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LEADING ARTICLE

On CBDC and the Need for Public Debate: Policy and the Concept of Process

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Introduction

According to the Principle of Techno-Geek Proportionality, for every million times a nerd gets excited about “the latest thing” the world might change once. Central bank digital currency (CBDC) may be that once. There is nothing new about digital money, but there may be many profoundly new things about CBDC. This is especially so for “retail” CBDC – that is, CBDC freely available to the public rather than “wholesale” CBDC, which is restricted to some registered users and central bank systems. At the moment, the vast majority of money in existence takes the form of deposits at Santander, Barclays and the other commercial banks. As the Bank of England makes clear, most of this is originally produced when a bank extends a loan and creates a sum as a deposit which the borrower can then spend.² This money flows around our payments system and the money supply, albeit there is more to money supply than just this, grows as cumulative debt grows and shrinks as debt is paid down.³ In the UK (and equivalents apply in any modern economy that has commercial banks), though we rarely think about it, since the money is denominated in £s and the central bank essentially guarantees that it will exchange at par for central bank money, most of what we think of as money is really Santander or Barclays etc. credit

¹ Thanks to Costis Repapis for comments.

² For the best-known statement see McLeay, Radia, and Thomas (2014); for similar from another central bank see, for example, Jordan (2018). For context see Ryan-Collins et al. (2012); Werner (2014a, 2014b, 2016).

³ There are various facets to money creation over and above commercial bank lending. Notably when the government authorises new spending this is conducted via the Treasury’s account at the central bank. If there are insufficient funds in that account then the central bank merely creates these via keystroke and deems this an overdraft (and the Treasury conceives this as debt to be repaid, leading to bond issuance etc.). In any case, the action leads to money creation used to pay others whose accounts are held at commercial banks, leading in turn to a transfer of reserves from the Treasury account into those commercial banks. As MMT theorists note, the central bank cannot run out of this money, and it is institutional frameworks that frame or limit use (and then representations, ideas, belief and trust which affect how this is conceived within society). So, government can create money through the Treasury-central bank link in addition to how commercial banks create money through lending. Arguably, central banks can also create money on their own behalf (as they have numerous times in order to address financial instability or crisis). See, for example, Berkeley et al. (2021, 2022); Hook (2022, 2023). As the last point made also intimates, money supply management is not just about the mechanics of money creation, it is about fiscal and monetary policy and issues of macroeconomics – price stability and inflation targeting, employment levels, output gaps, supporting other government policy such as climate targets, financial stability etc. See later.

units.⁴ Retail CBDC could change this state of affairs and the issues are sufficient to require public debate – not only regarding the scope of the technology but also the role and adequacy of central banks. This, in turn, provides an opportunity to discuss the nature of process.

Some background

Currently, central bank money exists in two forms, cash in circulation and the reserve accounts that commercial banks must hold at the central bank and which they are required to use to settle the balances between themselves as payments flow between accounts in one commercial bank and another. Retail CBDC, however, gives the public access to digital central bank money and conversely gives the central bank (and, in principle, government) a new and immediate way to put money into and influence the nature of society and economy. Commercial banks go to a lot of trouble to convey an image of themselves as a vital utility providing an essential service to the public. But behind this sits a small group of private companies to which has been delegated an astonishing degree of power and on whom we are dependent. Potentially, retail CBDC reduces that power and reconfigures dependency within the public-private axis of money.

I say potentially, because a great deal depends on purpose, implementation and policy. It is also important to note that CBDC is a catch-all term for different possible designs and use of technology. In general, CBDC makes use of the same distributed ledger, blockchain, cryptographic and smart contract technology as cryptocurrency.⁵ The main difference is that these are maintained and controlled by a central authority (the central bank). All the other advantages of the technologies remain the same: secure, rapid, recorded and immutable transaction without the need for settlement via a confirming intermediary. A retail CBDC may also be “token based” (the central bank issues digital tokens – e.g. digital £s – into a digital wallet which the public carry around with them on a device and can spend) or “account based” (the central bank requires members of the public to maintain an account from which payments are verified), and it may be interest bearing or non-interest bearing. Finally, the central bank can opt to offer direct access to CBDC from the central bank or can choose some variation where the underlying infrastructure is provided by the central bank but the overlaid payments interface is provided by others through new or existing systems.

Current interest in the subject began around 2015 and according to the global CBDC Project, almost every country in the world is at some stage in developing and implementing a CBDC.⁶ The

⁴ The terminology varies, central bank money is referred to as sovereign money, narrow, base or high-powered money, and commercial bank money is often just referred to as bank money and is part of broad money. It is mainly because of the conditional and contingent status of other money's (including bank money) relation to central bank money i.e. whether it will exchange at par, that leads to a money hierarchy.

⁵ On the various forms of cryptocurrency and the issues raised see, for example, Arner, Auer and Frost (2020); Prasad (2021); Carney (2021); Morgan (2023a). See also the appended taxonomy.

⁶ Note, the Committee on Payments and Markets Infrastructures at the Bank for International Settlements began to investigate the issue in 2015. See also Bech and Garratt (2017). The CBDC Project tracks the status of CBDCs, categorising them into research, proof of concept, pilot and launched (with an additional category of cancelled). The tracker is supported by Boston Consulting Group and EY. Visit: <https://cbdctracker.org/>

Bank of England, for example, published a discussion paper on CBDC in March 2020, formed a joint CBDC taskforce with HM Treasury in April 2021, and published a further discussion paper in June 2021 focused on the role of new types of digital money and their impacts (notably a variant of cryptocurrency called stablecoin [corporate coin] and the motives this might provide for launching a CBDC). This was followed most recently by a consultation paper on CBDC in particular in February 2023 (with the consultation to run to June 2023), accompanied by a supporting working paper on the technology.⁷ Throughout the period Deputy Governor of the Bank of England with responsibility for financial stability, Sir Jon Cunliffe, provided a running commentary on aspects of the process and its context (re the potential issues raised by new forms of digital money).⁸ Notably, in a speech that accompanied the launch of the February consultation he notes that, “Our assessment is that on current trends it is likely that a retail, general purpose digital central bank currency - a digital pound –will be needed in the UK.”⁹ Cunliffe was later replaced as Deputy Governor by Sarah Beeden, effective from November 2023, but development continues.¹⁰

Attractions of retail CBDC

There are various potentials that provide reasons to adopt CBDC for domestic use (there is a whole other debate for its international implications).¹¹ Perhaps the easiest to grasp is typically posed using that catch-all term from economic jargon “efficiency”. While we all understand that borrowing money invites fees and interest charges, we still tend to think of money as something we pay with rather than something we pay for. Yet creation of money, production and maintenance of money delivery (to those we access it from) and of payment and processing systems all involve costs and fees.¹² Sometimes we are aware of these and sometimes not. For example, transport and storage of money and maintenance of ATM’s and the network that

⁷ See Bank of England (2020, 2021, 2023a, 2023b). See also Barrdear and Kumhof (2016) and on the narrative and context Morgan (2022a).

⁸ See, for example, Cunliffe (2021a, 2021b, 2022).

⁹ See Cunliffe (2023).

