Economic Analysis Working Group review of 2019

Part 1: The money markets

Authors:
Andrew Gillick, Peyton Cummiskey and Jean Bosco
Introduction: Are we nearing a Bretton Woods Pt II?

2019 was the year that Bitcoin and cryptocurrency truly entered onto the macroeconomic stage as central banks around the world slashed interest rates and the spectre of negative interest rates. Facebook’s Libra proposal changed the game for cryptocurrency and elevated the status of ‘global stablecoins’ to an international priority for regulators around the world who are assessing their implications on financial stability and central bank currencies.

Libra also coincided with the year of the 75th anniversary of the Bretton Woods Agreement which is highly symbolic as the multilateral system faces perhaps its greatest challenges in an interconnected digital world amid rising nationalist politics. Alongside JP Morgan and other private stablecoin projects technology and corporate consortia are reshaping the governance of money and even globalization with new distributed models of governance that embody a multistakeholder approach.

As Governor of the Bank of England Mark Carney put it at the meeting of central bankers at Jackson Hole in August, the USD as the global reserve currency has become a “destabilizing” force in the world economy since “Bretton Woods collapsed”. A new era is dawning on global policymakers in which monetary policy is reaching its limits and unconventional monetary policy may become the ‘new normal’.

James Bullard, president of the St. Louis Federal Reserve described the new monetary environment at Jackson Hole as a “regime shift” in the developed world. “Something is going on, and that’s causing... a total rethink of central banking and all our cherished notions about what we think we’re doing. We just have to stop thinking that next year things are going to be normal,” he said.

2019 also saw dislocations in the US money markets. The abnormal spike in the Fed Funds Rate in September, which is the rate that influences commercial banks’ decision to lend out or keep money in reserve sent signals to the market that the central bank may have lost the ability to do so. This highlighted the challenge in setting monetary policy to transmit rate changes to the broader economy as the dollar and interbank markets have become so labyrinthine that the Fed alone cannot see the full picture dollar liquidity nor control the quantity of money created.

As such, the potential of central bank digital currency (CBDC) would be a game-changer for monetary policy that would provide real-time data on the flows of money. In the absence of such a digital USD and with China’s digital Yuan imminent in 2020, Facebook and Libra executives have proposed to US regulators that Libra is in the national interest to counter the challenge of the Yuan. In September, the tiny island nation of the Marshall Islands became one of the few countries to launch a CBDC.

Similarly, in Europe, The Association of German Banks released a draft document in November calling for the development of a programmable digital Euro. In November, former head of the IMF Christine Lagarde took over the helm of the ECB as President. During her tenure as chief of the IMF the group explored the use of digital currencies to enable negative interest rates and her actions will be closely watched as Europe has planned fresh rounds of Quantitative Easing in 2020 to the tune of €20 billion per month.
Just as the end of the gold standard in 1971 and the start of free floating exchange rates unleashed the era of neoliberal globalization which broke down economic borders, today, in cryptocurrency and stablecoins, we are witnessing the globalization of money in an era when resurgent nationalism is clashing with the forces of globalization.

Those leaders at Bretton Woods and the institutions that were created from it, the IMF, World Bank and the subsequent WTO, could not have anticipated a world in which global trade is as interconnected as it is today and raises questions around who can possibly govern the process.

The Libra consortium is the latest of many consortia being built around blockchain that will have a profound effect on the future of money, governance, and global trade.
## Introduction: Are we nearing a Bretton Woods Part II?  

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Libra, setting the scene</td>
<td>5</td>
</tr>
<tr>
<td>Getting geopolitical: Libra, China and Bitcoin</td>
<td>5</td>
</tr>
<tr>
<td>Global stablecoins ‘undermining stability’</td>
<td>7</td>
</tr>
<tr>
<td>Regulators statements on stablecoins in 2019</td>
<td>8</td>
</tr>
<tr>
<td>Could Libra lead to mainstream adoption of cryptocurrency?</td>
<td>9</td>
</tr>
<tr>
<td>The ‘first man through the door’</td>
<td>9</td>
</tr>
</tbody>
</table>

## Interest rate cuts, the debt ceiling, gold and Bitcoin  

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The debt ceiling and Triffin’s paradox</td>
<td>12</td>
</tr>
<tr>
<td>CBDC increasing the margins of seigniorage</td>
<td>13</td>
</tr>
</tbody>
</table>

## The rising power in the East and the Belt and Road  

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>China’s ambitions and the digital Yuan</td>
<td>17</td>
</tr>
<tr>
<td>Digital Yuan enabling currency devaluation?</td>
<td>18</td>
</tr>
</tbody>
</table>

## Negative interest rates warping the markets  

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blockchain and the bond markets</td>
<td>21</td>
</tr>
<tr>
<td>Don’t fear the repo and QE Part Deux</td>
<td>23</td>
</tr>
<tr>
<td>The possible role Libra can play in the money markets</td>
<td>24</td>
</tr>
<tr>
<td>A ‘new paradigm’ for Fed funding</td>
<td>25</td>
</tr>
<tr>
<td>Complementary currencies in countercyclical lending</td>
<td>26</td>
</tr>
<tr>
<td>Alternative finance and credit</td>
<td>27</td>
</tr>
<tr>
<td>Digital currency in a negative interest rate environment</td>
<td>29</td>
</tr>
</tbody>
</table>

## Conclusion  

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>
Libra, setting the scene

On May 2, 2019, the commercial register in Geneva, Switzerland shows that Libra Networks was registered with Facebook Global Holdings as a stakeholder. Just over two months later, the Libra Association published their whitepaper detailing how their new cryptocurrency would operate. The corporation stated that they find many benefits in blockchain technologies that have not been realized due to the limited market in which they operate. They go on to say that they could adopt the trustworthiness and the decreased transactions costs of blockchains to promote the transfer of value for the globe as well as providing access to the transfer of value for those that are unbanked (see the ‘Problem Statement’ and ‘The Opportunity’ sections in the Libra whitepaper).

