

Contribution of Cryptocurrency Production to the Shadow Economy

Geneva, 10-12 April 2019



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What is a cryptocurrency?



A cryptocurrency is a digital money that uses cryptography for security.

Does cryptocurrency satisfy main functions of money ?

1. Medium of exchange – few possibilities;
2. Unit of measure – low rate of pricing in cryptocurrency;
3. Store of value –high volatility in prices.

Types of Crypto Assets



Types of cryptocurrencies:

1. Created through the production process called “mining” – e.g. Bitcoin;
2. Generated totally at the launch of the project – e.g. Ripple;

Other digital assets – also called as cryptocurrencies:

1. “Digital tokens” Issued through the Initial Coin Offerings (ICOs) - The holder of the token has the right to claim for the underlying asset of issuer.

Total number of cryptocurrencies reach 2154 are traded on 17425 markets. (Source: www.coinmarketcap.com)



Main characteristics of cryptocurrencies



Cryptocurrencies are:

- **Decentralized** – distributed ledger technology is used for secured transactions, saved on computers around the world, also called as **nodes**. Transactions are verified through nodes and recorded in a public distributed ledger – **Blockchain**.
- **Anonymous transactions** - users do not need to identify themselves when transferring cryptocurrencies.
- **Limited Supply** - cryptocurrencies have a limited, pre-determined supply.



Classification of crypto assets



Monetary and Financial Statistics Manual and Compilation guide: *Internet-based currency, such as Bitcoins, is not electronic money because it does not meet the definition of currency, as it is not issued or authorized by a central bank or government, and additionally is not widely accepted as a medium of exchange. **Bitcoins are classified as nonfinancial assets.***

Classification of Crypto assets proposed by the IMF (2018)*

- Bitcoin-like Crypto Assets (BLSA) are produced nonfinancial assets, classified under the subcategory of valuables.
- Digital tokens:
 - Payment and utility tokens – Nonfinancial assets/valuables; Financial assets for particular cases;
 - Asset tokens – Debt or equity securities;
 - Hybrid tokens – Debt or equity securities; Debt securities for particular cases.

*IMF, Statistics Department 2018, Treatment of Crypto assets in Macroeconomic Statistics.

Production boundary of the SNA and Exhaustiveness



SNA 2008: *The production boundary of the SNA includes :The production of all goods or services that are supplied to units other than their producers, or intended to be so supplied, including the production of goods or services used up in the process of producing such goods or services.*

Production of Crypto assets fall within the production boundary of the SNA and should be accounted accordingly.

According to the Eurostat's Tabular approach to exhaustiveness, production of cryptocurrency may fall within the following type of Non-Exhaustiveness:

N3 Producer is not obliged to register – Since the status of “production” is not assigned yet to the process of creating cryptocurrencies within the SNA 2008, neither large producers nor households are obliged to report production volume of created assets.

Output of cryptocurrency production

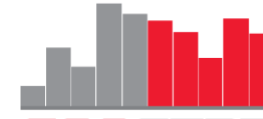


IMF's (2008) proposal how to measure crypto assets production: "The output of mining should be measured as the sum of transaction fee and newly mined BLCAs. The transaction fee should be classified as services."

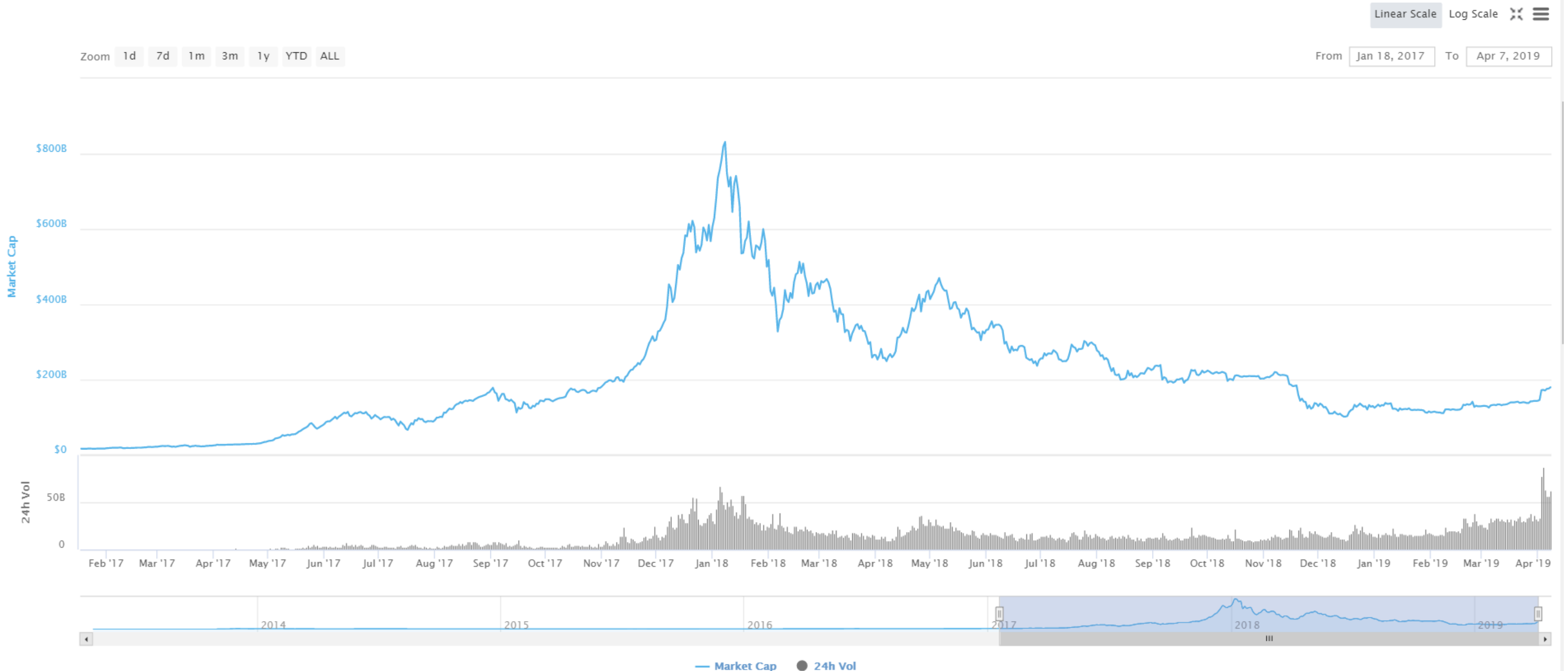
Since not all types of cryptocurrencies require mining activities, output of those currencies which does not require mining activities, should be measured according to the volume supplied in circulation. (e.g. Ripple, Tron, Iota)



