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CRYPTO

At last a really socially useful stablecoin:
SNUT (the specialized national utility token)

STEPHEN CASTELL

CLOUD

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CONTENTS

CLOUD

08 Cloud's transformation of financial services: How COVID-19 created opportunities for growth across the industry

Peter Kennedy, Partner (UK), Capco

Aniello Bove, Partner (Switzerland), Capco

Vikas Jain, Managing Principal (US), Capco

Chester Matlosz, Managing Principal (US), Capco

Ajaykumar Upadhyay, Managing Principal (US), Capco

Frank Witte, Managing Principal (Germany), Capco

18 Cloud finance: A review and synthesis of cloud computing and cloud security in financial services

Michael B. Imerman, Associate Professor of Finance, Peter F. Drucker and Masatoshi Ito Graduate School of Management, Claremont Graduate University; Visiting Scholar, Federal Reserve Bank of San Francisco

Ryan Patel, Senior Fellow, Peter F. Drucker and Masatoshi Ito Graduate School of Management, Claremont Graduate University

Yoon-Do Kim, Quantitative Analyst, Federal Reserve Bank of Minneapolis; Ph.D. Student in Financial Engineering, Claremont Graduate University

26 Multi-cloud: The why, what, and how of private-public cloud setups and best practice monitoring

Florian Nemling, Senior Consultant (Austria), Capco

Martin Rehker, Managing Principal (Germany), Capco

Alan Benson, Managing Principal (Germany), Capco

CRYPTO

32 Digital assets and their use as loan collateral: Headline legal considerations

Phoebus L. Athanassiou, Senior Lead Legal Counsel, European Central Bank

40 Central bank digital currencies and payments: A review of domestic and international implications

Lilas Demmou, Deputy Head of Division – Structural Policy Analysis Division, Head of Financial Policy, Investment and Growth Workstream, Economics Department, OECD

Quentin Sagot, Junior Advisor, Centre for Tax Policy and Administration, OECD

56 Decentralized Finance (DeFi) from the users' perspective

Udo Milkau, Digital Counsellor

68 Central bank digital currencies: Much ado about nothing?

Jay Cullen, Professor of Financial Regulation and Head of Law, Criminology and Policing, Edge Hill University; Research Professor in Law, University of Oslo

76 Bitcoin's impacts on climate and the environment: The cryptocurrency's high value comes at a high cost to the planet

Renee Cho, Staff Writer, Columbia Climate School, Columbia University

82 The evils of cryptocurrencies

Jack Clark Francis, Professor of Economics and Finance, Bernard Baruch College

Joel Rentzler, Professor of Economics and Finance, Bernard Baruch College

94 At last a really socially useful stablecoin: SNUT (the specialized national utility token)

Stephen Castell, Founder and CEO, Castell Consulting

CYBER

102 A semantic framework for analyzing "silent cyber"

Kelly B. Castriotta, Global Cyber Underwriting Executive, Markel Corporation

112 Cyber resilience: 12 key controls to strengthen your security

Sarah Stephens, Managing Director, International Head of Cyber & FINPRO UK Cyber Practice Leader, Marsh

122 Europe's push for digital sovereignty: Threats, E.U. policy solutions, and impact on the financial sector

Lokke Moerel, Professor of Global ICT Law, Tilburg University

136 Construction of massive cyberattack scenarios: Impact of the network structure and protection measures

Caroline Hillairet, Professor and Director of the Actuarial Science engineering track and Advanced Master, ENSAE and CREST.

Olivier Lopez, Professor of Applied Mathematics (Statistics), Laboratoire de Probabilités, Statistique et Modélisation, Sorbonne Université

142 Cyber insurance after the ransomware explosion – how it works, how the market changed, and why it should be compulsory

Jan Martin Lemnitzer, Department of Digitalization, Copenhagen Business School



DEAR READER,

Welcome to edition 55 of the Capco Institute Journal of Financial Transformation. Our central theme is cloud computing, which has transformed from an efficiency initiative for our clients, to an indispensable growth driver for financial services.

The pandemic has changed consumer expectations, with consumers now demanding 24/7 access to their financial resources from anywhere, as well as hyper-personalized products that reflect their lifestyle choices.