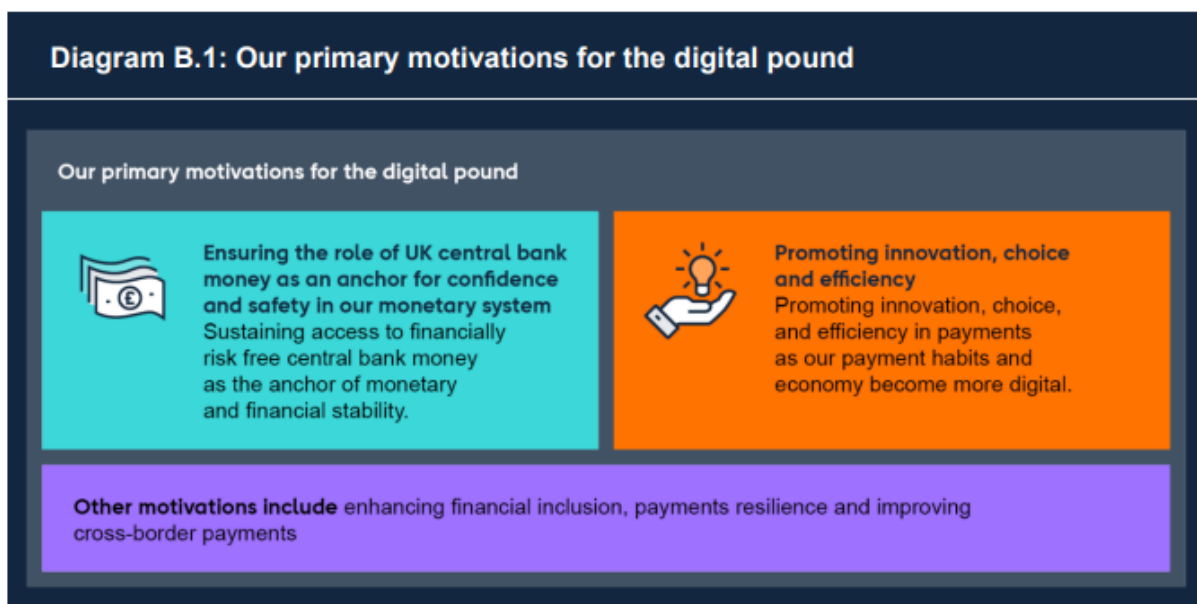
¹⁰ The press release announced the usual range of responsibilities: “As the Bank’s Deputy Governor for Financial Stability, Sarah will play a crucial role in ensuring the safety and stability of the UK’s financial sector and will sit on the Financial Policy Committee (and chair it in the Governor’s absence) the Monetary Policy Committee and the Prudential Regulation Committee and play a key role in providing a link between financial stability and monetary policy. Sarah will also be a member of the Court of the Bank of England, Chair the Financial Market Infrastructure Board, and represent the Bank of England on a number of national and international bodies.”

¹¹ These focus mainly on its use to provide an alternative to cryptocurrency use for remittances and to evade capital controls (and in a context where cryptocurrency threatens a version of dollarisation in countries with unstable currencies and weak central banks). For a detailed breakdown (albeit slightly dated) see Chainalysis (2021). There is, however, also an issue regarding the impacts for the role of the \$ as the dominant reserve currency (see Kuehnlenz, Orsi and Kaltenbrunner 2023), as well as issues over the compatibility of technologies that underpin any CBDC and affect the connections between different CBDC. The Bank for International Settlement, for example, has a project – Project M-Bridge. Visit: https://www.bis.org/about/bisih/topics/cbdc/mcbdc_bridge.htm

¹² Note, central banks do though benefit from “seigniorage”.

underpins these is a massive hidden expense.¹³ Every payment system involves some underpinning infrastructure and existent payment services involve intermediaries, each charging fees and this is far larger in scope and contains more actors than just commercial banks. Fundamentally though, the current banking system puts the majority of our income and most of our financial activity in the hands of commercial (private) banks. CBDC could provide an alternative that eliminates the need for much of this intermediation, its costs and fees. Less radically, a CBDC might introduce diversity and competition for commercial banks as they currently exist. The Bank of England, for example, summarises their “primary motivations” in the figure below.

Figure 1



Source: Bank of England (2023a: 24)

In any case, central banks currently face a conundrum. In the present system cash represents a visible marker of money. It reminds the public that the state stands behind the value of money. Put another way, cash provides an important symbolic “anchor” which helps to maintain trust in money.¹⁴ In an increasingly cashless society with evermore diverse digital payment options this role is under threat.¹⁵ While the Bank of England, for example, is clear that it does not envision

¹³ For example, according to the Ceeney report on the future of cash, maintaining the cash infrastructure (ATM and cash sorting centres etc.) in the UK costs around £5 billion per year (Ceeney 2019:12–13, 64).

¹⁴ On money see Braun (2016). In general see Pratten (2017); Colledge, Morgan and Tench (2014); Morgan and Sheehan (2015).

¹⁵ In the UK more than 50% of payments were made using cash in 2010, by 2020 this had reduced to 17% and according to UK Finance it was 14% in 2022. See, for example, <https://www.ft.com/content/6f60def7-9458-40d4-b3a6-50575ba1e080>

CBDC as a substitute for cash in the near future, the development of a CBDC is, at least in part, an acknowledgement of the direction of travel technology of money seems to be taking. If a suitable delivery system can be developed it also provides an important opportunity to provide money to unbanked and/or cash dependent people. This could both enhance financial inclusion and, given the potential of CBDC, lead to the replacement of cash with a digital variant less conducive to tax evasion, fraud and criminality.