Naturally, when any entity proposes such a potentially disruptive idea, the United States government will have questions. On July 17, 2019, The United States House Financial Services Committee held a hearing titled “Examining Facebook’s Proposed Cryptocurrency and its Impact on Consumers, Investors, and the American Financial System” to ascertain the current and future problems that Libra will be presented and how they will deal with those problems given the gargantuan responsibility garnered by such large financial influence.

Representative Maxine Waters, the leader of the hearing, expressed reservations on behalf of the U.S. government due to prior issues that Facebook has had with private consumer data mismanagement shown by the fines they incurred. She also mentions her concern with the choice to base the Libra Association out of Switzerland which has a “history of [being] a monetary haven for criminals and shady corporations”.

David Marcus, current lead for Calibra and co-creator of Libra, fielded questions from various members of Congress ranging from anti-money laundering policies to their distinction as a payment tool as opposed to a banking apparatus. It should be stated that many of the members that questioned Mr. Marcus thanked him and his team for their innovation and offered the advice that an individual should not judge the current form of Libra too harshly since it is still a very infantile product that has a lot of room to grow.

Getting geopolitical: Libra, China and Bitcoin

In October, David Marcus went on air stating that the US is losing the digital currency battle with China and that keeping Libra is in the interest of the US as a de facto digital USD to keep apace with the Yuan. In an interview with Bloomberg News he stated:

- “having a whole part of the world completely blocked from U.S. sanctions and protected from U.S. sanctions and having a new digital reserve currency”

- “The future in five years, if we don’t have a good answer, is basically China re-wiring [a large part of the world] with a digital renminbi running on their controlled blockchain”

Libra is notable for its non-inclusion of China’s Yuan (Renminbi) in its currency basket at a time when China’s role and share of global GDP is greater than Europe.
Separately, appearing before The House Financial Services Committee to defend Libra on October 23, Mark Zuckerberg again brought up the issue of the digital Yuan and the threat it posed to the US reserve status. He also appealed to regulators that the US needed Libra to fight fire with fire.

“China is moving quickly to launch a similar idea in the coming months. We can’t sit here and assume that because America is the leader today that it will always get to be the leader if we don’t innovate.” - Mark Zuckerberg

The BLX global price for Bitcoin which aggregates all reliable exchange volume shows a steady drop-off of volume throughout Q3, shown in the bars at the bottom.

Libra, China, the digital Yuan and Bitcoin are currently all entangled in up in a global macro narrative. The mainstream logic is using Libra as a proxy for crypto and bitcoin adoption and regulation, with global trading volumes dwindling for Bitcoin anything positive for Libra is positive for BTC and vice versa.

The price of Bitcoin (shown above in the BLX global index) has shown volatility around the Libra hearing sessions, moving sharply lower on the day of the two big hearings and sharply reversing after. Interestingly, the last hearing with Mark Zuckerberg and the Financial Services Committee coincided with an announcement from China’s President Xi Xinping that blockchain development as an economic pillar and passing a cryptography law. Mr Xi summated the country needed to make a great effort with blockchain “to get an edge on other major countries”.
Global stablecoins ‘undermining stability’

Facebook has an estimated 2.3 billion users and there are concerns that mass adoption of Libra could destabilize the global financial system. Dozens of corporations, including well-known financial service providers such as Mastercard and PayPal, initially joined Facebook’s project under the Calibra umbrella which is a non-profit organisation based in Switzerland.

There are four main components to the Libra project:

- **Libra Reserve**: Manages the liquid assets, cash and short-term bonds that stabilizes the Libra stablecoin
- **Libra Blockchain**: A proof-of-stake consensus with ‘Libra Byzantine Fault Tolerance’ sybil resistance and smart contract capability proposed in future
- **Libra Association**: A body comprised of 100 corporations that governs the technology and makes decisions on its future
- **Calibra Wallet**: A separate company spun off from Facebook that manages consumer wallets

Source: Intranel

Financial standards setters and regulators were quick to react and investigate Facebook’s project closely and numerous reports were published from national and international bodies.
Regulators’ statements on stablecoins in 2019

**November, Fed Financial Stability Report:** “Stablecoin initiatives that are built on existing large and cross-border customer networks, such as Facebook’s Libra, have the potential to rapidly achieve widespread adoption. These initiatives are referred to as “global stablecoins, but if poorly designed and unregulated, could negatively affect financial stability.”

**October, FSB/G20 letter:** “the introduction of “global stablecoins” could pose a host of challenges to the regulatory community, not least because they have the potential to become systemically important, including through the substitution of domestic currencies.”

**October, G7/BIS Working Group:** “Some risks are amplified and new risks might arise if adoption is global in nature. Stablecoin initiatives built on an existing – large and/or cross-border – customer base may have the potential to scale rapidly to achieve a global or other substantial footprint. These are referred to as “global stablecoins” (GSCs).

**August, European Central Bank whitepaper:** “stablecoin initiatives with a clear governance framework may nevertheless be hampered by the uncertainty relating to the lack of regulatory scrutiny and recognition.”

Some officials, such as Thomas Moser, alternate member of the governing board at the Swiss National Bank, and the Governor of the Bank of England Mark Carney have shown tentative support.

