Topic - Cryptocurrencies:

Cryptocurrency is a form of digital currency not owned or controlled by any official government. Due to this fact, the value of any cryptocurrency is extremely volatile, and can increase or decrease seemingly at random.
We chose Cryptocurrency to be our topic for our group presentation as Cryptocurrencies such as Bitcoin entered the limelight a few years ago and have had quite an impact on society, governments, and the transaction of money. It is also not very well known about in detail to the general public, so we wish to shed some light on its inner machinations.

Blockchain:

A blockchain is a type of database used by cryptocurrencies that is made up of a connected line of grouped pieces of data (A chain on data). Each group of data is called a “Block”. Each block is time-stamped with the exact moment it was added onto the chain of blocks, and has a set maximum data size. A block is only added to the chain once its data capacity is completely filled.
Blockchains are used in cryptocurrencies as a method of keeping track of cryptocurrency transaction data. Blockchains are essentially publicly viewable ledgers that anyone can add onto and verify. This makes it a very robust method of tracking transactions, as any fraudulent transactions would be detected, audited, and voiced, by many different entities at the same time. The blockchain is almost completely irreversible as it would require everyone that has a copy of the blockchain ledger to change their copy.

Mining:

Crypto currencies that are blockchain based are built upon the idea that the ledger is kept in the public domain. For the cryptocurrency to grow and develop, new blocks need to be added constantly in order to keep up with the pending purchases. In response to carrying out the addition of blocks in the blockchain the “miners” are rewarded with crypto assets. With the addition of the new blocks in the blockchain there are different consensus models. The first example is proof of work,according to the IRD proof of work is the use of computing resources to validate cryptoassest transactions and maintaining the blockchain transaction ledger. Cryptocurrency has had in increase in popularity which also makes the mining more difficult resulting in the need for better hardware.

Economic Freedom:

Many research on economic freedom have been conducted all across the world. A high GDP per capita is obviously linked to economic freedom. Countries that have forbidden or heavily regulated bitcoin are low in terms of economic freedom and have low GDP per capita. These oppressive governments contribute to the poverty of their people.Individuals, particularly those in third-world nations and those subject to economic sanctions, benefit from cryptocurrency. Due to fewer laws, the crypto market is easier to access than traditional banks, allowing citizens to avoid governments and restrictions in order to mine for cryptocurrency rewards to use, sell, and convert for common products in order to survive.

Opportunities and Benefits:

Confidentiality - Cryptocurrencies allow for anonymity. Transactions can be viewed, but the being making the transactions is unknown.
Authentication - Cryptocurrency transactions are very easy to verify and are always public. As such, it is near-impossible to fake a transaction.
Storage Security - Once the cryptocurrency is stored in a secure offline location, it cannot be accessed by hackers and other nefarious entities.
Merchant Security - As transactions cannot be recalled, merchants would not need to worry about chargebacks or fraudulent transactions.
Decentralized Control - Cryptocurrencies are not issued by any government, allowing it to keep its value even in an economic collapse.
International Usage - Allows for international transactions without exchange rates.
Inflation - They are immune against inflation and deflation, though it is prone to volatile changes in value.
World Currency - Cryptocurrencies have the potential to phase out government-sanctioned currencies, and provide the world with a global currency (A currency that doesn’t have any set borders) that could be used anywhere.

Risks:

Cryptocurrency is vulnerable to theft because it is controlled by private keys, anyone who gains access to private keys can move the currency.The ease of theft and the common practise of speculators utilising numerous cryptocurrencies encourage thieves to utilise worms, as a worm might spread across one cryptocurrency network and then steal all other coins on the victim computers.Security experts cannot guarantee that your cryptocurrency stored on an internet-connected machine will remain secure.Bugs can also harm cryptocurrency holdings, when cryptocurrencies are paired with “smart contracts,” the risk of bugs increases. Worms, exchanges, central authorities, and government involvement all pose systemic risks to cryptocurrencies. Peer-to-peer systems, particularly those implemented in unsafe languages like C and C++, are particularly vulnerable to worms.This would allow a worm to propagate globally in a couple of seconds using cryptocurrencies that reduce the time it takes to send transactions.

Risk (continue)

Exchanges seek to avoid regulation, which means they implode with almost seeming regularity—usually due to a combination of theft and fraud. These exchanges may even participate in active market manipulation.The risks in the cryptocurrency world are multifaceted and diverse, but fortunately most are limited to those who participate. This leads to a natural conclusion. As the philosopher WOPR said in the movie *WarGames*, "The only winning move is not to play."

Photo images

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Choices:

The main party that is impacted by cryptocurrency is the government. The government issues currency and are the ones who give it value according to James Mcwhinney. Since the government controls the fiat currency, they are able to do many things with it such as track currency movement, collect taxes and choose who can benefit from the movement of the currency. Cryptocurrency can also bring about conflicting interests among stakeholders like regulatory pressure from the government. If the cryptocurrency can be adopted and the government accepts it, it can make the legal implications unclear. One of the factors that naturally influence the adoption of cryptocurrency is the cost during a transaction. Payment service providers that accept cryptocurrency and convert to fiat currency fees are generally lower than when compared with fiat currencies. With regards to the transaction fees Bitcoins transaction fees are at a fixed amount, whereas the credit card payments are a percentage of the transaction value. This makes it more cost effective when doing large payments. One of the biggest hurdles of cryptocurrency is the volatility of them. There is a constant change in the market value of crypto and in a way can be induced through the use of news cycles, this encourages the investment of crypto which means an increase in the trades or when individuals or many people make market moving transactions all contribute to volatility. This is probably one of the biggest reasons as to why it is difficult to adopt crypto.

Roles and Responsibilities:

- Kheo Dickinson researches Cryptocurrency Mining and the Impact Cryptocurrency has on society. Also manages the GitHub repository.
- Jun-Liang Tan researches Cryptocurrency Blockchains and the Opportunities and Benefits Cryptocurrency can give to society. Also manages the GitHub repository.
- Jacqui Mehau researches the Economic Freedoms of Cryptocurrencies and the Risks and Ethical issues that come along with it. Also manages the website.

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