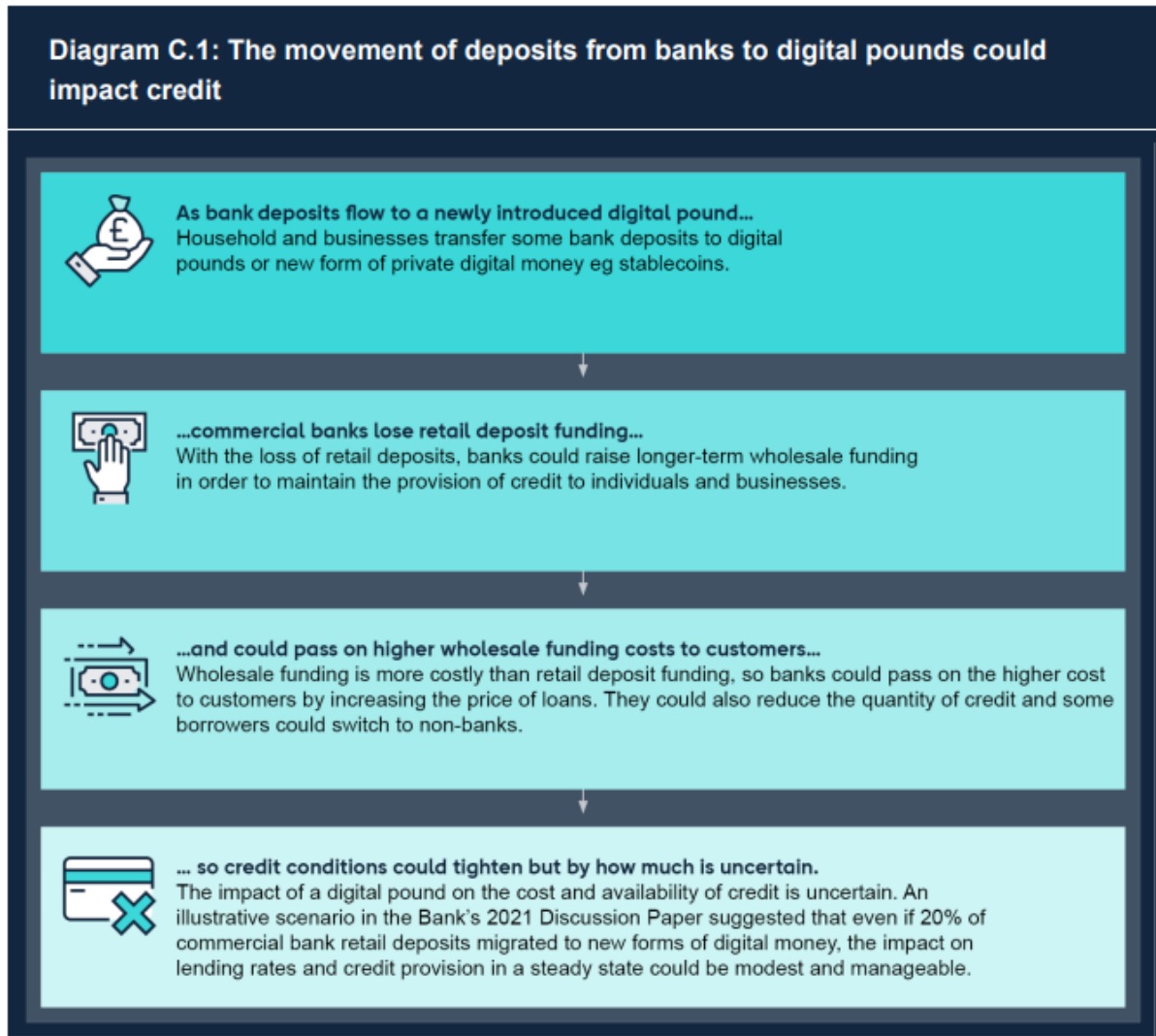
We've mentioned trust and in a complex finance system trust is not an abstract concept. Much depends on projection of competence, credibility and authority. In the modern world we are increasingly aware of limits on these. CBDC provides multiple opportunities for a central bank to improve its control, respond to problems and forestall crises. A successful CBDC could reduce the attraction of cryptocurrencies as means of payment (though not as speculative assets) and thus prevent the future (further) loss of control of money supply that these threaten. CBDC might also significantly enhance monetary policy. A widely adopted and used CBDC could provide a new means to directly and more or less immediately increase or decrease the money supply, target specific economic sectors or socio-economic groups and influence commercial interest rates, as well as payments systems activity. Again, none of this need depend on the cooperation of commercial banks and could provide an alternative to dependence on commercial banks. Even if used conservatively CBDC could provide a mechanism to encourage compliance from commercial banks.

Issues going forward

For commercial banks there are reasons to be concerned regarding disruption to the status quo. Not only might they lose some proportion of their business because of CBDC, "disintermediation" may also cause balance sheet shrinkage and increase the funding costs associated with bank loans. The problem for commercial banks is more obvious in the case of cryptocurrencies than it is in the case of CBDC but the two are similar: a payment from a bank account transfers to a digital wallet and so the commercial bank loses this sum from a customer account but also an equivalent sum from its reserve account at the central bank.¹⁶ Since people will still have a need to borrow and the commercial bank still wants to lend (as a profit making entity), insofar as it maintains its lending, the bank will need to acquire more reserves (at some cost to itself) to maintain the liquidity of its reserves and offset the drain on its reserves as more customers move money out of their accounts. The Bank of England provides a useful summary in the figure below (albeit their assumptions concerning impact are highly debatable).

¹⁶ Visit: <https://www.opesydneynet/the-future-of-money-and-bankings-crypto-reserve-drain-problem/>

Figure 2



Source: Bank of England (2023a: 39)

CBDC, meanwhile, adds an additional complexity that is unlikely to be relevant in the case of cryptocurrencies. If there is loss of trust in a commercial bank, unless prevented somehow, customers will have the capacity to transfer into CBDC at the stroke of a key – from which an accelerated digital run on one or several commercial banks could occur. This possibility, of course, invokes the spectre of financial crisis. From the point of view of the central bank, however, CBDC could also provide a way to directly inject money into the economy with, in fact, the opposite effect to that just stated. Such an injection might forestall an incipient crisis focused on the commercial banks, preventing an initial disruption or panic becoming a more widespread economically damaging financial crisis, while also allowing the central bank to guarantee the integrity of payments in the economy. To reiterate, this could be used to pre-empt bank runs, but equally it could provide a mechanism that allows commercial banks to go bust and be wound down safely. Older readers will recall the palpable fear during the financial crisis that the payments

system would grind to a halt. In principle, CBDC provides the central bank with a direct lever to forestall this problem in times of emergency.

In the case of the UK, however, so far, and despite stating it has no intention of introducing a CBDC in a format that artificially preserves the status quo and impedes competition, the Bank of England seems to favour a form of CBDC that operates via other platforms, limits holdings, coexists with commercial banks as is and pays no interest. It is, as such, a conservatively posed future alternative, at least to begin with.¹⁷

The issue of power

There is a lot more we could say here but it should be clear that a CBDC allows a central bank to take on new powers (in the “capacity to do” sense), to take back power (in terms of “scope to be the decisive actor in a system” sense), but also to perhaps acquire excessive power (in the “who gets to decide” sense). These last two depend very much on perspective, accountability and an age old debate regarding the legitimate role of the state and the scope for democratisation of its institutions. With this in mind, there is a final feature of the technology that underpins new forms of digital money, including, in principle, CBDC that warrants a mention, and that is programmability. We have become used to thinking of money as a universal and anonymous means of getting what we want, but a programmable money can be both time limited and purposed. As such, a CBDC could become a means to support local economic activity, finance investment, ensure automatic payment of tax at point of transaction, achieve social welfare goals and enforce carbon budgets. Depending on your point of view this is enlightened public policy in action or sinister social engineering. In any case, programmable money allows for progressive policy agendas, but equally for new forms of rationing and discrimination.¹⁸

“Independence”?

The notion that CBDC may affect the power of central banks to act in the world has wider context. At its simplest “independence” of central banks – acknowledgement of the benefits of separation from the government of the day in terms of policy decisions and powers – has been a noted trend over the last thirty to forty years. The Bank of England, for example, was founded in 1694, nationalised in 1946 and given formal independence in May 1997 and this was followed by the

¹⁷ Note, at time of writing it still was not clear that a CBDC would definitely run on distributed ledger technology. However the February technical paper notes the system anticipates a need to deal with 30,000 transactions per second but explores possibilities up to 100,000 per second (Bank of England 2023b: 39). See appended figure for summary of system possibilities.

