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Spring 5-14-2020

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Concept Paper  
Development of a New US Currency for the Post-Pandemic Remote Culture  
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May 14, 2020

The contemporary dollar currency was already under significant pressure prior to the emergence of the COVID-19 pandemic, but the economic pressures resulting from the national and world “lockdown” have very significantly exacerbated the vulnerabilities of those Federal Reserve Notes. The ostensible nationalization of the Federal Reserve by the United States federal government in April 2020 is a harbinger of a need to restructure the US currency. Today’s developing remote culture necessitates a new form of electronic currency. Herein is a conceptual blueprint for the development of such a restructured US currency that would function in the post-pandemic remote culture.

It has been a significant advantage for the US to have its own currency to operate as the “world reserve currency”, but now there are indications that the Chinese government seeks to garner such advantage for itself. To that effect the Chinese government has amassed a large amount of gold over the last several years [1], while promoting the development of the use of cryptocurrencies among its population. [2] A new blockchain structured “digital yuan” that is reported to be “gold-backed” is currently being tested by the Chinese banking system, and for the last few years the Chinese government has been making a large investment into quantum technology that includes linking its major banking centers with a quantum encrypted fiber optic network. [3] [4] [5] On top of these developments China has recently demonstrated a quantum encrypted satellite laser link with Austria, which is a European banking center. [6] In effect, the new digital yuan is an embryonic attempt at fielding a gold-backed quantum encrypted cryptocurrency to rival the world reserve currency status of the US dollar. How should the US respond to this challenge?

A new US currency developed for use in the post-pandemic remote culture would need to be able to be freely and easily exchangeable for the wide variety of good and services available, and a trusted and reliable currency would serve to stimulate production and availability of such goods and services. A new US currency must also promote US technological and innovative strengths by stimulating and protecting the wide variety of intellectual property derivatives such as copyrights, patents, royalties, etc. The smart contracting and distributed ledger capabilities of an electronic blockchain structured cryptocurrency can provide for such capabilities. [7]

A new US currency developed in the post-pandemic remote culture would also need to provide the confidence of value bestowed by being backed by gold (and/or other precious metals) combined with the capability to be freely exchanged and converted to physical gold. Without the capability of easy exchange for physical at a guaranteed rate of exchange, any currency is only a fiat currency and would provide no long-term confidence in its value. However, with free convertibility at an immutable guaranteed rate of exchange for physical gold, a currency will become quickly and confidently adopted as valuable. Appropriate encryption security is vital for such confidence in a currency, but the classical logic-based encryption of

contemporary cryptocurrencies is vulnerable to the first functional quantum computer. However, blockchain structured distributed ledger capability combined with quantum encryption can provide for a secure cryptocurrency, and this would additionally play to the strength of the openness of US society and thereby provide additional security and confidence.

The openness and the innovative nature of US society are major strengths that can be leveraged in the development of a new US currency and economic system if that development is visible and organic, rather than imposed by unseen entities with unknown motivations. A nidus of a blockchain structured cryptocurrency that is gold-backed and quantum encrypted can be developed and tested openly and organically within the Polyplexus platform, where participants are generally technologically accomplished and innovatively motivated. A small but functional nidus of such a currency system could organically and rapidly evolve into a stable economic system in the same way that the internet (which was also originally a DARPA concept) evolved into what it is today, and such a nidus would also serve the purpose of the Polyplexus platform by promoting rapid technological advancement. [8]

How could a nidus of a blockchain structured cryptocurrency that is gold-backed and quantum encrypted, be developed and tested within the Polyplexus platform? If the US federal government was so motivated to develop and test such a currency within the Polyplexus platform, in order to pursue such a goal it would first need to commit to an immutable exchange rate for the free and easy conversion of the quantum encrypted cryptocurrency into physical gold and commit to making that immutable exchange rate public and available to participants in the system. The US government mint already produces gold coins as it is constitutionally authorized to do. [9]

The actual work of the design and development of such a currency system could be commissioned and/or contracted through easy modification of the Polyplexus system that is already in place, and payments for such services would (eventually) be made through the system as well. Public developmental input would be made through the Polyplexus platform and this would provide necessary developmental guidance, as well as openness of the developmental process that will strengthen the credibility of the system. The computer science and programming involved in the creation of the cryptocurrency is relatively well known since it has been done many times in the creation of the myriad other cryptocurrencies currently in existence. A vital aspect of the system is quantum encryption, which can now be considered as essentially an off-the-shelf technology. [10] This proposed nidus system could be initially established with only two nodes, the Polyplexus node and a bank node, that would be linked by quantum encrypted fiber optics in a manner reminiscent of the first ARPANET link between two computers. [11] Any payments for commissions or contracts would necessarily pass through that single bank until other banks became similarly linked through quantum encryption, and any smart contracting through the system would necessarily pass through Polyplexus until other appropriate nodes became similarly linked through quantum encryption. So, the development and implementation of the system would all take place through the Polyplexus system in an open and organic manner, promoting the confidence and resilience necessary for enablement of the growth and expansion of the system. The system would become operational upon the first quantum encrypted transaction, and that transaction would require public announcement of the exchange rate of the quantum cryptocurrency to physical gold coins minted by the US federal

government. An easily envisioned exchange rate might be fifty of the new “quantum dollars” (or “q-dollars”) to an ounce of gold, which would be appropriate to the current denomination of the US Gold Eagle gold coins that are publicly held and available. [12]

There are obviously many details that need to be worked out in the development of such a system, and those details could be best dealt with through the Polyplexus system, where open discussions about the system could occur, and through which appropriate developmental contracts, commissions, grants, and awards could be made. At first a “pay forward” system could be used to encourage participants through relatively modest awards made openly for innovative and appropriate inputs. Then, as conceptual development advanced more traditional grants, commissions, and contracts could be used to produce objective deliverables of the system such as cryptocurrency computer code and quantum encryption hardware.

While at first gold would provide initial backing to anchor the system, later the goods, services, and intellectual property concerns that are contracted within the system will become part of the wealth held within, and represented by, the new q-dollar currency system. Intellectual properties, goods, and services all essentially become part of the smart contracted exchangeable backing of the system. Thus, a relatively small initial investment of physical gold will encourage contractual participation, and will also encourage others to input physical gold into the system in order to purchase IP rights, goods, and services. Distributed ledger capabilities would provide assurances that all goods would not be oversold, and that all gold would not be overspent. Distributed ledger capabilities would also provide a mechanism for accurate assessment of sales tax.

In the competition for a world reserve currency a freely convertible gold-backed quantum encrypted cryptocurrency that is transparently developed and organically implemented will have great advantages over one that is perceived to be top-down designed and imposed, especially with regard to acceptance, confidence, and resilience. For broad acceptance, such a currency needs to be one that people will want to use, rather than one that they must use.

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