France has set up a G7 working group in conjunction with the IMF and central banks to ensure proper consideration of any stability risk in case of mass adoption of the cryptocurrency. The US House Financial Services Committee and the Senate Banking Committee hosted a hearing on Facebook’s cryptocurrency in July in which they questioned Libra project head David Marcus.

In September, Libra representatives also met with officials from 26 central banks, including the Fed and Bank of England to address their concerns about the project. The European Central Bank’s Benoit Coeure who chaired the hearing in Switzerland said “Libra has undoubtedly been a wake-up call for central banks to strengthen their efforts to improve existing payment systems.”

“The next natural step would be for global central banks to join forces and jointly investigate the feasibility of central bank digital currencies based on common technical standards.” - Benoit Coeure, Europen Central Bank
Could Libra lead to mainstream adoption of cryptocurrency?

Digital currencies and the more nuanced stablecoins are a byproduct of the globalization process, both a form of backlash to it (Bitcoin and other permissionless cryptocurrency) and a logical evolution of it (central bank and corporate digital currencies).

Libra would have seismic network effect on the adoption of cryptocurrency. However, as it is just one stablecoin vying for retail payment among many other similar stablecoins, consumers will have to decide what type of power structure they are comfortable with - a permissionless structure, or a permissioned corporate consortium.

Joe Lubin, Co-founder of Ethereum and founder of ConsenSys, expressed his concerns with the Libra system of governance: “Yet, with the Libra whitepaper, Facebook is not eliminating subjective trust, but imploring us to trust in Libra. You have to trust that one Libra coin will have ‘intrinsic value’ by being backed by a basket of currencies and government bonds, rather than the capriciousness of daily cryptocurrency price swings. Facebook will seek trust from regulators that its Calibra wallet can comply with know-your-customer and anti-money laundering laws by requiring government-issued IDs to verify an account. It will need merchants to trust that their initial network will responsibly run nodes to validate transactions on the system.”

He expresses a common sentiment that consumers should proceed with caution in financial matters that are tied with Facebook since they have shown a history of the collection and sale of data. It could be dangerous to have the same entity owning both your social media data and your financial services data.

The ‘first man through the door’

Libra has supplied an important piece of the cryptocurrency puzzle. Although it may ruffle the feathers of cryptocurrency traditionalists, the invention of Libra created a streamlined path for regulation of the new technology. They took the first wave of heavy blows during the hearing on behalf of all other cryptocurrencies.

Regulators’ fears about the developing technology are now out in the open and can be met with solutions in the future. Libra has stated that they will be fully compliant with many existing regulations such as Anti-Money Laundering, KYC, and AML/CFT to name a few. They also made corporate investment into cryptocurrency more accessible to non-financial corporations - commercial banks spent $1.7 billion in 2017 developing blockchain use cases. Potentially, there are also more corporations willing to invest once a proper regulatory framework is set for cryptocurrency and some of the regulatory risk is mitigated. If cryptocurrency is going to be as widespread of a tool as is expected, it would seem important that more sectors than just finance have a say in how money is moved.

However, a warning shot was fired by Congress with the draft of a bill titled “Keep Big Tech out of Finance” which was released days before the Libra hearing. The bill stated that after a year any big tech company acting as or affiliated with a financial institution or owning and operating a cryptocurrency would be subject to a fine of $1,000,000 per day of violation. It seems that Congress is not ready for
something like Libra, but Libra has made it clear they will not agree to a moratorium. The situation is still tentative, but it seems as though neither side will cede ground. Libra can still move forward with their project and Congress has gained what they needed most: more time to figure out how to deal with regulation regarding cryptocurrency.

In the interim Facebook, is launching Facebook Pay a new service that will provide people with a convenient, secure and consistent payment experience across Facebook, Messenger, Instagram, and WhatsApp without any blockchain technology or cryptocurrency.
Interest rate cuts, the debt ceiling, gold and Bitcoin

As the United States’ government debt nears its ceiling, the prospect of Libra launching in 2020 couldn’t be more timely. It raises awareness around complementary and supranational currencies which may improve upon the current fiat system as the spectre of more quantitative easing and the monetization of government debt (such as MMT) comes to fruition. However, Libra could also set a precedent for a new era of corporate monetary policy and corporate global governance.

Over the past few months Bitcoin, Libra and US interest rates have shared much of the media spotlight. The US is approaching its debt ceiling at $22tr and could exhaust its borrowing capacity if Congress doesn’t agree to raise the debt ceiling.

The narrative of Bitcoin as a safe haven asset grew stronger after its strong performance during the Federal Reserve’s July rate cut, the first rate cut since its creation in 2009. Bitcoin acted as it was designed to - as digital gold - and rallied even more than the traditional safe haven assets, gold and the Japanese Yen, up over 10% on the day of the rate cut at the end of July.

Brave New Coin’s BLX global price of Bitcoin (orange) has been moving in negative correlation to the US 10Yr Treasury since June. Gold also has a historic negative correlation with US 10YR.
The debt ceiling and central bank digital currencies

Theoretically, the US government debt need never be paid down. So long as a country prints its own currency and issues debt in its own currency it can always service its debt; but for how long will other countries allow the US the privilege of continuously growing its debt? There comes a point when other countries lose faith in the world’s reserve currency and refuse it for trade or debt settlements. This dichotomy between a reserve country’s domestic and foreign policy is known as **Triffin’s Paradox**.

**Triffin’s Paradox:** A currency can lose its global reserve status when debt becomes unsustainable and undermines its trust. US debt is now hitting its ‘ceiling’ at over $22tr. **Source:** FRED

Calls for a departure from the USD as global reserve currency is part of the “regime shift” James Bullard, President of the Federal Reserve of Saint Louis, referred to at the meeting of central bankers at Jackson Hole in August.