¹⁸ Note, one might wonder whether programmable money remains money rather than some other thing. But it is, of course, named “programmable *money*”, would be issued by a recognised authority who stands behind it and can readily be conceived as changing the nature of money rather than misrepresenting itself as money. There have in any case been many alternative “moneys” with liquidity limitations. Still, programmable money seems more like credit at the company store than money as we have come to think of it.

Bank of England Act 1998, which then established its reformulated constitution, governance, statutory powers and responsibilities.¹⁹

Central banks are typically responsible for the maintenance of monetary and financial stability and are organised according to a combination of powers and mandates. These typically focus most visibly on “price stability” via a target rate of inflation (which may be a formal or informal target) but also, with notable variations by country, responsibilities extend to maintaining employment, liaising with the Treasury to achieve other macroeconomic goals (to ensure that monetary policy and fiscal policy do not conflict), as well as monitoring and intervention for micro-prudential (focused on individual financial organizations) and macro-prudential (focused on emergent systemic dynamics and trends) purposes. As post-Keynesians and especially critical macro-finance proponents argue, there has been a notable shift in the powers (official and unofficial) and areas of responsibility of central banks over the years since the Global Financial Crisis – central banks are lenders of last resort but also in some ways guarantors and market makers across an ever more complex financial system populated by a proliferation of financial instruments and tradeable assets and by multiple actors in numerous jurisdictions.²⁰ The intervention by the Bank of England in response to problems caused to and by “Liability-Driven-Investment” funds provides a high profile recent example.²¹

In any case, there has, over the years been a great deal of debate regarding what independence means. One important line of critique has been that independence has resulted in a “technocratic insulation” of central banks from democratic accountability and that the form and concerns of independence have in effect embedded the vested interests of commercial banks and finance – so independence is not neutrality (in theory or practice), it is tacitly politicised. As the above should indicate independence is a conditional term given the evolving context central banks find themselves in.²² This extends also to relations with the government of the day. In some

¹⁹ Visit: <https://www.bankofengland.co.uk/-/media/boe/files/speech/2017/twenty-years-of-boe-independence-the-evolution-of-monetary-policy.pdf>

And: <https://www.legislation.gov.uk/ukpga/1998/11/contents>

Note, the Bank was privately owned but effectively a public-private partnership until nationalisation. It was not until the Bank Charter Act of 1844 that the Bank was given exclusive rights to issue banknotes (though not in Scotland). The Act also formalised a gold standard, establishing a ratio between gold reserves held by the Bank and the currency it could issue. The Bank still operates as a quasi-commercial entity and is self-financing.

See: [https://www.mmu.ac.uk/sites/default/files/2021-11/Understanding the Bank of England.pdf](https://www.mmu.ac.uk/sites/default/files/2021-11/Understanding%20the%20Bank%20of%20England.pdf)

One might also draw attention here to the Debt Management Office (DMO), established in 1998 and to which responsibility for issuance of government debt (gilts) was transferred from the Bank of England. As of early 2024, the DMO had issued more than £3 trillion. Visit: <https://www.dmo.gov.uk/>

²⁰ See Dutta et al. (2020); Gabor (2020) and visit: <https://criticalfinance.org/>. And also compare Morgan (2009) and Morgan (2022b).

²¹ For a clear account see the letter from Jon Cunliffe to the Treasury Select Committee:

<https://www.bankofengland.co.uk/-/media/boe/files/letter/2022/october/letter-from-jon-cunliffe-18-october-2022.pdf>

²² For example, in March 2023 (25 years since the 1998 Act) the House of Lords Economic Affairs Committee launched an inquiry (inviting evidence submissions) titled “The Bank of England: how is independence working?” See latter and visit:

ways central banks are separated from government, but even if independence is formal there is not an absence of liaison with or communication or pressure from government. Independence is never absolute – and arguably both central banks and governments have been subject to neoliberal disciplinary influence in a financialised environment.

Still, central banks do have a great deal of authority to intervene in the world and significant scope to influence financial actors and outcomes. At the same time, this power is circumscribed for those actors who fall under the purview of the central bank and there are many more who do not – in a system where “shadow banking” plays a significant role. It is not surprising, therefore, that the scope of CBDC, at least initially has been viewed in quite limited and conservative ways. CBDC has the potential to be transformative, but technology is not “disruptive” merely because it exists – there is a world of power relations that *pre-exist* its introduction and this bears consideration.

Who has the power?

Let's consider some of the dynamics of the power of central banks in relation to commercial banks. If we accept that commercial banks *do not rely on pooled savings as a source of lending* and that they do not create money collectively through a textbook “money multiplier” mechanism, but rather create money individually by bringing into being a deposit in response to borrowing by customers, then commercial banks' relation to central banks becomes, for various reasons, more problematic than it might at first appear:

1. By creating new credit commercial banks can rapidly increase the amount of debt in the economy *and* the amount of purchasing power, simultaneously creating *rapid expansions in many markets* (e.g. consumer goods in general, car ownership, housing and commercial property). There can be rapid asset inflation in response to this.
2. Conversely, by reducing the availability of credit in moments of distress (“balance sheet deleveraging” as it is termed) commercial banks can exacerbate a downturn or recession.

As such, the relative rate of creation to destruction of money through credit provision matters. Furthermore, these two points not only imply that procyclical banking is a causally significant problem for economic management, but also that its practices necessarily asymmetrically harm those with greater debt burdens and debt sensitivity and this is an inequality amplifier. And:

3. While commercial bank credit creation can be procyclical it does not thereby become easy to forecast or stable in its trend activity. The power to create money is the power to initiate changes in scale and volume of activity. This effect is enhanced since while commercial banks can create money individually they tend to act in concert (i.e. for all intents and purposes collectively).

<https://committees.parliament.uk/committee/175/economic-affairs-committee/news/186474/the-bank-of-england-how-is-independence-working-economic-affairs-committee-launches-inquiry/>

As such, central banks may find themselves dealing with a real world of irregular relations, lumpy data, discontinuity and non-linearity for key variables and this may be at odds with model building that regularises relations, smooths and tames data and assumes linearity. In these circumstances “equilibrium”, dynamic or static, becomes a poor and thus misleading framing metaphor for further concept development – and this may hamper a central bank’s capacity to adequately view the financial world. Moreover:

4. If lending does not depend on savings then the idea that saving comes *before* investment seems misleading. Where credit creation is involved, the line of causation seems more likely to be borrowing leads to new deposits which are used for spending and investment which leads to further spending which leads to new deposits.

As such, not only does the relative rate of creation to destruction of money matter, but also what money is borrowed *for*, which in turn depends in large part on the lending priorities of commercial banks. If commercial banks choose to prioritise lending to other financial institutions, and lending in order to facilitate the trading of existing financial assets, then the economy will begin to take on characteristics related to these priorities and not others: asset inflation, expansion of financial services feeding other financial services, and (again) inequality amplification. Here, there seems a further revealing problem of language use:

5. If commercial banks create money, then “lending” does not seem to convey the appropriate meaning for what banks are doing – they are not using something that already exists in the sense of “I lend you *my* hammer”, nor are they gathering together or pooling something for this purpose. Rather commercial bank money creation is the act of a “financier” and is quintessentially about the power given to them to engage in money creation and the power that follows from this to dictate rent in the form of interest and fees.

