimed at providing individual aid kits, food, medication, ambulances. Donate to Ukraine | Palianytsia Charity Initiative

4. Kuna – the major crypto donation fund for Ukraine. Reserve fund of Ukraine (kuna.io)

5. Come Back Alive – Make a donation to our charity fund – Come Back Alive (savelife.in.ua)

6. WhiteBIT ZSU – providing armed Armed Forces of Ukraine | Whitepay

7. The official Ukraine crypto donation wallet<sup>31</sup>

8. Voices of Children – helping children, who have suffered from Ukraine war, to get psychological help Donate - Голоси дітей (voices.org.ua)

9. Exon Help Fund – Exon Help Fund (exoncenter.com)

10. Revived Soldiers Ukraine – Verified Ukraine Donation Programs List (crystalblockchain.com)

Ukraine DAO – donate/fund other organisations that are supporting Ukraine. Ukraine DAO

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<sup>30</sup> These examples of humanitarian projects financed through cryptocurrencies were collected by Oheobe Esther Ode, to whom I am grateful for the support to this research project.

<sup>31</sup> Ukraine / Україна on Twitter: «Stand with the people of Ukraine. Now accepting cryptocurrency donations. Bitcoin, Ethereum and USDT. BTC - 357a3So9CbsNfBBgFYACGvxxS6tMaDoa1P ETH and USDT (ERC-20) - 0x165CD37b4C644C2921454429E7F9358d18A45e14».

## 5. From blockchain technology to human-chain morality: cryptocurrencies as a democratic medium and the future of humanitarian money/community

This article has looked at the rise of cryptocurrencies as a tool for humanitarian aid within the context of the Ukrainian crisis. It has located this analysis in the conceptual move from the idea of “positive money” (*pecunia posita*, the traditional expression of monetary sovereignty of a nation-state) to that of “natural money” (*pecunia naturalis*, embedding values of democratic support). If this conceptual shift mirrors the classic pair positive-natural law in jurisprudential studies, it also allows additional reflections on the nature of crypto-currencies as social, economic, political, and even moral *media*.

Academic literature tends to look at the technology of blockchain (which governs the exchange of cryptocurrencies) as something neutral and impersonal, just as an aspect of digital evolution. This neutrality may well remind Vespasian’s motto, from which this article started its investigation – to be paraphrased here in the form “blockchain *non olet*”. In fact, on the very contrary, blockchain technology can become (as shown in the Ukrainian war) an instrument of global solidarity – supporting some sort of *human-chain* when cryptocurrencies are employed for the defence of democracy and in support of humanitarian aid: hence, as a *democratic medium*.

Backed by a global humanitarian crypto-community of active players beyond the traditional borders of fiat-money and where the social nature of crypto-money can be addressed to finance sustainability,<sup>32</sup> peace, and democracy, this recent evolution of money may also be interpreted through media theory by reference to the scholarship by sociologist Marshall McLuhan, and his famous motto “the medium is the message”<sup>33</sup>. In fact, looking at the long-term evolution of financial markets through media theory, *not only* is money a medium of exchange, but *money should be valued in relation to the (democratic) impact of the exchange*. At the same time, if «the personal and social consequences of... money [...] result from the new scale that is introduced into our affairs by... new technology» (adapted from McLuhan, *Understanding Media*),<sup>34</sup> the democratic nature of money is affected and amplified by any change in the design, pace, or pattern that money technology introduces. So, as McLuhan sees the advent of electronic media in the 20<sup>th</sup> century as the third major milestone in communication technology after the “literacy revolution” (from oral and tribal culture into literate mentality, 5<sup>th</sup> c. BC) and the “Gutenberg revolution” (from calligraphy to printing, 15<sup>th</sup> c. AD) – correspondingly “fiat money”, which started to dominate global economy in the 20<sup>th</sup> c., has revolutionized our lives by radically affecting economic exchanges.

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<sup>32</sup> For a critical perspective in relation to sustainability, see CATTELAN - GIMIGLIANO, *Digital currency schemes: more or less sustainable? Limits to Growth and electronification of money in Europe*, in *IANUS – Diritto e finanza*, 21, 2020, 9-42.

