



CENTRAL BANK OF
TRINIDAD & TOBAGO

Payments Quarterly

Payments Quarterly is a newsletter on developments in the Payments System in Trinidad and Tobago

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Inside this issue:

Regulatory News – Guidelines for the Regulation of the Payments System (Part II)

Bitcoin, is it here to stay?

Operator's Spot: RTGS Update

Payments Glossary

Payments Quarterly Volume Meter

In this edition of Payments Quarterly,

We continue to highlight the various Payments System Guidelines issued by the Central Bank of Trinidad and Tobago in 2012. In the March 2013 issue, Guideline Number One on the Licensing and Operations of the Interbank Payment Systems was discussed. In this issue, we highlight key aspects of Guideline Number Two on Registration and Operation of Non-Interbank Payment Systems.

In keeping with the electronic payments theme, which we started in 2012, the second article provides insights into a new type of virtual currency called Bitcoin. It is currently used within a virtual economy, but has the potential to go mainstream.

In the Operator's Spot, the Central Bank of Trinidad and Tobago, the operator of the Real Time Gross Settlement (RTGS) system provides an update. ■

GUIDELINES

FOR THE REGULATION OF PAYMENT SYSTEMS IN TRINIDAD AND TOBAGO (Part II)

The enactment of the new Financial Institutions Act, Chapter 79:09 (FIA, 2008) and the consequential amendments to the Central Bank Act, Chapter 79:02 gave the Central Bank broad responsibility over the payment systems in Trinidad and Tobago. As part of this role, the Central Bank issued four Guidelines for the Licensing and Operation of Interbank Payment Systems.

In the March edition of the Payments Quarterly newsletter, Guideline No. 1- Licensing and Operation of Interbank Payment Systems was highlighted. In this issue, Guideline No. 2 – Registration and Operation of Non-Interbank Payment Systems is summarized.

Traditionally, banks were the main facilitators of transferring funds from a payer's account to a payee's account. However, over time there has been the emergence of non-bank payments system operators such as Pay Pal and Citadel EFT that can facilitate such payments. These institutions take deposits from the public (payers) and facilitate transfers or payments to payees. While there are no known non-bank payment system operators in Trinidad and Tobago, Guideline 2: Registration and Operation of Non-Interbank Payment Systems outlines the procedures for entities wishing to operate a Non-Interbank Payment System (other than e-money Issuers which would have a separate Guideline). These entities are currently only required to register with the Central Bank and submit such information in such frequency as may be required by the Central Bank.



Payments Quarterly is published quarterly by the Central Bank of Trinidad and Tobago.

If you require any further details or would like to offer any suggestions please contact the Payments System Department at the Central Bank of Trinidad and Tobago.

Please see our full contact details on the last page.

GUIDELINES FOR THE REGULATION OF PAYMENT SYSTEMS IN TRINIDAD AND TOBAGO

The following highlights the provisions of the Guideline:

1. Any entity desiring to commence or continue the operation of a Non-Interbank Payment System in Trinidad and Tobago must apply to the Central Bank for registration on the prescribed form accompanied by the required documentation.

2. The Central Bank has the right to accept or reject any application to become a registered Non-Interbank Payment Systems Operator. Based upon its determination, the Central Bank shall issue the Applicant with a notice of registration in writing which will specify the effective date of registration.

3. The terms and conditions of registration specify: (i) the Central Bank

will maintain a register of all registered Non-Interbank Payment Systems Operators;

(ii) Registrants are expected to comply with all relevant laws, Regulations and Guidelines including the Proceeds of Crime Act, 2000, the Anti-Terrorism Act, 2005 and the Financing of Terrorism Regulations, 2011; and (iii) registered Non-Interbank Payment Systems Operators may be requested to submit relevant data periodically to the Central Bank.