At this stage you might be wondering what the point being made here is. The simple point being made is that in terms of the context that CBDC is being introduced into, commercial banks are powerful in particular ways and problematic for central banks because of those ways (though there are others not mentioned here). We are used these days to the notion that there is a problem of “too big to fail” banks and of issues like “moral hazard” related to the tendency to intervene to support banks in distress (leading to the ongoing problem of private gain and public loss), but there is a more normalized everyday problem that commercial banks hold a great deal of power over money creation and in relation to the central bank. It is, for example, extremely rare for the central bank *not* to provide reserves when a commercial bank seeks them in response to lending it has already done. Conversely, the central bank is highly dependent on commercial banks translating its advice, prompts and policy levers into actual lending (and actual lending in areas that have some social and economic benefit rather than are focused on creation and trading of financial assets). For the public, this is just ordinary background and for many working in central banking and banking and finance it is similarly ordinary – *and* despite the reality of money creation

(and despite that central banks also acknowledge this reality in some of their work) *banking* still tends to project the idea that commercial banks are prudent custodians of savings, that they pool those savings, lend on the basis of those savings, and that they are disciplined monitors who allocate capital efficiently and are, as such, indispensable sources of economic good. The reality is that they are extremely powerful opportunistic profit seeking entities whose conditions of operation bear little resemblance to standard economic theory – not least because they are able to influence their own environment of operation.

To be clear, commercial banks are not infinitely powerful, they cannot, for example, create money without limit even though they can, in a sense, create money *ex nihilo* – they create money insofar as it is commercially viable to do so through the act of lending (so they need either creditworthy borrowers or scope to “originate and distribute” lending via securitization etc.) and this is influenced by many other factors, and at base they are restricted by liquidity of reserves and directly and indirectly by banking regulation and capital and funding rules. As a corollary, central banks are not powerless, but it is observably the case that commercial banks have become *more* powerful, central banks’ task of managing and steering banking and finance has become more difficult, and to a large degree central banking has become a creature of a finance worldview – they tend, for example, to talk of “financial deepening” rather than financialisation and give the impression that when problems occur they are because banking has deviated from its core disciplines and potentials (but this presupposes a world that has never really existed and norms to which one cannot return banking to because it never, with the odd exception, adhered to them in the first place).

At the same time, there is a longstanding critique of finance and public perceptions do not reduce to how central banks and commercial banks attempt to project themselves – there have been in many countries, too many crises, scandals and everyday experiences of indifference, mistreatment and profiteering for that to be so. Moreover, there is these days a growing mainstream critique that central banks are arrogating powers and trying to do too much – and this includes a critique from the right of central banks’ engagement with climate finance and issues.

In any case, the above makes clear that the context into which CBDC is being introduced is complex and that central banks (the statement on authority at the end of the last section notwithstanding) are currently weaker than one might imagine and weaker than central banks like to project. If we return to a phrase I used early on, what I meant when I suggested that “retail CBDC has the potential to reduce the power of commercial banks and reconfigure dependency within the public-private axis of money” should now be a little clearer. That there is “a world of power relations that pre-exist its introduction and thus may work to limit its impact” should also be clearer.

CBDC, the reality of commercial banks and the future of central banks

It is worth bearing in mind that there is no clear correlation between the size of the finance sector and productive investment and economic growth – let alone well-being.²³ The UK has one of the largest financial sectors in the world and some of the most active universal banks, as well as highly active shadow banking and alternative investment management (hedge funds, private equity etc.).²⁴ Yet it also has one of the lowest levels of public and private gross fixed capital formation in the OECD and one of the lowest levels of research and development, as well as one of the lowest levels of business investment and a manifestly decaying infrastructure. This is obviously odd, that is until one thinks about the real investment foci of banking and finance. One can only conclude that banking and finance is dysfunctional, and especially so in the recognised centres of finance, and this situation I would suggest is an implicit argument in favour of a more ambitious use of CBDC, and along with climate emergency is surely an argument in favour of adopting something along the lines of an MMT approach to finance among sovereign currency issuers – though one would require more thought about norms and trust in a money system and more regard for biophysical limits to the scale of economic activity than one finds in some of the work on MMT. In any case, the future of central banks could turn on use of CBDC to modify and displace some aspects of existing banking and transform others.

Consider the central role the base or “bank rate” currently plays in monetary policy.²⁵ Central banks use bank rate – the rate of interest paid on reserve balances held by commercial banks at the central bank – as a means to influence commercial interest rates and thus to influence credit pricing, borrowing and economic activity. The typical policy context is inflation targeting for price stability. The combination explains the historic low interest rates over the period since the global financial crisis until recently (from 2008 until the end of 2021). For example, following historic lows, the Bank of England bank rate had risen to 5.25% as of December 2023:²⁶

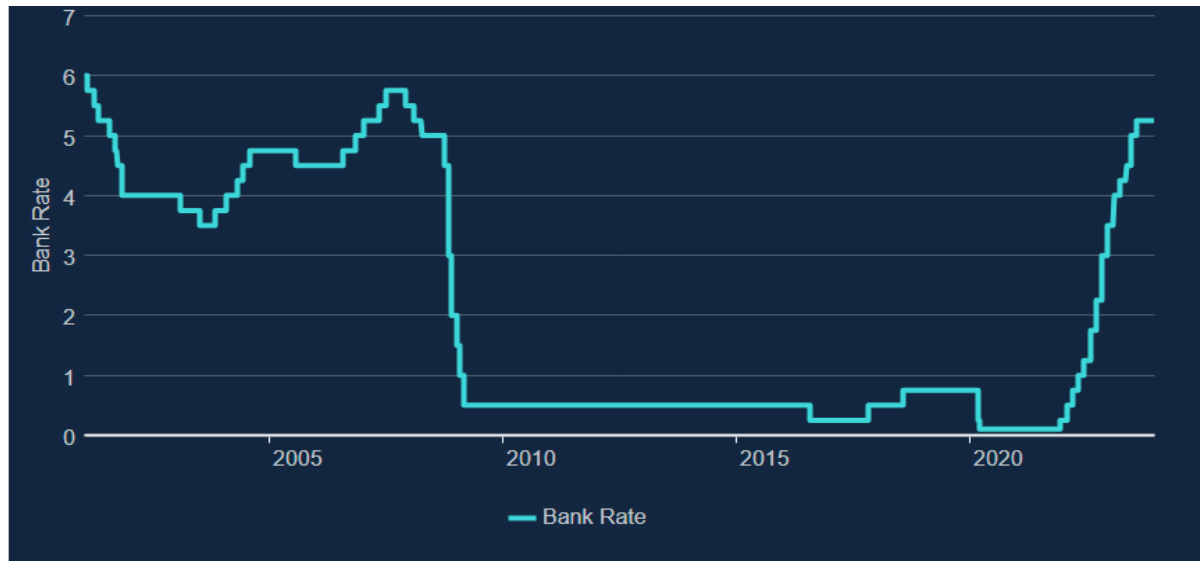
²³ There are, however, many econometric analyses of the association between size of capital markets and economic growth, especially for “developing economies”, though rarely is there any focus on the nature of growth and its broader implications and there is little attention to the notion that finance can become too big – with the notable exception of work on the “finance curse”.