<sup>33</sup> MCLUHAN - FIORE, *The medium is the message: an inventory of effects*, London, 1967.

<sup>34</sup> MCLUHAN, *Understanding media: the extensions of man*, New York, 1964.

Precisely, as the third major technological advance in money technology, fiat money has overcome commodity and representative money, whose respective impacts on mankind are comparable to literacy (from barter to trade) and printing (money as currency) in media theory.

By re-reading McLuhan's prophecy on the digital media's influence in constructing a "global village" and the emergence of "retribalisation" processes, the nature of new financial networks (from sharing economy's crowdfunding to blockchain, cryptocurrencies, alternative and complementary currencies) can be interpreted as experiments of 'retribalised money', both at a local and global level, where economic *value* is imbued with the *values* of the communities that create money, and not backed anymore by commodities or the authority of a state. In a nutshell, a new democratic movement at a global level seems to have appeared where blockchain technology is fostering a specific "tribe" in the form of a global humanitarian crypto-community.

In the light of this, the employ of cryptocurrencies to support humanitarian aid in Ukraine supports the idea of an undergoing *revolution* in money nature. Not only does this revolution testify to the conceptual passage from positive to natural money but may also imply the necessity for central banks and regulators to start evaluating the scale of this phenomenon. Of course, the Ukrainian "lesson" itself has not changed the nature of cryptocurrencies as digital asset that can potentially be used for purposes that are far from democratic objectives. The global support in defence of Ukraine may be a single event, without leading to the structuring of a new "monetary tribe". However, similar patterns of global support through cryptocurrencies have recently reappeared within the Israel-Hamas conflict, "offering both opportunities for support and solidarity"<sup>35</sup>, but also backing the action of non-state militias (Hamas and Palestinian Islamic Jihad) in an increasingly regulatory dilemma about how much crypto-support can be allowed.

Within this evolving context, the immediate adaptation of Ukraine's government to the management of new channels of humanitarian funding (as shown in the Elliptic report) «showcases the possibilities and challenges ahead for the industry and could transform how aid is disbursed across the world. It could also help the sector demonstrate a side of crypt that policymakers and regulators often miss in their focus on these currencies as a mechanism for illicit finance».<sup>36</sup> There are, of course, major challenges that still must be considered in relation to the future of this crypto-humanitarian money at a global stage, and namely: 1) difficulty to convert it into fiat currency; 2) large price movement, fluctuations; 3) use of aid for profit maximisation / financial gain purposes. Kumar and Raghuvveera address these challenges by four best practices to make crypto donations more accessible and minimize potential risks.

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<sup>35</sup> DARWISH, *From aid to arms: the duality of cryptocurrencies in the Israel-Hamas conflict*, Bloomsbury Intelligence & Security Institute, 29 November 2024; available at <https://bisi.org.uk/reports/cryptocurrency-in-conflict> (last access 17 June 2025).

<sup>36</sup> KUMAR - RAGHUVVEERA, 2022.

«First, donors should consider the liquidity and financial stability needs of the Ukrainians above all. Stablecoins such as USDC, USDT, UST, Dai, and cUSD are less volatile than native tokens like Bitcoin and Ether, or NFTs. Donors should utilize these stablecoins to ensure that their donations effectively address immediate needs.

Second, there is an immediate need to support and cultivate more means for seamless transitions between fiat and cryptocurrencies, so that Ukrainians can effectively exchange crypto for goods and services.

Third, just as in traditional humanitarian aid, there is a need for greater transparency to the flow of donations. Blockchain-based tokens are well positioned to improve transparency and traceability in record-keeping. More reporting on the source of donations (and how they're spent) can counter allegations that crypto is being used to sidestep sanctions. This can be done with help from blockchain risk analysis groups, such as Chainalysis and Elliptic.

Finally, crypto donors must research aid projects themselves. Donors should focus on partners that provide transparency, have clear objectives, and demonstrate experience in delivering humanitarian aid. They should not turn to attractive fundraising opportunities, token projects with questionable motives, or technologies with little utility»<sup>37</sup>.