“**While the world economy is being reordered, the U.S. dollar remains as important as when Bretton Woods collapsed,”** - **Mark Carney, Governor The Bank of England**

The governor of the Bank of England, Mark Carney, also at Jackson Hole, spelled it out later that weekend: the dominance of the United States dollar as the global reserve currency “will not hold”. Mr Carney cited how the USD’s disproportionate dominance in global trade has created market ‘distortions’. While it accounts for 10% of global trade and 15% of global GDP; over half of the world’s trade invoices are issued in USD and two-thirds of security issuances are in USD.

Just as the British Pound Sterling was replaced by the USD as reserve currency after its debt burden and empire became untenable after two World Wars, the global monetary system has undergone massive
change since 1944. And although US dominance and importance has diminished in the intervening years the USD’s dominance has remained constant.

Governor of the Bank of England Mark Carney suggested a number of possible replacements to the USD as global reserve currency, including the Yuan (or renminbi). He also proposed a new “synthetic hegemonic currency” - a digital currency anchored to a basket of central bank digital currencies (CBDC) akin to a digital version of the IMF’s Special Drawing Rights (SDR), echoing a similar call from the People’s Bank of China for over a decade.

Although it is unlikely that there will ever be a return to a ‘gold standard’, gold is still held by central banks as a form of non-sovereign base money and is the one globally-accepted unit of settlement. A nation-agnostic digital currency is what leaders from major powers other than the US want as the preferred future unit of global trade.

**CBDC increasing the margins of money production**

Another benefit of central bank digital currency becoming legal tender is the lower cost of production for the government once the technology is up and running.

![Cost Of New Currency: Federal Reserve](chart-from-federalreserve.gov)

For centuries, central banks have been finding ways to increase their margins on the cost of money production, or seigniorage, first by diluting the content of metal coinage (silver and nickel) and lately changing the standard of the printed paper money.

In 2018, the Federal Reserve printed $243m of USD at a cost of $800m — or 0.3% of the face value.

**Source: SRS Rocco Report**

When fiat money is fully digitized and central banks issue their own digital currency the cost and ease of money production will be slashed again. This could allow for even greater control and oversight of fiscal spending that proponents of Quantitative Easing and Modern Monetary Theory (MMT) advocate.
The rising power in the East and the Belt and Road

There is a secular shift of power and wealth from the West back to the East, where India and China have been the engines of global growth 19 out of the past 21 centuries. China’s Belt and Road project is the grandest display of this power shift.

China’s purchasing power **overtook** the US in 2014 and is forecast to be 1.5 times the size of the U.S. by 2024. This drastic shift in the balance of economic power may have significant implications for investors’ equity portfolios if they seek exposure to financial assets that may benefit from this growth trend.

![Exhibit 2. Breakdown of global GDP by purchasing power](image)

Also, in a major coup for China and the Yuan, Chinese equities (A-Shares) were partially accepted into the MSCI’s ACWI and Emerging Markets indices in 2018. MSCI is the leading indices and fund provider that many funds and money managers across the world track and benchmark their performance. In February this year, MSCI raised the weighting factor of A shares from 5% to 20%.

This is significant as the quadrupling in weighting now makes the inclusion of Chinese equities unavoidable for institutional investor portfolios. This in turn will fuel demand for the Yuan (to buy the shares) just as demand for US shares have driven demand for USD for decades. According to MSCI, this demand is already **quantifiable**: the number of accounts to buy offshore A Shares before the reweighting announcement was 1,700, compared to 7,300 after.
The global output for China and the U.S., respectively, were 16% and 24% in 2018, and 3% and 29% in 1998, reflecting the rapid growth in China’s economy over the past two decades. Source: MSCI

And it’s not just fund managers that are allocating more capital to China. The Yuan/Renminbi now plays a more significant role as an alternative reserve currency to the U.S. dollar, euro and the Japanese yen, and central banks and monetary authorities have increased their allocations to Chinese debt and equity.

In 2016, China was also included in the IMF’s Special Drawing Rights (SDR) basket of major currencies. The SDR is a supranational unit of account comprised of five major currencies, USD, EUR, GBP, YEN and RMB (Yuan), mostly used for international trade and debt settlement. IMF managing director at the time Christine Lagarde said “the Executive Board’s decision to include the renminbi in the SDR basket is an important milestone in the integration of the Chinese economy into the global financial system.”

Above and below, the new and old weightings of the SDR. Source: IMF
Libra, which is premised on a currency basket similar to the SDR, is notable for its omission of the Yuan and has no foreseeable plans to include it despite its growing stature. Interestingly, the composition of the Libra basket doesn’t follow any global standard such as the SDR and the weighting factor of currencies is made entirely the Libra Association’s discretion.

This point is a concern for Western regulators and the omission of the Yuan was an affront to China which galvanized the central bank to produce its digital Yuan as they viewed Libra as further entrenchment of the USD.

China’s ambitions and the digital Yuan

With the future of the Euro and even the Eurozone hanging by a tread there is no alternative to the USD as the next global reserve currency, although discontent with the system continues to grow. China has taken this as an opportunity to expand its economic influence. This is not an immediate threat to usurp the USD, because, as we discussed in Triffin’s Paradox, being the world’s reserve currency comes with significant burdens which China couldn’t manage. Rather, China is attempting to “internationalize” the Yuan.