In this edition of the Journal, we explore the power of cloud and its potential applications through the lens of a joint Capco and Wipro global study, and take a deeper look at the financial services data collected in Wipro FullStride Cloud Services' 2021 Global Survey. The survey was focused on perceptions of cloud and its importance to business strategy from over 1,300 C-level executives and key decision-makers across 11 industries.

The study indicates that cloud is becoming ever more intelligent, hyperconnected, and pervasive, and enables companies to offer their end users the personalized, user-centric experience that they have come to expect. It's clear that only the financial services firms that can successfully leverage cloud, will thrive.

In addition, this edition of the Journal examines important topics around digital assets and decentralized finance, including central bank digital currencies, and bitcoin's impact on the environment, and cybersecurity and resilience.

As ever, you can expect the highest calibre of research and practical guidance from our distinguished contributors, and I trust that this will prove useful in informing your own thinking and decision-making.

Thank you to all our contributors and thank you for reading. I look forward to sharing future editions of the Journal with you.

A handwritten signature in black ink, appearing to read 'Lance Levy', with a stylized, flowing script.

Lance Levy, **Capco CEO**

AT LAST A REALLY SOCIALLY USEFUL STABLECOIN: SNUT (THE SPECIALIZED NATIONAL UTILITY TOKEN)

STEPHEN CASTELL | Founder and CEO, Castell Consulting¹

ABSTRACT

The market price of a cryptocurrency – which, as a medium of financial exchange, generally has scarcity built into it, but little, if any, demonstrable economic utility – is driven and influenced principally by what its buyers and sellers believe its market price should, or will, be, i.e., by speculation. This article introduces the QE2-Coin, a U.K. central bank digital currency (CBDC), originally proposed in 2017, that is, first, inherently designed not to be driven by speculative pressures, i.e., is a stablecoin, and, secondly, is specifically engineered to have utility as a SNUT, a “specialized national utility token” – deliberately architected to be exchangeable for products, services, goods, and assets in the real world, in particular, in the affordable homes housebuilding sector. Throughout the post-WW2 decades, despite many political manifesto pledges for reform and repeated central government attempts at encouragement of the home construction industry, there has in reality been a constant and growing new affordable U.K. homes blight, characterized by woefully under-target new housebuilding and poorly executed government stimuli. Without new ideas, innovation, and a powerful vision, it seems unlikely that any U.K. government policy will evolve to rectify this situation and be able to narrow the growing gap between U.K. housing supply and housing need. The really socially useful and valuable stablecoin, the QE2-Coin, to be spent in the U.K. housebuilding sector economy, and not converted into any inert non-economically productive asset or instrument, will positively address these homes availability issues, fueling economic activity in the U.K. housebuilding sector specifically focused on providing affordable homes. Uniquely, the QE2-Coin is a “limited life utility token”, meaning that it will have a smart contract baked into it, with functionality coded to “dematerialize” any QE2-Coin token instance, taking it out of existence if it does not get spent and used socially usefully within a defined time period. A QE2-Coin maquette has been created as the basic Ethereum crypto-token **QE2**. The U.K. Prime Minister’s response to the SNUT proposal is awaited. However, it is undeniable that there is a severe affordable starter and rental homes shortfall in the U.K. and, whether or not the U.K. government decides to engage with SNUT, there is no reason why the QE2-Coin initiative should not proceed. Visionaries and entrepreneurs in fintech, the crypto community, the investment world, and the property sector are welcomed to join in developing the QE2 SNUT plan for fixing this starter and rental homes shortage.

1. INTRODUCTION: VACUITY VERSUS UTILITY

The dynamic factors affecting the price of any cryptocurrency, in particular bitcoin, have long been the subject of ongoing explanation and discussion on websites and blogs, and across social media platforms [Bloomenthal (2022), Castell (2021a),

Haar (2021), Pierce (2022)]. A number of potential factors has been suggested, however, most analysts agree that the clear, constant, and overriding factor that is the common driver of the trading of any cryptocurrency is speculation. That is, the market price of a cryptocurrency – which, as a medium of financial exchange, generally has scarcity built into it, but little,

¹ Dr Stephen Castell, stephen@castellconsulting.com. I would like to thank Fernando Martinho, cybersecurity and cryptocurrency specialist, founder of <https://www.unicorn.win/>, for his assistance in the creation of the **QE2** ECR-20 Ethereum token maquette.

if any, demonstrable economic utility – is driven and influenced principally by what its buyers and sellers believe – hope – its market price should or will be (many analysts would add “and by little, if anything, else”).