4. A Non-Interbank Payment Systems Operator can be removed from the Register for the following reasons: (i) the registered system is not operational within 12 months of the effective date of registration; (ii) the Operator requests or consents to the cancellation of the registration; (iii) the Operator ceases to engage in any business activity for more than six months; (iv) the

Operator has furnished false statements in the application for registration; (v) the Operator has operated a system other than in accordance with the registration; (vi) the system would constitute a threat to the public's confidence in the National Payment System; (vii) the cancellation is desirable in order to protect the interests of consumers; or (viii) the operation of the system is otherwise unlawful.

5. The procedures for removing a Non-Interbank Payment System from its register are also outlined.

In the next Issue, Guideline No. 3, Operation of Payment Service Providers will be highlighted. ■

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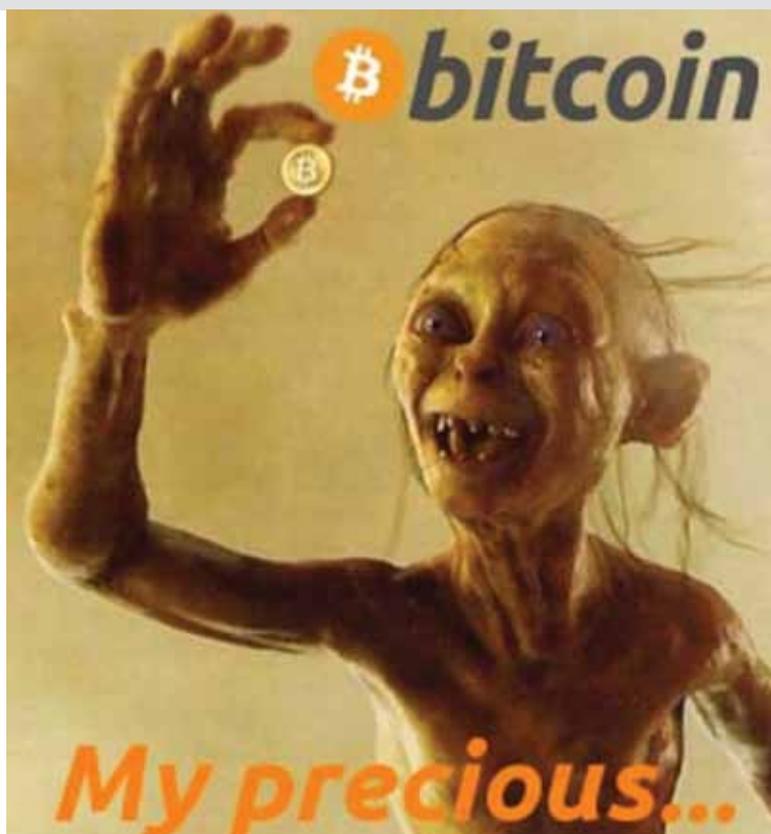
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¹ Guideline 2: *Registration and Operation of Non-Interbank Payment Systems* can be found at <http://www.central-bank.org.tt/content/payments-system>. Work is ongoing on the preparation of a Guideline for e-money issuer.

Bitcoin, is it here to stay?

Virtual currencies are growing in popularity for payment of goods and services online, allowing users to circumvent traditional banking and money transfer systems. A virtual currency can be defined or described as *"a medium of exchange that operates like currency, but does not have all the attributes of real currency. In particular, it does not have legal tender status in any jurisdiction. It is unregulated, digital money, which is issued and usually controlled by its developers and used and accepted among the members of a specific virtual community. It is a digital unit of exchange that is not backed by a government issued legal tender. Virtual currencies can be used entirely within a virtual economy, or can be used in lieu of a government issued currency to purchase goods and services in the real economy"*.²

Technological advancement has ushered in a new era in the field of virtual payments with the advent of the Bitcoin, the **world's first completely decentralized digital currency**. It was created by developer Satoshi Nakamoto (pseudonym) in 2009 and is increasingly being used for on-line payments as



Bitcoin, is it here to stay?

well as for investment purposes. Bitcoins can be exchanged for hard currencies like the US dollar and have many advantages. They are easily transferred to other members in the network without the assistance of a financial entity and the transactions are irreversible, instantaneous and cheap. Hence, there is great optimism by the proponents of the bitcoin that it will transform the international financial and payment systems. Nicholas Colas, Chief Market Strategist at ConvergEx, is quoted as saying "We continue to believe that this phenomenon is the most provocative economic experiment since the invention of the Euro and well worth watching".³



www.etoro.com

enable users to make and verify payments, free of any fees or charges.

