

Technical Paper 03 Version 02  
Independent price movement  
Importance of floating exchange mechanism for EXC  
17<sup>th</sup> September 2018<sup>1</sup>

**Abstract:**

We have designed a new digital currency, EXC, which has a number of features which are different from both fiat currencies and from existing cryptocurrencies.

One of the important features is the mechanism whereby EXC has no correlation with any other currencies, including the US dollar, Euro, Japanese Yen, Chinese Yuan or British Pound. It has been designed so that the price movement of EXC is independent from any economic activity or any potential monetary crisis of any of these major countries or within an economic region. This is an important benefit for potential users and investors of EXC which has been designed to be the best method of payment in the rapidly developing cashless society.

In addition to its independent price fluctuation or floating exchange rate movement, EXC has been designed to incorporate the following features, i.e., (1) not to be used by people with potentially negative or criminal motivation, (2) the highest level of security, (3) very fast settlement, (4) high level of convenience for its users, and (5) an automated value-added function should the price of EXC fall sharply for remaining EXC holders.

**Background:**

The IMF has published two reports in April 2018, 'WORLD ECONOMIC OUTLOOK: Cyclical Upswing, Structural Change'<sup>2</sup> and GLOBAL FINANCIAL STABILITY REPORT: A BUMPY ROAD AHEAD<sup>3</sup>. From various IMF reports, it has become clear that the US, Japan and certain territories within the EU (e.g. Greece or Italy) have too large a debt to GDP ratio. Additionally, the UK's outlook has been downgraded due to its uncertainty resulting from Brexit and China's shadow banking could be a further risk. There is a risk associated with each component currency of the Special Drawing Rights, IMF's reserve currency, and this could result in a risk of depreciation. The sudden growth of the central banks' collective balance sheet to more than three times that of at the time the 2008 Credit Crisis and Lehman shock indicates that it might be necessary to have a super national currency to act as the measurement against such a depreciation of such currencies.

In the latter report, the IMF pointed out, **"The technology behind crypto assets has the potential to make financial markets infrastructure more efficient. However, crypto assets have been damaged by fraud, security breaches, and operational**

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<sup>2</sup> See <http://www.imf.org/en/Publications/WEO/Issues/2018/03/20/world-economic-outlook-april-2018>

<sup>3</sup> <https://www.imf.org/en/Publications/GFSR/Issues/2018/04/02/Global-Financial-Stability-Report-April-2018>

**failures, and have been associated with illicit activities. At present, crypto assets do not appear to pose risks to financial stability, but they could do so should their use become more widespread without appropriate safeguards” and “a prolonged period of low interest rates had stimulated a build-up of debt worth 225% of world GDP in 2016, 12 points above the previous record level reached in 2009.”<sup>4</sup>**

The IMF also warned that “if there is such a thing as a capital crime in economics, it is Donald Trump’s exorbitant fiscal stimulus at the top of the cycle. The effects are entirely pernicious.”<sup>5</sup>

As mentioned in our EXC White Paper, many people, especially younger people, had viewed the extraordinary decisions of governments around the world to save financial institutions, especially the shareholders of private sector financial institutions, as illegitimate actions or ‘above the law’ measures taken by the government.

This resulted in consumers’ faith moving away from their respective government and towards cryptocurrencies, represented by Bitcoin. The single most appealing point of Bitcoin to those fans is the fact that there is no backing of any government. No government backing was synonymous with ‘being fair’. A substantial portion of those people who became owners of Bitcoin and other cryptocurrencies believe that neither the US government nor the Japanese government can repay the respective government debt without hyper inflation or default.<sup>6</sup>

The IMF report mildly pointed out the problems of financial institutions in the Euro area and Japan.<sup>7</sup>

On the other hand, the IMF report pointed out the clear difference between the expected growth rate for the developed economy of 1.5%<sup>8</sup> and for the emerging markets of 5%<sup>9</sup> over

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<sup>4</sup> Source <https://www.theguardian.com/business/2018/apr/18/global-debt-now-worse-than-before-financial-crisis-says-imf> and <http://www.bbc.co.uk/news/business-43809872>

<sup>5</sup> Source: <https://www.telegraph.co.uk/business/2018/04/18/imf-savages-trumps-debt-rampage-fears-global-dollar-funding/>

<sup>6</sup> See [https://en.wikipedia.org/wiki/List\\_of\\_countries\\_by\\_public\\_debt](https://en.wikipedia.org/wiki/List_of_countries_by_public_debt) Japan’s public sector debt to GDP was 236% in 2017, EU was 83% in 2014, Greece was 182% in 2017, US 108% in 2017, UK 87% in 2017, China 66%, Italy 131% in 2017.