Castell (2021b) suggests that bitcoin, in particular, inherently exhibits this sad lack of economic utility. It exists only to exist: it has a fundamental existential vacuity, giving rise to the heartfelt lament that “Bitcoin itself” expressed in that article: “Can you find a way to save me and my cryptocurrency species, vacuously and pointlessly existing, commercially and legally dangerous, operating outside the Rule of Law? Is there not someone, who, understanding me and the miraculousness which I symbolize, can establish, on a firm commercial and regulatory footing, with rigorous operational and legal reliability, with solid trust and transparency, a truly viable and robust new crypto-economy – one of course driven by the Invisible Hand! Alas, I suspect not; I, Bitcoin, bereft of practical utility, may one day no longer exist – no longer even simply to exist. I will become just another abandoned human artefact, like the spinning jenny, the bearer share, the analogue television, the telex, the video recorder, the junk bond, the fax machine, the non-digital mobile phone, the non-electric, non-autonomous road vehicle...”

Take away this speculative cryptocurrency characteristic, this existential vacuity, and what of real social, human, economic value is left? Nothing minus nothing equals not much! Conversely, however, create a cryptocurrency that is, first, inherently designed not to be driven by speculative pressures, i.e., is a stablecoin, and is, second, specifically engineered to have utility – deliberately architected to be exchangeable for products, services, goods, and assets in the real world – et voilà, the crypto vacuum that nature abhors is productively filled.

In this article I introduce and describe the QE2-Coin, a cryptocurrency that is not only a stablecoin but is intrinsically configured to have practicality as a SNUT: a “specialized national utility token”.

2. STABLECOINS

There is much available information and widespread discussion about stablecoins. Lipton et al. (2020), for example, state that: “What first started as a niche phenomenon within the cryptocurrency community has now reached the realms of multinational conglomerates, policy makers, and central banks. From JP Morgan’s Jamie Dimon to Facebook’s Mark Zuckerberg, stablecoins have made their way onto the agenda of today’s top CEOs. As projects like Libra have enjoyed

broad media coverage they are also increasingly scrutinized by regulatory authorities. And as the term “stablecoin” spread, its meaning started to blur. This is problematic. An unclear definition may make us susceptible to deceptive innovation, that is, reintroducing existing services but in a different appearance.”

Fry (2021), examining “Why stablecoins are not just important for the crypto market,” noted that: “To date, much of the focus and use cases for stablecoins has been to view them as a payment mechanism, as a way to . . . avoid the high transaction fees often associated with international remittances”; and ended by posing the question: “are stablecoins creating much of the infrastructure and processes and use cases which will make the adoption of Central Bank Digital Currencies (CBDC) all the smoother and faster?”

In January 2022, a report from the U.S. Board of Governors of the Federal Reserve on the benefits and risks presented by a potential U.S. central bank digital currency (CBDC) gave a fairly clear “No” answer to that latter question, as far as the U.S. is concerned [Fed (2022)]. It seems that the U.S. Federal Reserve is far from launching a CBDC at all, let alone “smoother and faster”, and it has issued a discussion paper that examines the pros and cons of a potential U.S. CBDC.

A CBDC is generally defined as a digital liability of a central bank that is widely available to the general public. In the U.S., Federal Reserve notes (physical U.S. dollar) are currently the only type of central bank money available to the general public. Like existing forms of such money, a CBDC would enable the general public to make digital payments. A CBDC would be the safest digital asset available to the general public, with no associated credit or liquidity risk.

Despite, so far, the lack of reception for CBDCs in the U.S., I firmly believe that they have useful capabilities, if structured correctly, to benefit society at large. An example is discussed below.