²⁴ For discussion see the interviews, Batt and Morgan (2020); Fichtner and Morgan (2023). For an example, see Morgan and Nasir (2021).

²⁵ The Bank of England defines Bank Rate as, “The rate of interest we pay to commercial banks for the reserves they hold in their Bank of England accounts. Bank Rate generally influences the interest rate commercial banks offer and charge their customers.” <https://www.bankofengland.co.uk/glossary>

²⁶ For source visit: <https://www.bankofengland.co.uk/monetary-policy/the-interest-rate-bank-rate>

Figure 3



In modern economies, this interest rate is used because central banks know they have (though one might say government institutions in combination choose to have) minimal direct control over the money supply. Central banks also know, however, that altering interest rates is not in itself sufficient to induce commercial banks to lend (or restrict lending) and, as previously mentioned, is not in itself sufficient to ensure lending priorities are socio-economically desirable (and one might note that the existence of specified infrastructure and development banks etc. to meet this need in many countries is a tacit indicator of what commercial banks are *not* doing). Here CBDC could do various things – though none are strictly about price stability.

First, the central bank can put CBDC into circulation by using it as the means of payment for bonds that currently exist and can extend this to open market bond purchases at variable scale. Second, rather than make payments into accounts at commercial banks, CBDC could become the means of payment used for all government payments and contracts. Third, the central bank could use CBDC to finance an infrastructure and climate transition bank. Fourth, by remunerating (paying interest on) CBDC deposits the central bank could create a new lever that not only forces commercial banks (via competition) to pass on interest rate changes to savings deposits more fully (and faster) than they currently do (merely by raising the rate on CBDC accounts), but the threat of this could also be used as a lever to pressurise commercial banks into changing their lending conditions and foci. The bank rate only has centrality in our current system because commercial bank money is a key feature of economic activity.

And arguably, the central bank reserve system only has a key role at the moment because something is needed to support the widespread use of commercial bank money (which is always a fraction of current reserves of central bank money). Of course, any change here affects the dominance of commercial banks in multiple ways and this would need to be carefully thought through in terms of wider consequences and possible unintended consequences, especially in terms of the core issue of the role of debt in debt dependent societies. And we have said nothing

here about programmable money.²⁷ What we do know though is that systems of money provision do not stand still and it would be an error to think that the future will merely mirror the present. The real question here is who will have a say over the systems of the future and this surely merits public debate.

Clearly though, CBDC has scope to be a policy tool, but for this to be so it is likely necessary that it becomes what it implicitly is (or will implicitly be) insofar as it is central bank money – an unrestricted, fully convertible and universally acceptable means of payment and discharger of debt. For example, Joseph Huber, author of *The Monetary Turning Point: From Bank Money to Central Bank Digital Currency (CBDC)*, and advocate of “sovereign money” (and thus opposed to the dominance of commercial bank money and all that implies), notes several design and implementation considerations for CBDC that would affect how extensive a displacement of commercial bank money by CBDC would be and how successful this could be in transforming the role of money (Huber 2023; see also Huber 2019). In any case, any plan to introduce CBDC that conceives its role as simply a more efficient means of digital payment for consumption purposes is tantamount to using a racehorse to pull a milk cart.

Finance is a complex process, but what is a process?

Change is about process and CBDC adds a new process to many other processes – this though implies money, its creation, and finance and banking more broadly are processes and by inference both CBDC and banking and finance are part of other socio-economic processes. A world of parts and wholes in motion... In bringing this short article to a close it seems, therefore, worthwhile to briefly discuss what a process “is”. The American Pragmatist philosopher Nicholas Rescher provides one of the best introductions to process philosophy.²⁸ According to Rescher:

A process is a coordinated group of changes in the complexion of reality, an organized family of occurrences that are systematically linked to one another either causally or functionally. It is emphatically not necessarily a change in or of an individual thing, but can simply relate to some aspect of the general ‘condition of things’. A process consists in an integrated series of connected developments unfolding in conjoint coordination in line with a definite program. Processes are correlated with occurrences or events: processes always involve various events, and events exist only in and through processes. (Rescher 1996: 38).

²⁷ This, in turn, extends to the scope for development of the technology for a new form of internet (“Web 3.0” built around tokenisation and unique transferable ownership of everything in modular parts at any scale, combined through contracts). Web 1.0 refers to the era of static pages and a dominance of consumers rather than producers of content. Web 2.0 refers to the era of unloadable platform content. Visit:

<https://www.bloomberg.com/news/articles/2021-12-10/web3-is-crypto-s-attempt-to-reinvent-the-internet-here-s-what-you-should-know>

²⁸ See also Rescher (1998); Rescher and Morgan (2020). On Rescher and economics (compared with George Shackle), see Latsis (2015).

According to Rescher, Western philosophy has mainly focused on things or substance and because of this has found it difficult to reconcile itself to the existence of process and this has often resulted in dichotomy (being-becoming etc.), as the table below indicates:

Table 1

The classic metaphysical distinction		A contrastive ‘schedule of ontological categories’	
Substance philosophy	Process philosophy	Aristotle’s categories	Process categories
discrete individuality	interactive relatedness	substance	process
separateness	wholeness (totality)	quantity	quantitative <i>features</i>
condition (fixity of nature)	activity (self-development)	quality	topicality (<i>thematic nature</i>)
uniformity of nature	innovation/novelty	relation	relationships (interconnections)
unity of being (individualised specificity)	unity of law (functional typology)	place/space and time state	spatiotemporal location (inner)condition/structure, order
descriptive fixity	productive energy, drive etc.	action and affection	force, energy, change, power
classificatory stability	fluidity and evanescence	possession	accompaniments
passivity (being acted upon)	activity (agency)		

Source: Adapted from Rescher 1996: pp. 35 and 36.

For Rescher “the process metaphysician has no wish (and no need) for dispensing with the thing *concept*... ‘things’ are more instructively and adequately understood as instantiations of certain sorts of process or process-complexes” (Rescher 1996: 33).

There is a great deal more to this than we have the space to discuss here, but a key aspect of Rescher’s argument is that much of the dichotomous debate regarding substance and process is built around misunderstanding. Every substantive thing is in process and is part of processes at some scale of time – the universe is moving towards heat death and perhaps renewal, the earth’s lithosphere is in continual motion, landmasses shift, mountains rise and fall, oceans and seas swell and shrink, species evolve and become extinct, plants go through life cycles, as do animals, as do we, societies and ways of doing things are conceived, lived and altered, civilizations come and go etc.