<sup>7</sup> In the euro area, continued progress on reducing nonperforming loans is essential for shedding legacy crises and lifting an important constraint on credit intermediation (notably in Greece, Italy, and Portugal). More generally, there is a need to improve banks’ cost efficiency and profitability, which will require proactive supervision and consolidation in overbanked economies. Appropriate and predictable use of creditor bail-ins and precautionary recapitalizations will be vital for reducing uncertainty and counterparty risk in situations of financial stress as well as for limiting the burden placed on taxpayers. For the whole currency area, completing the banking union remains a priority for placing the financial system on a stronger footing. In Japan, the prolonged low-interest-rate environment and demographic headwinds have gradually weakened the profitability of financial institutions, particularly among regional banks. Increasing fee-based income and diversifying revenue sources, together with consolidation and rationalization, should help boost profitability.

<sup>8</sup> Advanced economies are projected to grow at 2.5 percent in 2018—0.2 percentage point higher than in 2017—and 2.2 percent in 2019 (Table 1.1). For both years, this forecast is considerably stronger than the October World Economic Outlook (WEO) forecast (0.5 and 0.4 percentage point higher for 2018 and 2019,

the medium term. This implies that if there is a currency linked with emerging markets' economic activities, that currency may have a better chance of being appreciated compared with SDR or currencies comprising the SDR.

### **Need for Super national currency; lesson from Reichsmark depreciation**

John Maynard Keynes would tell us that the economic and political chaos today is déjà vu and similar to that of his day. This would present an obvious money-making opportunity for like minded people to Keynes from trading forex. Keynes had observed that Germany had to increase its money supply and predicted a substantial depreciation of the Reichsmark (German's currency at the time). He took a short position against Reichsmarks. Keynes created his fortune from this bet after the hyperinflation which took place between 1914 and 1923. If Keynes were alive today, he would certainly be predicting that the macroeconomic problems facing the US are similar to those of Germany at the time, i.e., the Fed's balance sheet expanded rapidly and excessively after the 2008 Credit Crisis and Lehman shock. Public sector debt is at historical highs and on the way to becoming larger due to the large tax cut announced in 2018, meaning that the chance of the US government narrowing its public debt becomes more challenging. With the lower interest rate environment (as compared with the 20<sup>th</sup> century), the money supply increases even faster. Consequently, the US dollar would depreciate faster in terms of asset prices if it had not already done so.

Unlike the US government, the issuer of EXC certainly has no large debts. It will become one of the few issuers of currency with an extremely healthy capital ratio – 100% capital, with no debt.

As a supplement to the EXC White Paper, this technical paper focuses on the importance of EXC's independent price movement and the mechanism through which it might become a potential super national currency – such as the one which Keynes tried, without success, to create.<sup>10</sup>

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respectively). Growth in advanced economies is projected to decline to 1.5 percent over the medium term, broadly in line with modest potential growth.

<sup>99</sup> Growth in emerging market and developing economies is expected to increase from 4.8 percent in 2017 to 4.9 percent in 2018 and 5.1 percent in 2019 (0.1 percentage point higher for 2019 than in the October World Economic Outlook (WEO); Table 1.1). Beyond 2019, growth in emerging market and developing economies is projected to stabilize around 5 percent over the medium term.

<sup>10</sup> To recap the major features of the EXC Platform:

1. Totally flexible exchange rate determination. EXC as a new cryptocurrency has the mechanism to be flexible vis-à-vis any fiat currency – in order to capture the upside when a major issuing country collapses or falls into crisis,
2. Capable of storing value/ adding credit worthiness,
3. To be able to achieve the lowest possible transaction costs over time,
4. To be able to achieve the highest level of security – no double spending, no fraud nor money laundering and/or hacking proof,
5. To be 100% traceable<sup>10</sup>,
6. The EXC Platform aims to eliminate human intervention as much as possible, and
7. The EXC Platform needs to be flexible enough to be inclusive and needs to be able to evolve as technologies develop.

## Bancor<sup>11</sup> as super-national currency – summary of original concept

Lord Keynes and Schumacher conceptualised the super-national currency, bancor,<sup>12</sup> between 1940- 1942 and proposed introducing it after World War II.

1. Unit of account for tracking international flows of capital,
2. All international trade would be valued and cleared in bancors,
3. Gold could be exchanged for bancors, but bancors could not be exchanged back for gold;
4. In March 2009, the governor of People’s Bank of China proposed SDR as the extension of the bancor concept.

### Mechanism explained - Automated money supply system:

Below illustrates such an automated mechanism of money supply.

Sell	Quotes (\$)	Buy
12,235,100	Over	
11,101	\$ 10,000,009	
3,701	\$ 10,000,008	
12,501	\$ 10,000,007	
1,101	\$ 10,000,006	
1,701	\$ 10,000,005	
2,601	\$ 10,000,004	
1,101	\$ 10,000,003	
901	\$ 10,000,002	
3,301	\$ 10,000,001	
15,100	\$ 10,000,000	
	\$ 9,999,999	11,400
	\$ 9,999,998	10,700
	\$ 9,999,997	13,700
	\$ 9,999,996	15,700
	\$ 9,999,995	15,300
	\$ 9,999,994	12,200
	\$ 9,999,993	11,100
	\$ 9,999,992	12,000
	\$ 9,999,991	18,000
	\$ 9,999,990	13,300
	UNDER	20,345,678

The above table illustrates the following conditions and the mechanism.