3. FIXING THE U.K. HOUSING SHORTAGE: THE QE2-COIN U.K. CBDC STABLECOIN PROPOSAL AND THE SNUT TASK FORCE PLAN

With regards to a possible U.K. CBDC, in October 2017, I requested my Member of Parliament, the Rt Hon Priti Patel MP (currently UK Home Secretary), to put forward a Prime Minister’s Question (PMQ) in Parliament proposing my unique idea and recommendation for the U.K.’s own national stablecoin, the QE2-Coin: “Will the PM seize the international economic high ground for the U.K. in regard to the dramatic evolution of the

field of cryptocurrencies, and announce that Britain will issue the first ever state-backed sovereign state initial coin offering (SSICO), the “QE2-Coin”, to be used specifically to fix the U.K. housing shortage, the Government granting tranches of QE2-Coins to local councils, with a mandate to employ them vigorously to secure a rapid expansion in supply of badly-needed new starter and rental homes throughout Britain; and will the PM confirm that the Government understands that this world-first SSICO, putting billions of QE2-Coins into circulation applied productively towards the worthy objective of increasing the stock of affordable modern homes for the UK, will be a true ‘magic money tree’, non-inflationary, and not at all affecting the PSBR” [Castell (2019)].

I have subsequently put practical flesh on this idea, as described herein. I understand from my MP that these further details have reached the desk of the Rt Hon Boris Johnson MP, the U.K. Prime Minister. His response is awaited.

In brief, the QE2-Coin is to be a unique “digicoin”: not simply a stablecoin, nor an asset-backed token, nor a fiat currency, nor a financial/investment instrument, but a “specialized national utility token”, or SNUT.

It will have the following features:

- To be issued by and in the name of the people by the SNUT People’s Trust Fund.
- Each QE2-Coin to be guaranteed as to its base exchange value, or BEV, by the Bank of England (or by the SNUT People’s Trust Fund, well-capitalized and insured).
- The BEV to be: one QE2-Coin (QE2) will never be worth less than 0.5 GBP (i.e., 50 pence); thus, 1 GBP = 2 QE2 maximum.
- 20 billion QE2 to be issued through an unregulated/regulated ICO, or other workable digital currency mechanism (compliant with MiCA and FCA etc. provisions, as appropriate), i.e., 10 billion GBP fiat equivalent initially.
- The QE2 to be used solely within the housebuilding sector for new affordable homes, i.e., in the materials, labor, equipment, construction, fixtures and fittings, furnishings, services, utilities, realty agents, mortgage financing etc., home supply, and value chains.
- The U.K. Government and HM Treasury to support the QE2 vision and objectives of the SNUT People’s Trust Fund by inter alia permitting taxes to be paid in QE2.

The initial scope and outline work plan of the QE2-Coin SNUT task force is proposed as:

1. Preliminary convening and defining of SNUT outline terms of reference.
2. Creating the core management team under Dr Stephen Castell.
3. Configuring the SNUT QE2 work groups: funding, SNUT People’s Trust Fund, technical and operational requirements, design, creation, validation, ICO planning, ICO implementation, regulatory and legal, government, executive and legislative, construction industry liaison, roll-out, operational guidance, monitoring, and oversight and accountability.
4. Development of project, action, and management plans.

There will be regulatory and legal issues to be addressed, not least regarding the U.K. Government’s passing a law making the QE2 legal tender:

- (i) for payment for employment, goods, and services in the U.K. housebuilding sector (carefully defined in the legislation); and
- (ii) prohibiting the QE2 to be purely deposited in banks, or invested in markets: “It’s for spending; not for keeping, collecting, lending, borrowing, saving, or investing.”

Discussion with companies in the U.K. housebuilding sector (having a stock market valuation of around £50 billion) suggests that there will be an enthusiastic welcome for this affordable homes SNUT. A leading real estate consultancy, with over 50 years’ experience in London’s commercial property, said “This QE2-Coin is a brilliant idea, and when you consider the appetite for a continuing post-Covid ‘work from home’ economy, it could readily be adapted to implement a newly re-imagined commercial workplace-home property sector, too.”