As the initial quote from Rescher also indicates, “process” does not mean necessarily significant change in one thing or many things, change is simply an observable common manifestation of the condition of things in process. Moreover, process does not mean any particular described quality of change (degeneration, decay etc.) and nor is it restricted to cases lacking clearly defined substance, such as a storm or a riot (you can’t put a bit of storm in a jar and it remain “storm” nor can one put a riot in jail, only rioters), since this is to conflate “process” as a state with the absence of definitive substance in the particular case. Rather, for our purposes, *everything is in process*, while remaining some combination of matter and energy with complex organised powers and potentials (some of which are newly “emergent” i.e. dependent on the organisation of parts).²⁹ Continuity, endurance (perdurance) and change are ultimately all in some sense processual and in any case “there is no such thing as an instantaneous process” (Rescher 1996). One might also point out then, that process is not only pervasive, but by extension temporality is intertwined with process.

The above may seem like abstract philosophical points and thus a digression, but it is worth noting that they bear directly on how we view both central banks and money. There is a longstanding ontological/methodological critique of mainstream economics that suggests that it tends to theorise and model in terms of (implicitly) “closed systems” and this amounts to the claim that the mainstream deals poorly with change and uncertainty and by extension process (for example, Lawson 2015). As Sheila Dow notes, modern central banking is far more theory-bound than it used to be and thus more a mainstream creature, though there are definite limits to this (Dow 2017). As some readers may be aware, following the abject failure of its inflation forecasting, there is currently a review of the way the Bank of England goes about constructing and using forecasting.³⁰ More specifically, in a “May 2023 meeting, the Bank of England’s Court of Directors commissioned a review into the Bank’s forecasting and... As part of that, the review should consider the appropriate approach to forecasting and analysis in support of decision-making and communications in times of high uncertainty from big shocks and structural change.”³¹

It was announced on 28th July 2023 that Ben Bernanke, joint winner of the “The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel” in 2022 and former Chairman of the Federal Reserve (2006-2014) would lead the review, supported by the Bank’s Independent Evaluation Office (IEO). However, in November 2023 a House of Lord’s Economic Affairs Committee (EAC) inquiry expressed concern that more would be required to overhaul the way the Bank conducts itself and this extends to concern regarding its ever-expanding remit.³² Some

²⁹ Note, even the things physicists have conceived as fundamental at one time or another in state of the art theory had to come into being and depend on the organisation which is ‘intrinsic’ to that state of being. Fields, of course, and quantum states adds another facet to this, which arguably is processual.

³⁰ For previous critique of the econometrics and especially inflation targeting models see, for example, Nasir and Morgan (2018; 2023a, 2023b).

³¹ Quote from Bank of England terms of reference press release: <https://www.bankofengland.co.uk/-/media/boe/files/news/2023/bernanke-review-tor.pdf>

³² Visit: <https://www.ft.com/content/3c6cc2ff-e00b-4725-8454-2a18b042aeea>

readers may also be aware that a previous EAC inquiry resulted in a degree of scepticism regarding CBDC – which was referred to as a “solution in search of a problem.”³³

In any case, no review or reconsideration of the role of a central bank can be adequate unless it is able to make sense of context and make sense of process – a world in motion – and in the case of central banks this is quintessentially a matter of power, position and interests.

Conclusion

There are numerous everyday issues we might bring to the fore here. The Bank of England, for example, is supposed to be self-financing but not profit-making. Interest bearing CBDC would thus be something of a problem. However, the underlying issues are who has the power to decide what form of organization a central bank is, followed by what decisions are made regarding what a central bank becomes, since these two create the framework and foci the central bank pursues. A CBDC, moreover, is an opportunity to revisit debates, and as a corollary invites further discussion regarding the nature and role of theory of banking, finance and money. A post Keynesian, for example, looks at these quite differently than a mainstream economist.

Finally, it is worth reminding ourselves that one of the original justifications for cryptocurrency was a deep scepticism regarding the motives of both corporations (“the banks”) and the state (insofar as the state is “captured” by financial interests). For a libertarian, the spectre of a central bank asserting greater control over money removes the main attraction that the technology originally offered (peer-to-peer decentralized activity). For more mainstream voices, a poorly constrained CBDC may undermine the independence of the Bank of England and provide a new set of tools that encourage greater intervention on behalf of the government of the day.³⁴ From still another perspective, CBDC offers scope to democratise finance and provide a public alternative that breaks the power of the banks. From this last point of view, the main barrier to enlightened use of CBDC is a narrow central bank technocracy, hampered by insufficient imagination and unwilling to grasp the potentials CBDC offers. There is, therefore, much to discuss and great need for deliberation.

³³ For discussion of this see EAC (2022).

³⁴ This also invokes another issue we have not considered and that is the degree to which government fiscal policy is dependent on and constrained by debt issuance. The standard way to think about this (opposed by MMT proponents etc.) is that of the power of “bond vigilantes”. Sir Robert Steatham who was at the time CEO of the DMO commented on the reaction to Liz’s Truss’s infamous mini-budget of September 2022 “Don’t kid yourself in thinking that you can develop policy in a vacuum without taking the market into account. In a world where we have debt to sell, policy-making cannot be divorced from the reality of the market” (Ralph 2024).

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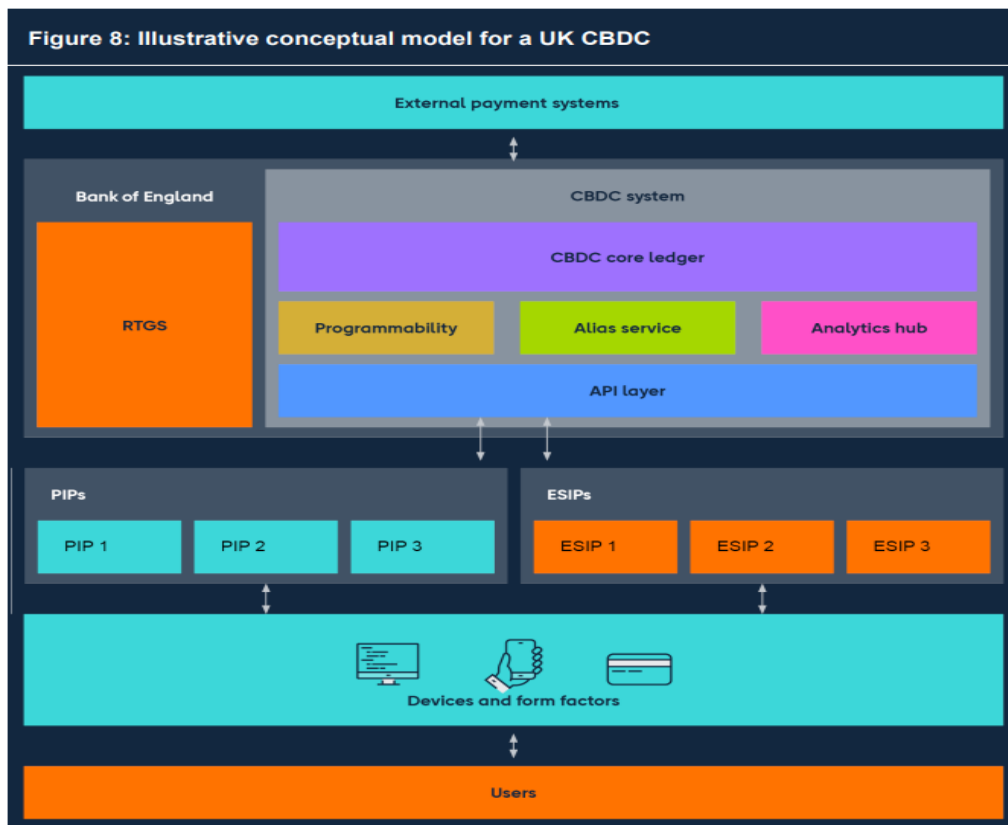
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Appendix 1: Bank of England Summation of UK CBDC Format, Context and Potential