At the same time, the use of cryptos allows additional advantages: in fact, crypto donations, through decentralised blockchains, «eliminate the 25-30% administrative overhead of charitable giving»<sup>38</sup>; moreover, they guarantee a permanent record of the use of funding, which can be linked to the use of blockchain for land registries and other government records<sup>39</sup>. Another advantage consists in the ease with which the funds land directly in the hands of displaced Ukrainian people, also in relation to aspects of cybersecurity and transparency<sup>40</sup>.

Considering all this, global actors can learn from the Ukrainian experience a valuable lesson about the future of crypto aid to support a global humanitarian community through *pecunia naturalis*, setting a template to react to crises around the world.<sup>41</sup> The role of the Ukrainian government in the management of resources can address donors, policy makers, and regulators to embrace some fundamental best practices in this direction. As a result, far away from the assumption that *pecunia non olet*, the human-chain in support of the Ukrainian

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<sup>37</sup> ID.

<sup>38</sup> LITHAN, *How cryptocurrency is bringing humanitarian value to Ukraine*, in *ComputerWeekly*, 2022, available at [www.computerweekly.com/opinion/How-Cryptocurrency-Is-Bringing-Humanitarian-Value-to-Ukraine](http://www.computerweekly.com/opinion/How-Cryptocurrency-Is-Bringing-Humanitarian-Value-to-Ukraine) (last accessed, 10 June 2023).

<sup>39</sup> ID.

<sup>40</sup> JONES, *Can crypto be the key for continued support for Ukraine as the world's outrage wanes?*, *Forbes*, 2022. Online: <https://www.forbes.com/sites/hessiejones/2022/07/11/can-two-activists-please-for-continued-support-for-ukraine-persevere-as-the-worlds-outrage-wanes/?sh=654d0e136d5a> (last accessed 10 June 2023).

<sup>41</sup> «In modern warfare, cryptocurrency provides a unique platform through which the international community can deliver humanitarian aid, demonstrating national solidarity, alongside facilitating conflict through non-state actor activities»: DARWISH (2024).

population may reformulate the impersonal content of blockchain technology towards a democratic evolution where money can actually “smell good”: contrary to Vespasian’s wisdom, we must admit that *pecunia fragrare potest*.

More in general, the distinction that has been elaborated in the theoretical part of this article between positive and natural money can find broader epistemological application when looking with more attention at other monetary experiences beyond the limited circles of traditional monetary sovereignty and banking intermediation. If cryptocurrencies express “two forms of monetary disintermediation that are closely associated with this moment in the history of money, namely, its separation from banks and the state”<sup>42</sup>, their political appeal conveys an emerging social space of re-tribalisation that shares many similarities with other recent experiments of “monetary polities” – both at a transnational and local level. For instance, the growing market of Islamic finance can be easily classified as *pecunia naturalis* for Muslim believers.<sup>43</sup> Correspondingly, the numerous experiences of alternative and complementary currencies that have emerged around the world in the last decades clearly embody the parameters of competing “monetary orders” (*nomisma* as monetary *nomos*) that are collectively practiced, shared, and simultaneously endorsed in certain social groups<sup>44</sup> when state/bank institutions are not able to channel all existing public trust through *imposed* sovereignty and intermediation (*pecunia posita*).

In the end, by embracing the couple positive / natural money as a useful conceptual tool to investigate the plurality of monetary orders in today’s global economy,<sup>45</sup> we may be better equipped to enjoy multiple fragrances of money in our next future – and, so, be free to choose which one we prefer most.

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<sup>42</sup> DODD, *The social life of Bitcoin*, in 35(3) *Theory, culture and society*, 2018, 37.

<sup>43</sup> On the matter, in relation to the “pluralisation” of money (as a different phenomenon from the “multiplication” of money), please refer to CATTELAN (ed.), *Islamic finance in Europe. Towards a plural financial system*, Cheltenham, UK – Northampton, MA, USA, 2013.

<sup>44</sup> See back, section 2 of this article.

<sup>45</sup> GÓMEZ (ed.), *Monetary plurality in local, regional and global economies*, London - New York, 2019.