There is much already available in the literature addressing, explaining, and discussing the micro-economics of U.K. housebuilding. It is not the purpose or place of this introductory article to go into how the QE2-Coin fits into any micro-economics model of the sector, and I leave that to others and/or for another day [Thangavelu (2021), Ball (2003)].

4. AFFORDABLE AND STARTER HOMES FOR U.K. CITIZENS: THE SOCIALLY USEFUL CRYPTO-ECONOMICS OF THE QE2-COIN

There is no doubt that social housing and the affordable and starter homes sectors in the U.K. are in dire need of attention, assistance, and improvement. Young people starting out, the geographically, economically, and socially disadvantaged, and the poorly-paid, least skilled, and less financially capable: these groups of U.K. inhabitants have, for generations after the post-war generation, been faced with a paucity of quality and fit-for-purpose housing choices, at affordable prices, either for rent or for purchase. That most basic of human needs, an appropriate, sound, well-built, safe, secure, healthy, and comfortable home, has never been universally and satisfactorily met for U.K. inhabitants.

The U.K.'s Housing Minister, Michael Gove MP (currently holding the government posts of Minister for Intergovernmental Relations and Secretary of State for Levelling Up, Housing and Communities), has himself recently declared that the quality of some social housing in Britain is "scandalously poor" [Barker (2021)].

It appears that fulfilling this most fundamental need of anyone for "a home, and a reasonably good one, at an affordable cost" may be unachievable without new thinking. There have been 18 U.K. Housing Ministers since 1997 and none has managed to establish any initiative, policy, or workable implemented plan to fix the affordable and starter homes shortage; that does not auger well for the U.K. Government's current ambition for circa 300,000 new homes per annum, as set out in its recent revised National Planning Policy [IH Reporters (2020)].

Without new ideas, innovation, and a powerful vision, it seems unlikely that any U.K. government policy will evolve to rectify this situation, and be able to narrow the significant, and routinely growing, gap between U.K. housing supply and housing need – let alone come near fully meeting that need. According to Grissell and Kerley (2021): "Across the country, there are more than 27 million homes, but many more are needed. In the 30 years to 2021, three million fewer properties were built than in the previous 30. The population, however, has increased by more than nine million." Recent research by the House of Commons reports that "In order to reach the Government's target of 300,000 new homes per year, annual net supply would need to reach levels 39 percent higher than in 2020/21" [Wilson and Barton (2022)].

In summary, throughout the post-WW2 decades, despite many political manifesto pledges for reform and repeated central government attempts at encouragement of the home construction industry, there has in reality been a constant and growing new affordable U.K. homes blight, characterized by woefully under-target new housebuilding and poorly executed government stimuli. These have been negatively complemented by continuing archaic and unwieldy productive land use regulation, overly-protective zoning restrictions, and tediously long, convoluted, and uncertain planning permission processes.

Consistent national land management and oversight, with a substantive vision for homing U.K. inhabitants, and a coherent, effective implementation strategy for the future, have been sorely lacking, whatever the party in government. Land use and home construction day-to-day controls and restrictions continue to be essentially devolved to a multiplicity of local authorities, most having little capability or resources to execute a "citizens quality homing vision". At the same time, these local authorities are charged with the responsibility for finding locally disadvantaged and homeless people whatever dwellings, of whatever quality, that may be available, in severely limited quantities, at great cost to the public purse, from almost exclusively private sector housing suppliers and owners.

What is more, this dearth in availability, exacerbated by the rapidly increasing costs, of any suitable stock of private sector dwellings are factors currently creating near-crisis difficulties and challenges for U.K. local public servants expected to grapple with homing the homeless. The latest U.K. house price figures from property portal Rightmove reveals "the biggest monthly jump in pounds ... recorded in its 20 years of data-gathering" with "the highest annual rate of growth since September 2014" [Michael and Howard (2022)].