Total market capitalization of cryptocurrency



Total Market Capitalization

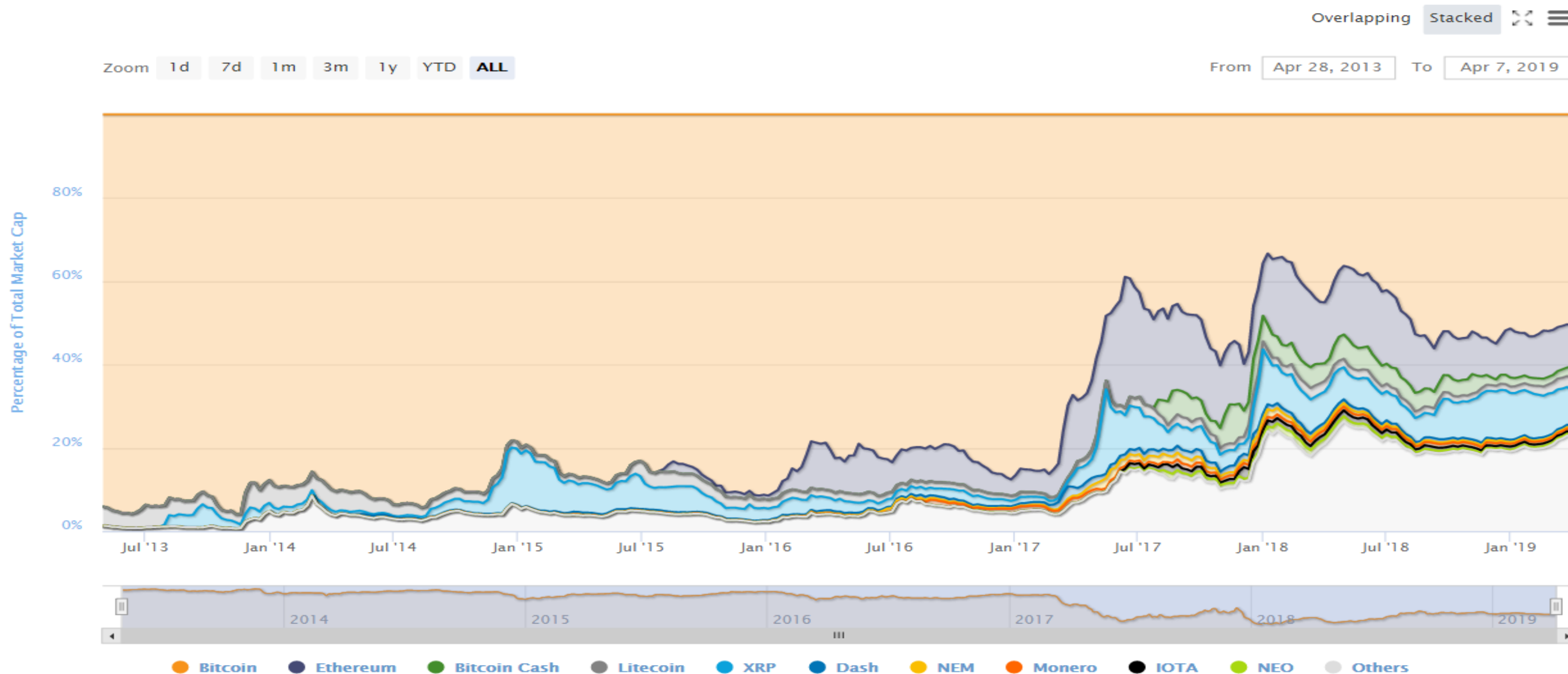


Source: www.coinmarketcap.com

Structure of cryptocurrency market



Percentage of Total Market Capitalization (Dominance)



Source: www.coinmarketcap.com

Challenges in Cryptocurrency production in Georgia



Cryptocurrency production is not regulated by the central authority in Georgia;

Increased cryptocurrency prices and comparably low electricity costs promoted mining activities among households and large scale enterprises.

Challenges in estimation of production volume:

- Different cryptocurrencies are mined;
- If assumed that only Bitcoin is produced:
- Difficulty of mining procedure changes;
 - Equipment efficiency declines;
 - Electricity consumption needed to generate one unit.

Based on IMF (2018) estimates newly mined Bitcoins and transaction fees amounted to around 700 mln USD (at August 2018 market prices), significantly affecting the GDP level and the Balance of Payments.

Conclusion



- Unaccounted cryptocurrency production may have a significant effect on macroeconomic indicators of a small economy;
- Cryptocurrency production is a part of non-observed economy, which may stimulate financing illegal activities;
- Accounting the total output produced cryptocurrency needs global cooperation and information sharing from international wallets.



Thank you for your attention!

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