China will release its digital Yuan by the end of the year - the world’s first central bank digital currency (CBDC). It is expected to be released first to Chinese commercial banks and technology companies such as WeChat and Tencent. China has been intermediating the dollar for years, starting with the energy market by issuing the Petro Yuan, the first non-USD settled oil contract.

For years China has also been calling for the use of a neutral unit for trade settlement such as the IMF’s Special Drawing Rights. In 2009, in the wake of the global financial crisis then Governor of the PBoC, Dr Zhou Xiaochuan, named the dollar as the root cause of the economic meltdown in his speech titled ‘Reform the International Monetary System’:

“The desirable goal of reforming the international monetary system, therefore, is to create an international reserve currency that is disconnected from individual nations and is able to remain stable in the long run, thus removing the inherent deficiencies caused by using credit-based national currencies.” - Dr Zhou Xiaochuan, 2009 speech

According to comments from Dr Zhou and other PBoC officials recently, China accelerated it efforts to roll out the CBDC after the announcement of Facebook’s Libra project. Notable features of the digital yuan are:

- **To replace the M0 money supply** as sole legal tender in China, as a result the CBDC would not have any derivative deposit or money multipliers.
- **A 100% reserve ratio** instead of a "fractional-reserve" system used in the traditional banking system, the Chinese CBDC would require financial institutions to maintain full reserves
- **Two-tier technology system** with the first layer of the network being a centralized distributed ledger and it is unclear whether the second will also be blockchain based.
- **Targeted performance** to achieve "at least 300,000 transactions per second"
● Stored in digital wallets in the form of digital ledgers verified by cryptography and consensus algorithms
● To increase RMB turnover rate and increase its international presence

The Issuance process of the CBDC

Source: Binance Research

The digital Yuan will not only give China and PBoC unprecedented capital surveillance on its own citizens but will also enable it to track offshore loans along its Belt and Road projects in Asia, Africa and Eastern Europe. In such a highly-controlled network the government will have real-time data on who the money is going to, where it is being spent and if it’s particularly if it’s being mis-spent (corruption is a problem in many emerging market governments). It may also help with risk assessment, if credit bubbles are building in certain industries, companies or even risk profiling individuals.

China has become the primary creditor for emerging and frontier countries along its Belt and Road, originating trillions of dollars of loans to fund infrastructure projects to revive old trade routes. The China Development Bank, the country’s most prominent lender announced that it has put aside $890 billion for spending on 900 infrastructure projects along the B&R and the Export-Import Bank of China, will fund 1000 projects across 49 countries.

Some argue that this will leave many of the countries saddled with unsustainable debt and there is some evidence of this happening among some smaller nations, but, with the extra tools provided by a programmable digital currency China will have more tools in its monetary toolbox to track and
repatriate offshore funds. It also appears determined to make the Yuan more competitive by devaluing the exchange rate.

Digital Yuan enabling currency devaluation?

In a move that Donald Trump slammed as “currency manipulation”, last month the Yuan fell sharply against the USD below a psychological threshold below its 7:1 range to the dollar (in other words, the USD rose to more than $7 to the Yuan). This is significant as the Yuan hasn’t been so undervalued against the USD since it broke from its $8.28 peg to the dollar in 2005. The broad narrative is that it was done in response to President Trump’s trade tariffs but whatever the reason behind it, it has made the Yuan more competitive for exports and for countries on the Belt and Road to borrow in.

The FX rate of USD/CNY crossed the ‘significant threshold’ of $7. A rising USD/CNY equates to a weaker CNY.

One of the main mechanisms of governments to devalue their currency is by lowering interest rates in the hope that it transmits to a weaker currency. This is the method being pursued by most countries, particularly the US and EU, to stoke inflation but with so many pursuing the same strategy it creates exhausts its efficacy. Central banks are now scraping the bottom of the monetary tool kit future efforts will be more likely targeted at fiscal policy.

This is manifesting in a resurgence in quantitative easing and a rise of the more extreme Modern Monetary Theory (MMT), which advocates government surplus spending and printing ‘helicopter money’ that would have a knock-on effect currency devaluation. Despite its name MMT is actually a fiscal policy and a CBDC would aid any government in that pursuit as it provides unprecedented data and
control over the monetary system. With its digital Yuan, China has a leg up in the trade and currency war with the US.
Unconventional monetary policy & negative interest rates

In a world where central banks are hurtling towards negative interest rates, the role and nature of sovereign bonds is becoming warped. With the ‘risk-free rate’ close to zero or negative, price discovery discounting models on risky assets has become distorted on many metrics and compounded the passive investing trend. In September, hedge fund manager Michael Burry who shot to fame for playing the subprime meltdown and making billions in ‘The Big Short’, said publicly that he sees risks in ETF and passive investing in the equities market today akin to the mortgage-backed CDOs of 2008.

Globally, there is about $15 trillion negative-yielding government debt (and more in corporate debt) out of $246tr total global debt, just $2t off all-time highs. Rather than serving as ‘fixed income’ in investor portfolios, sovereign bonds are becoming purely tools of quantitative easing and tightening to move billions between the balance sheets of corporations and central banks.

As mentioned, there is growing global reluctance to use USD and even a diminishing demand for US debt among foreign buyers and the US government is now increasingly relying on US corporations and primary dealers (large banks accredited to deal with the central bank directly) to buy its bonds. This reluctance may be in retaliation to the abrasive US administration or the US funding an ever-widening deficit at ever-lower costs.