The really socially useful and valuable stablecoin, the QE2-Coin, to be spent in the U.K. housebuilding sector economy, and not converted into any inert non-economically productive asset or instrument, will positively address these U.K. homes availability and cost factors, fueling economic activity, livelihoods, and growth, enhancing optimism, confidence, jobs, and profits in the UK housebuilding sector specifically focused on providing affordable homes. Furthermore, with the right vision and implementation thereof, this could well promote and provide smart, carbon-neutral, or even carbon-positive, homes as well [Richardson and Coley (2019)].



5. THE QE2-COIN: TECHNICAL DETAILS

Uniquely, the QE2-Coin is a “limited life utility token”, meaning that it will have a smart contract baked into it, with functionality coded to “dematerialize” any QE2-Coin token instance, taking it out of existence if it does not get spent and used socially usefully within a defined time period.

For purposes of manifestation, a maquette or prototype QE2-Coin has been created as the basic Ethereum crypto-token QE2. As QE2 evolves, details will be dynamically available at www.QE2Coin.com. Its initial technical configuration may be examined at Etherscan (Kovan Testnet Network).²

6. NEXT STEPS

To anyone, like the author, who has been active in financial market systems and capital instruments and products innovation (fintech) for a considerable length of time, it has always seemed odd that bitcoin sought only to mimic existing “traditional” currency, payment, and asset concepts. Leaving

aside the technical innovation of utilizing a blockchain consensus mechanism and cryptographic security architecture for creation and anti-counterfeiting, bitcoin and other cryptocurrencies are generally rather quaintly “financial and economic old school” in business application concepts and implementation. In 1995, long before bitcoin, when I conceived my own “electronic cash unit” (ECU) [Castell (1995)], I always had in mind using the untrammled “whatever you want it to be” imaginative software-coded processes of computer systems-based digital cash to embed novel functionality and utility “within the very ‘digicoïn’ itself.”

One imaginative and innovative element of this inherently flexible functional capability of computer systems-based digital cash, not present, nor able to be implanted, in bitcoin or any other standard blockchain-architected cryptocurrency, can be a baked-in algorithm, a smart contract, that makes a digicoïn’s existence “intrinsically time-dependent” and this embedded “use it or lose it” algorithm design will be utilized for the QE2-Coin.³ “It’s for spending; not for keeping, collecting, lending, borrowing, saving or investing.” Utility, not vacuity!

² <https://bit.ly/3hkxtU2>

³ Possible outline algorithm stub:

```
EXISTENCE: IF DEMATERIALISE FLAG (QE2-COIN (N)) EQ 'FALSE' THEN GOTO OUT
  WRITE QE2-COIN (N) TO BLOCK (BLOCK-COUNT)
  TIME-COUNT= TIME-COUNT+1
  IF TIME-COUNT > LIFE-SET AND WALLET-SPEND (QE2-COIN (N)) EQ 'FALSE'
    THEN GOTO KILL
    PROCESS UTILITY (QE2-COIN (N)) RETURN
    BLOCK-COUNT=BLOCK-COUNT+1
    GOTO EXISTENCE
KILL: SET DEMATERIALISE FLAG (QE2-COIN (N))
OUT:
```

It is interesting that the recent “Executive Order on Ensuring Responsible Development of Digital Assets” signed by the President of the United States includes in the definition of a “stablecoin” mechanisms “algorithmically controlling supply in response to changes in demand” [Biden (2022)].

The U.K. Prime Minister's response to the SNUT Proposal is awaited. However, it is undeniable that there is a severe and persistent affordable starter and rental homes shortage in the U.K., and, whether or not the U.K. government decides to engage with SNUT, there is no reason why the QE2-Coin initiative should not proceed. Young people starting out, the geographically, economically, and socially disadvantaged, and the poorly-paid, least skilled, and less financially capable

should undeniably be given the chance to receive the home-provision benefits of the financial transformation that the uniquely imaginative QE2-Coin crypto-economics will deliver, irrespective of the incomprehension, inaction, or incapability of the U.K. government.

Visionaries and entrepreneurs in FinTech, the crypto community, the investment world, and the property sector are welcomed to understand, share, and support the vision, power, and advantages of the innovation of the “QE2-Coin, at last a really socially useful stablecoin”, and join in developing, evolving, and implementing the SNUT Plan for fixing the U.K. starter and rental homes shortage.

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