Bitcoins can be acquired through "mining" or can be purchased from online currency exchanges and online businesses that transact in Bitcoins. To become a miner, an individual must purchase the mining software that runs the Nakamoto algorithm and solve a complex mathematical problem to earn a block of Bitcoins. A block contains 25 Bitcoins, but the size of blocks is programmed to halve every four years thus limiting the growth in the currency over time. It is expected that by 2140 there will be zero growth in Bitcoins in circulation, as



www.phys.org

Pictures of physical bitcoins: Each one is worth real digital bitcoins, and could be brass or gold in colour and of varying weights and sizes depending on value. Source: Internet

Bitcoin has become a widely used alternative currency, with the total market cap at over US\$1.5 billion. The value of a Bitcoin is determined by the automated online markets. Internationally, Bitcoins can be exchanged and managed through various websites and software along with physical banknotes and coins. Bitcoins do not rely on a central server or trusted intermediaries such as banks to process transactions or store funds, but are administered instead by the decentralized peer-to-peer network. Cryptographic technologies and the peer-to-peer network of computing power

the maximum limit of Bitcoins issued would have been reached, that is 21 million. Each Bitcoin is further divided into smaller units called Satoshis. Currently, there are over 11.5 million Bitcoins in circulation valued at US\$1.2 billion⁴.

Bitcoins may be utilized to purchase real goods, exchanged for hard cash or used for speculation. Some businesses have established a facility that allows customers to pay for services using Bitcoins. For instance, a pub owner who was a former computer scientist, has created and

installed a Bitcoin payment option at his pubs in London allowing customers to pay for drinks using Bitcoins which are easily transferable through smartphones.⁵

However, the longevity of this unregulated currency may be doubtful given the uncertainty surrounding it, the risks associated with it and the call to have it regulated to prevent tax evasion, money laundering and financing of terrorist activities. Moreover, the currency has experienced significant volatility in recent times moving from a low of US\$2 per unit in 2011 to US\$20 in early 2013 before reaching a high of US\$266 in April 2013. Mt Gox, a Tokyo-based exchange which is purported to handle over 80 per cent of Bitcoin trades, was forced to suspend trading on Thursday 11, April 2013. The exchange indicated this action was necessary to allow the market to 'cool down' after a sharp drop in Bitcoin value which had fallen by some US\$160 on the previous day.

Thus, the future of this phenomenon is still uncertain and in the words of Nicholas Colas, "It could all still end in tears, either by regulation or mismanagement. But Bitcoin isn't dead just yet, and it remains one of the most potentially disruptive forces in modern finance."⁶

However, the New York Times reported on July 1, 2013 that there is a move to bring the Bitcoin into the mainstream. Cameron and Tyler Winklevoss two brothers who are known for their part in the history of Facebook and who have sizeable Bitcoin holdings, have filed a proposal with US securities regulators that would allow any investor to trade Bitcoins as they would

¹ Source: http://itlaw.wikia.com/wiki/Virtual_currency

² ConvergEx Group is a provider of global brokerage and trading-related services for institutional investors and financial intermediaries.

³ Source: <http://ivn.us/2013/08/20/the-uncertain-future-of-bitcoins/>

⁴ Source: <http://www.dailymail.co.uk/sciencetech/article-2347258/The-Bitcoin-Boozer-East-London-pub-accept-virtual-currency.html>

⁵ See Fox Business Report Published May 07, 2013, Can Bitcoin Craze Outlast Looming Hurdles, by Matt Egan-

<http://www.foxbusiness.com/technology/2013/05/06/can-bitcoin-craze-outlast-looming-hurdles/>

Bitcoin, is it here to stay?

stocks. The plan involves an exchange-traded fund, which usually tracks a basket of stocks or a commodity, but in this instance would hold only Bitcoins. It is part of a broader effort to remove the stigma attached to the Bitcoin and other online virtual currencies. Recently, Mt. Gox filed with the US Treasury Department to register itself as a money services business and comply with money-laundering laws.