Traditionally foreign central banks are the largest buyers of Treasuries at auction. However demand has been in decline, as central bank appetites have grown for other reserve assets such as gold which they have been buying in record amounts. Source: Bloomberg

China, the world’s most prolific buyer of US Treasuries with $1.1 trillion in reserve, has also reduced and even reversed its purchasing of US debt. Some fear that China could ‘weaponize’ its Treasury reserves in the trade was by selling it in the open market thereby spiking the interest rate at a time when the Fed is trying to reduce rates. In essence this would have the same effect as devaluing the Yuan against the USD, which, as we mentioned earlier, has been happening.
China remains the US’ largest creditor holding about 17% of all US debt held overseas, however its holdings are at a two-year low. From April 2018 and May 2019, foreign governments and central banks were net sellers of US bonds and notes.

Not only have foreign entities been reducing the amount US paper they’re buying but they are in fact now net sellers of US debt. Source: Alhambra Partners

With foreign demand diminishing, US primary dealers have taken on much of the new offers of US Treasuries at recent auctions, particularly in October when foreign participation was reportedly at a decade low. Primary dealers are large banks that buy T-bills and notes directly from the Fed and then sell them on - but, after a 20-year bull in the bond markets and yields near record lows, appetite could diminish and primary dealers could be left with build ups on their books in the future.

If implemented as envisioned, the Libra Reserve would hold large amounts of US short-term debt and could become a large player in the US treasuries market should it scale globally. This would take pressure off US primary dealers and replace some of the lost foreign buyers.

Blockchain and the bond markets

The bond markets run on an opaque and antiquated systems and trading is still largely conducted over telephone and with paper settlement. In addition to the trillions of US Treasuries held in reserves with central banks around the world, there are trillions more in the labyrinthine offshore wholesale Eurodollar market.
Currently, the US has little control or influence on the Eurodollar market, nor does it have true transparency to the debt held offshore. This results in a diminishing effect of interest rate adjustments on domestic stimulation. In order to control the supply of credit and inflation in the economy the Fed sets a short-medium interest rate range known as the effective Fed Funds Rate (EFF). This range is created between two other short-term bank lending rates, the IOER (interest on excess reserves) and reverse repurchase rates, to incentivize retail banks to either keep money on reserve at the central bank or lend it out (create credit).

However, it’s not a binary process and the complex web of the Eurodollar market and the many entities holding US dollars and debt offshore means that interest rates changes have a delayed transmission to the domestic economy and sometimes may not have the desired effect on the economy at all. Over the years, interest rate cuts have a diminishing return on GDP as the debt burden increases and retards growth.

The bond market is ripe for a technology revamp to bring it into the 21st century and could even be sooner implemented on blockchain than central bank digital currencies. In August this year the World Bank partnered with retail banks to issue $28m worth of 2-year bonds on the Ethereum blockchain, following a successful issuance last year and bringing the total amount raised to $108m.
Don’t fear the repo and QE Part Deux

There were some abnormal events in the money markets this year which caused the Fed some alarm.

In September, the repo market, the short-term lending rate of overnight repurchase agreements between banks which the Fed uses as part of its target key, spiked up to 10% from its typical 2-2.5% range and spooked the markets of a liquidity crisis among major institutions. The repo and reverse repo markets (the obverse side to the repo transaction) are used to provide short-term liquidity, usually overnight, among banks. The reverse repo program (RRP) provides a floor for the effective Fed Funds rate (EFF) and is a key component in the Fed’s monetary policy range that transmits to the economy and commercial lending rates.

The RRP is used to supplement the Federal Reserve’s other monetary policy tool, the interest on excess reserves (IOER) for depository institutions who keep their reserves on hold at the central bank.

The repo market supports interest rate control by setting a floor on wholesale short-term interest rates beneath which institutions with access to these facilities should be unwilling to lend funds. The wholesale rate is typically for those institutions offshore that aren’t eligible for IOER and, along with IOER it creates the Fed’s monetary policy range.

Source: Alhambra Partners
“In response to substantially lower fed fund trading activity, the Fed introduced two new monetary policy tools, interest on excess reserves (IOER) and the overnight reverse repo program (ON-RRP); the former acting as a ceiling – banks will not invest elsewhere at a lower rate, while the latter acts as a floor – banks must pay at least this rate to attract deposits.”

- Morgan Stanley, Fixed Income

The spike in the repo rate was preceded by another abnormal event in the money markets when the effective Fed Funds (EFF) rate went above the IOER (interest on excess reserves) and stayed there for some time. The EFF is the rate set by the Federal Open Market Committee ‘FOMC’ at which banks lend to each other the surplus reserves they have at the central bank and is meant to be a ‘no-brainer’ low-risk trade for the banks and in a normal functioning market if the EFF should go above IOER it should only do so momentarily before the spread is quickly closed by banks taking the better rate.

However, from March, the EFF went above IOER and stayed elevated for over a month, which is not supposed to happen as it presents banks with essentially risk-free arbitrage - the Fed is willing to pay banks over the going rate to lend to each other and create credit in the economy. However, they haven’t been lending out. The implication was that trust might declining among banks willing to lend to each other and that the Fed has lost its ability to control rates through a labyrinthine system.

In response to these events, in October, and less than two years after beginning its Quantitative Tightening Cycle the Fed started a program purchasing T-bills to the tune of $60b per month to ensure there is enough liquidity between banks. After announcing the measures Fed officials had to discern between it quantitative easing which it appears to be by a different name; the difference being that under QE the Fed bought bonds (10-year in duration) to flatten the long and short ends of the interest rate curve whereas under this new program it will purchase bills (typically 1 year or less) to provide short-term liquidity.

Raising the debt ceiling is the most likely outcome. At a time when interest rates are at historic lows, debt is at historic highs and even more QE is expected, Facebook’s Libra has raised public awareness around new money design and the potential for complementary currencies that could exist alongside the USD.