- 1) The historical high price is \$10,000,000 and the money supply of EXC is 10,000,000 units.
- 2) There are 20,345,678 buy orders below \$9,999,990 per EXC.
- 3) There are 12,235,100 sell orders above \$10,000,010 per EXC

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<sup>11</sup> Source: <https://en.wikipedia.org/wiki/Bancor>

<sup>12</sup> French banque means ‘bank gold’. This has become bancore.

- 4) Each EXC owned by GMF is on the sell order from \$10,000,001 to \$21,000,000. Thus when the new historical high price is reached, the amount of money will go to GMF as a reserve. This will ensure that the reserves of GMF would be  $\$(1+N)*N$  before any buy back operation.
- 5) Buy back operation will be triggered if the price falls 50% or more from the peak using per coin reserve of  $(1+N)/2$ . In the above example, the buy back starts at \$5,000,000.
- 6) The coins bought back from buy back operations will be disposed of, for example, at \$10,000,000 or above for additional coins each for each additional dollar increased price

Since EXC has superior utility value compared with most cryptocurrencies as well as fiat currencies, (for example, convenience, energy saving/eco platform, low-cost operation, and high security) and these superior utility value could be recognized by more and more people over time.

Recently, a high profile group has raised \$1.7 billion by claiming that they will address two of the six issues (or one of the five issues depending upon how to count) the EXC Platform would have already solved by the time of its launch. If the market believes that the EXC Platform would have superior value compared with this group, the market cap of EXC would exceed \$1.7 billion. If the market believes that the EXC Platform has superior value compared with Bitcoin, the EXC market cap will exceed that of Bitcoin.

### **NOT PEGGED TO ANY FIATS**

This contrasts with the traditional wisdom that central bankers had superior knowledge about economic activity and indicators. As the internet has developed over last two decades and digital devices<sup>13</sup> have been proliferated around the world, the optimal price, through demand and the supply matching can easily be discovered by consumers who can participate directly in the market.

If EXC achieves its goal of low cost operation, EXC can be exchanged into major currencies at around 0.001% to 0.03% of the transaction value. This would make EXC an alternative to US dollars as a vehicle currency. This level of spread would mean EXC can attract a lot of demand and supply and create substantial volume of FX transactions.

As EXC's money supply is determined by mathematical formulae. Initially, the formulae are that the Nth coin is supplied to the market if the market price reaches \$N, while coins will be bought back from the market by its digital central bank at, for example, 20% of the daily volume if the price falls to no less than the half of the last issue price, which would be equal to the historical high market price.

The above would ensure that the EXC price moves totally independently from the US dollar or any other fiat currencies.

### **Conclusion:**

Bill Gates made the provocative statement in 1994, "**Banking is necessary, banks are not.**" This statement was regarded very controversially then but had a perfect foresight. With the

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<sup>13</sup> IMF reports that 1.5 billion smartphones were produced in 2017, and over 8 billion smartphone stocks in the world. This means that everyone in the world should be able to be connected within next few years if each government wants to eliminate the knowledge gap among the rich and the poor.

EXC Platform achieving all its goals over the coming years, where the Platform could become fully automated, Bill Gates' statement would become true. Banking using the EXC Platform might be one of the first Artificial Intelligence systems, where the system may be able to learn what is the right level of new money supply price while what is the right formulae of buying back, say starting to buy 10% down from the peak price for one coin each and resale at 120% of what is bought by analysing the historical trading data. Once EXC Platform is able to learn what is the optimal pattern to increase EXC's per token reserve, human interventions would no longer be required for the banking system. The price of EXC would move independent from any other economic indicators, but will be determined purely by users' perception of the utility value of the EXC Platform v. US dollars or any other major currencies.

By creating such a digital currency whose price is determined purely by the demand and supply, the price increase in equity and housing may be viewed by the depreciation of US dollars or other major fiat currencies whose issuers increase their balance sheets. The combined reading, with IMF's report GLOBAL FINANCIAL STABILITY REPORT: A BUMPY ROAD AHEAD published on 18<sup>th</sup> April, 2019, would help readers to understand the reasons why Keynes was looking for an alternative to any fiat currency as a unit of measure.

The advantage of the EXC compared with any other currency or cryptocurrency lies in its simple design, no tie with any national debt or no requirement of human intervention. The system mainly comprises purely a mathematical formulae and very efficient cloud servers. This probably means that the EXC Platform is a super-national means to measure the currency which Lord Keynes had dreamt about.

### **Changes to structure**

The supervisors may amend this document and the structure, functions or any other aspects of Excor, GMF, the EXC Platform, the EXC token and/or the token offering at any time in their sole discretion if, for example (but not limited to), the tax, legal or regulatory position changes or it is more favourable from a tax, legal or regulatory position to make such amendments.