Following the writing of this article, important developments surrounding Bitcoins emerged in August 2013. Germany

became the first country to formally recognize the digital currency Bitcoin as a "unit of account" which can be used for private transactions and therefore allow bitcoin deals to be taxed.⁷ Also, a US judge ruled that Bitcoin could now be recognized as an official currency similar to the US dollar, gold and silver. US State and Federal governments are now investigating regulating this currency.⁸ Moreover, a Bitcoin ticker is now available on Bloomberg but only for the use of their employees at this time.

Other jurisdictions will have to closely monitor these initiatives being undertaken in the US and Germany. The Central Bank will continue to assess these international developments to ascertain the implications for the payments system in Trinidad and Tobago and measures that may or may not need to be taken going forward. ■

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⁷ Source: <http://www.bloomberg.com/news/2013-08-20/bershidsky-s-view-from-europe.html>

⁸ Source: <http://www.thetakeaway.org/2013/aug/15/congress-investigates-digital-currency-bitcoins>

OPERATOR'S SPOT RTGS UPDATE

The Real Time Gross Settlement (RTGS) System processes large value (over \$500,000) or time critical payments (which could be less than \$500,000). Payment is instantaneous which allows beneficiaries to receive funds in their accounts the same day that the transaction is initiated.

In 2012, the volume of RTGS transactions rose by 9 per cent to 53,495 while the value of transactions fell by 2 per cent to \$492.4 billion. The average monthly volumes and values continued to rise in 2013. For the period January to May 2013, volume increased by 8 per cent and value by 16 per cent, compared to the corresponding period in 2012 (see Table below). Despite the increase in RTGS transactions, there remain a significant number of large value cheques cleared each month.

RTGS Transaction Volumes and Values for January - May 2013

Month	Volume	Value
January	5,043	59,025,681,813.60
February	3,908	33,404,612,420.04
March	4,466	38,460,830,733.77
April	4,549	38,334,351,031.84
May	4,787	47,567,483,352.20
Total	22,753	216,792,959,351.45

There were no upgrades of the RTGS system in 2012, however testing has commenced on a higher version of the system and is scheduled to be implemented by the end of the Bank's financial year (September 30, 2013).

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Payments Glossary



Here are 5 terms applicable to the Payments System:

1. Automated Clearing House (ACH)	An electronic clearing system in which payment orders are exchanged among financial institutions, primarily via magnetic media of telecommunication networks, and handled by a data-processing centre.
2. Bitcoin	Bitcoin is a digital currency, a protocol, and a software that enables instant peer-to-peer transactions and worldwide payments. http://bitcoin.org/en/
3. Payment	The payer's transfer of a monetary claim on a party acceptable to the payee. Typically, claims take the form of banknotes or deposit balances held at a financial institution or at a central bank.
4. Payment Instrument	Any instrument enabling the holder/user to transfer funds.
5. Real-Time Gross Settlement	The continuous (real-time) settlement of funds or securities transfers individually on an order by order basis (without netting).

Source: *A Glossary of Terms used in Payments and Settlement Systems*, BIS, March 2003.

Payments Quarterly Volume Meter

RTGS, ACH and Cheques Volumes, 2010-2013
(Millions)

	2010	2011	2012	2012	2013
				April-June	April-June
RTGS	0.05	0.05	0.05	0.01	0.01
ACH	2.89	3.13	3.41	0.84	0.89
Cheques	9.65	9.46	9.75	2.45	2.28
Total	12.59	12.64	13.21	3.30	3.18

If you require any further details or would like to offer any suggestions, please contact the Payments System Department at the Central Bank of Trinidad and Tobago at

Phone number: 1 (868) 625-4835 ext. 2719;
or send an email to: rtgs@central-bank.org.tt