The possible role Libra can play in the money markets

US regulators will work closely with Libra in the coming before its launch by year end 2020 which gives them an opportunity to shape the outcome of the product. Officials will also learn a lot about the technology and how it can be used to the benefit of government.

It will require KYC/AML of customers when setting up a Calibra wallet. The people behind the wallets will all be new data points stored on the blockchain. Libra is a permissioned blockchain network which
means Facebook and members of the Libra Association have the permission to view all transactions and data in the network.

For the US government a system like Libra offers real-time money flow (akin to financial CCTV) allowing it to see global money flows, demand, credit hot-pockets and even target taxation at an individual level. As all individual accounts would be kept on the central bank’s ledger it could also transmit interest rate changes more directly by coding in the changes to the protocol layer of the currency itself.

As mentioned earlier, there is a complex web of financial instruments and interest rates - wholesale and retail - that ultimately determines the rates paid on retail deposit accounts and mortgages which is what the Fed is trying to achieve in a circular way through the Feds Fund Rate. This makes it difficult to know which rate/factor is actually having the desired effect or what the ‘real rate’ even is.

However, with a digital currency the central bank can adjust the desired interest into the currency on the fly, so, if Bob keeps $10,000 digital USD in his retail bank account and the official central bank rate is 1%, that will be exactly what he receives in his ‘retail’ bank account or wallet. This could obviate the need for all the indirect tinkering in different markets in the hope that it will trickle down to consumer deposit accounts and mortgages. The malleability of a cryptocurrency’s protocol and function is why it is often referred to as ‘programmable money’ and why it has so much potential.

Similarly, if bonds were migrated to blockchain or another distributed ledger technology it could enhance real time monetary policy alongside the many administrative benefits in settlements.

The Libra Reserve could also become a major buyer of US bonds as the Libra is designed to hold a large allocation of short-term treasuries to back the USD stablecoin. This could make it an important buyer in the market if the US is to raise the debt ceiling much further and issue fresh treasury bills when foreign demand is easing. The Libra Reserve would likely buy the short-term bonds from US primary dealers.

A ‘new paradigm’ for Fed funding

In August 2019, the Fed cut rates for the first time since 2008 in spite of strong domestic data and which raised doubts whether it was in the interest of the economic health at all. While the official narrative for the cuts is slowing global growth but in reality, there are many angles to it, not least pressure from the US President to devalue the dollar to stay competitive; to make it easier for the US to continue funding its deficit and to give breathing space to US corporate balance sheets which are at their most indebted in history.

The dynamics created by quantitative easing (a transfer of wealth from creditors to debtors) was dubbed ‘the new normal’ after being first introduced in 2008 during the GFC, which may have created the same deflationary situation that Japan has endured since the 90s. In August, Ray Dalio founder of Bridgewater Associates, wrote an opinion piece about the macroeconomic environment entering a ‘new paradigm’ in the next decade which should favour gold as an investment:
“Monetary policy shifts back and forth between a) helping debtors at the expense of creditors (by keeping real interest rates down, which creates bad returns for creditors and good relief for debtors) and b) helping creditors at the expense of debtors (by keeping real interest rates up, which creates good returns for creditors and painful costs for debtors). By looking at who has what assets and liabilities, asking yourself who the central bank needs to help most, and figuring out what they are most likely to do given the tools they have at their disposal, you can get at the most likely monetary policy shifts, which are the main drivers of paradigm shifts.”

- Ray Dalio, Bridgewater Associates

Since QE started in 2008, the Fed bought bonds, corporate and sovereign, off the balance sheets of corporations (as it can’t buy bonds straight from the Treasury) to provide them with liquidity. That process was reversed when it began quantitative tightening (QT) in early 2018, when it sold debt into the market, however, that process lasted just over a year before it was paused and talk resumed of more quantitative easing rounds. In Europe the central bank didn’t even manage to start the QT process and President of the ECB Mario Draghi in mid-September announced that it will release a fresh round of QE in 2020, which has been met with criticism.

The European Central Bank (ECB) interest rate is currently at -0.4%. With the EU banks in a dire state and the economy losing momentum there are more cuts likely in the year ahead which has created a race to the bottom and an indirect currency war between it, the US and China.

In another significant development, Christine Lagarde, outgoing chairman of the International Monetary Fund (IMF), is set to take over as president of the ECB in November. The IMF has been an advocate of negative interest rates, even detailing how central banks could use central bank digital currencies (CBDC) to make them work. Her appointment is being taken as a harbinger for more extreme policy in Europe.

As for President Trump he is caught in a dichotomy of wanting to devalue the USD by lowering interest rates while wanting to retain reserve currency status and elevated US stock prices.

Complementary currencies in countercyclical lending

Complementary currencies (non-national currencies) could take pressure out of the global debt system by giving international trading partners what they have been calling for for years, a non-sovereign trade currency like the IMF’s Special Drawing Rights while avoiding an unravelling of the USD system.

Whether it’s a public decentralized currency like Bitcoin, or of a private permissioned like Libra, the end-goal is the same: It breaks the monopoly governments and central banks have on money creation and also disintermediates responsibility for money lending.
The alternative Swiss credit market using the WIR currency shows it moving countercyclical to the Swiss economy, its velocity, or turnover, expanding as the real economy, GDP, contracts. Source: Research Gate

The Libra is not entirely without precedent. For decades, the WIR bank in Switzerland has issued its own currency, the WIR Franc, and it has been particularly effective in funding certain sectors (mainly SME) when the overall economic GDP is contracting and credit in the Franc is drying up. The credit lines are secured by members pledging assets which ensures that the currency is asset-backed.

Similarly, Libra is intended to eventually become a network on which business (primarily in e-commerce) can build apps upon and innovate with the stablecoin at payment gateways. The Libra currency would thus become something of a reserve currency for a micro-economy.

Alternative finance and credit

It is entirely possible that the Libra blockchain (the open source base layer technology for the stablecoin) would become an entire ecosystem of apps and business built on top of it by third parties. This alternative economy, decentralized finance (or DeFi) is already in existence on the Ethereum blockchain and is entirely possible to replicate on the Libra blockchain.

The Libra stablecoin would act as the ‘reserve currency’ of the ecosystem and would appeal to merchants for its negligible (possibly free) transaction fees while, for consumers, using the Libra USD would entitle them to special offers and discounts at every purchase. These discounts could be subsidized by the interest that accrues on the Libra Reserve, a basket of assets, currencies and bonds that back the stablecoin.
In the red line corporate borrowing rates are at a historic low, around 3.4%, and credit card interest is near historic highs around 15.1% in the US

Currently, the spread between corporate and consumer borrowing (credit card) rates is at an all-time high, consumers are being charged near-record highs while corporate rates are at record lows. To compound this, individuals are receiving record low interest on their cash in on deposit. In the next recession, if savings rates are at or below 0 and household debt at-all time highs ($13.35 trillion), households will have little capacity or incentive to take on more credit at 14% or 15%. And it is the growth in credit which creates aggregate demand in the economy.
Libra opens up the possibility of alternative finance/lending that could be built on the Libra blockchain just as decentralized finance platforms (DeFi) are being built on Ethereum. These alternative digital-native economies could act countercyclically so that in times of a downturn - when lending from retail banks in the ‘real economy’ dries up - e-commerce would be buffered by its own source of credit, with less stringent conditions than regular ‘non-bank lenders’. Facebook’s largest commercial user-base is small-medium enterprise (SME), many of which are dependent on it for advertising and as an e-commerce platform - Facebook Marketplace and Instagram also have vast potential for Libra.

Digital currency in a negative interest rate environment

It is very significant that Libra comes at a juncture in history when global monetary policy is reaching its limits and the system is facing a major rethink for the first time since Bretton Woods. Although it seems like things coming to a head - cryptocurrency vs central banks, USD vs Yuan - this has process drawn out over decades and it will take several more years to play out.

Europe has announced a fresh round of quantitative easing for 2020, purchasing €20b of bonds per month, to stoke inflation. It is likely we will see other central banks including the Fed resume a form of QE or Modern Monetary Theory by monetizing government debt.

In the scenario the IMF has proposed during the next recession, central bank rates could go as low as -2 and -4% which could then be passed on to consumer bank accounts. It suggests this could be better enforced by phasing out cash to prevent people from hoarding, and making a central bank digital currency (CBDC) the sole legal tender with a programmable interest (demurrage) rate that entices people to spend.

In such an environment, holding the Libra stablecoin in the Calibra digital wallet which doesn’t earn interest still becomes a more favourable option than holding a CBDC on deposit at a retail bank that charges -1% or more to keep it there. This is not a far-fetched possibility as several countries, Switzerland, Sweden and Denmark already have interest rates around -1%. Libra holders can conserve capital while still being enticed to spend through special offers and discounts offered through Libra partners, which is what the government wants.

Just as Chinese e-retail giants WeChat, Tencent and Alibaba are renowned for working closely with the government it is imaginable that they share consumer spending data, habits and behavior which the government can incorporate into its policies that ties in with its global ambitions, the Belt and Road project and the digital Yuan. As artificial intelligence, big data, machine learning and blockchain all grow as strategically important technologies in coming years, tech companies may continue to be ‘weaponized’ by governments just as the brightest scientific minds in physics and chemistry were used to advance nuclear weapons from the 60s and throughout the Cold War in the name of ‘national security’.
Conclusion

The digital currency arms race is well and truly underway between major countries and Libra has galvanized governments to both learn more about the technology and the potential of stablecoins.

The illusory US debt ceiling will again be readjusted upwards in 2020 and it will only be a matter of how fast it reaches the next threshold. The sovereign debt bubble and abnormal events in the money markets will most likely persist in 2020 and we could see digital currency becoming even more of a priority among central banks if ineffective monetary policy cedes to fiscal policy.

With Libra, Facebook is not reinventing the wheel nor creating any new asset class but rather creating a complementary currency. It’s not an endeavour that hasn’t been done before, the only difference is the company behind it and the scale. In our view it is quite likely that Libra will eventually get off the ground but in a much more diluted form that requires closer integration with and oversight from governments.

We expect the next phase of globalization to be defined by the trends outlined in this report series, in particular unconventional monetary policies and corporations ascending national borders as directors of globalization and governance as nations lack the cooperation and flexibility to adapt to ever more disruptive change.

Part 2 of this series is an assessment of the year in trade and enterprise for blockchain.

About the authors

Andrew Gillick leads the economic analysis working group and writes industry and investment research for cryptocurrency market data company Brave New Coin (BNC).
Email: andrew.gillick@bravenewcoin.com  Twitter: @AndrewBNC
LinkedIn: https://www.linkedin.com/in/andrew-gillick-422679149

Peyton Cummiskey assists with the economic analysis working group while interning at the Government Blockchain Association (GBA) and is finishing an economics undergrad at George Mason University (GMU).

Jean Bosco is a member of the GBA economic analysis working group while currently pursuing a Masters program in blockchain technologies. He has an accounting and insurance background with several years experience among the Big Four auditing companies.