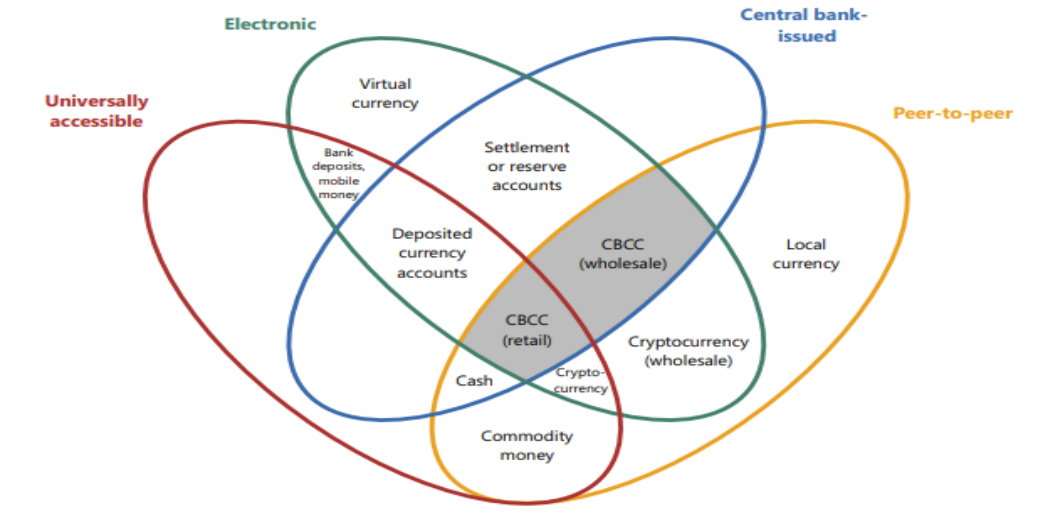
Acronym key: RTGS, Real-Time Gross Settlement Service; API, application programming interface; PIP, Payment Interface Provider; ESIP, External Service Interface Providers.

Source: Bank of England (2023b: 46)

Appendix 2: Bank for International Settlement taxonomy of money

The money flower: a taxonomy of money

Graph 3



Source: Bech and Garratt (2017: 60)

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On *Technofeudalism: What Killed Capitalism?* An interview with Yanis Varoufakis

Interview by Michel Zouboulakis

Yanis Varoufakis is an economist and politician. After serving as Greek Finance Minister in 2015, he went on to co-found the Democracy in Europe Movement 2025, of which he is now Secretary-General. The author of many books and academic papers, his latest work, *Technofeudalism: What Killed Capitalism?*, was published by Bodley Head in 2023.

Professor of Economics, and editor of this journal, Michel Zouboulakis interviewed Varoufakis in December 2023. What follows is a transcript of that meeting.

* * * * *

Michel Zouboulakis: Dear Yanis, I'm very happy to talk to you live again. Our discussion will focus on your latest book, *Technofeudalism: What Killed Capitalism?* I have read it extensively over the last few weeks and I have six questions for you. I will focus mainly on the economic side of the book and less on the political aspect, although they are very well connected to each other. So, the first question: what is technofeudalism? Which are its main characteristics?

Yanis Varoufakis: Technofeudalism is a socioeconomic model of production, which in my view has transpired after a rupture within capitalism caused by a new form of capital, a mutation of capital, which I call cloud capital. In the same way, the great transformation – Karl Polanyi's term – shifted the feudal mode of production from one where land ownership bestowed upon its owners – the landed gentry – economic and social power, and the power to extract rent from the peasantry and from vassal merchants and artisans. That great transformation in capital meant that land was replaced by capital, by machinery, as the source of power and the main fuel that drove the economy – political economy, the social economy – was no longer rent, even though rents remained within capitalism. Rather, it was profit.

Technofeudalism is the next socioeconomic phase of mode of production where the two pillars of capitalism which are on the one hand, markets, through which, under capitalism, all economic activity passed, like under feudalism, including the labour market. Markets were replaced by digital platforms that resemble fiefdoms. Only, they are not made of land, but they are made of cloud capital. They're made of algorithmic capital, which erects new enclosures around fiefdoms that are owned by capitalists, who, however, own cloud capital, not any kind of capital, and that gives them the opportunity to charge rents for access, which are called cloud rents.

A practical example: Amazon.com or Alibaba or Scrooge or Airbnb or Uber. They have remarkable interfaces which attract and locks users – members of the public – into them; that attract sellers who are operating like vassal capitalists within that digital fiefdom or cloud fiefdom. You know, Jeff Bezos, who owns this whole thing called Amazon.com, has used remarkable R&D,

remarkable investments in mind-boggling technologies to create this fiefdom, so as to be able to collect cloud rents. So whenever you buy something on Amazon.com, you pay 40% to Jeff Bezos. That is a form of rent. It's a cloud rent.

The fundamental difference between feudalism and technofeudalism is that under feudalism, you didn't need to do anything in order to have that right to charge rent, to extract rent. All you had to do was to be born in the right family. But under technofeudalism, because it's based on a kind of supernova capital – cloud capital – the cloudalists are this new ruling class, as I call them. They are investors of huge quantities of money in cloud capital, which, however, then allows them to destroy both markets and profit, and to replace them by cloud fees and cloud rents.

And that is macroeconomically significant as well. Hugely significant, because when you have so many rents being extracted from the secular flow of income, that creates greater instability in terms of aggregate demand efficiencies. And it creates huge geopolitical clashes like the one we are watching and witnessing between the West, primarily the United States of America – and China.

Michel Zouboulakis: OK, let's speak a little more about this cloud capital and how it differs from previous forms of capital. For example, who's the owner of this cloud capital? Is it a person or a consortium? An enterprise? And a secondary question to that: what is the role of the state in this form of cloud capital? You say a lot in the book about the role of the state in issuing money in order to help this capital to rise.

Yanis Varoufakis: OK, first: what is the difference between cloud capital and terrestrial capital – standard conventional capital? Two fundamental differences. Capital goods, as we've been teaching our students for yonks now, are produced means of production. Cloud capital is a produced means of behavioural modification. So TikTok, Google, Uber and so on, they're not producing anything. They are automated systems. In other words, they produce means for altering our behaviour.

Now, behavioural modification is as old as humanity. From, you know, Homer, the priests, the great poets, politicians, advertisers; they've always tried to modify our behaviour, but these were human beings. Now we have automated systems which enter into a dialectical relationship with us. It's not like an advertisement that speaks to you in one way, in a one dimensional, one directional way. You know, of the kind where there are people there and they convince you to buy a car and that's it. Now you have a dialectical relationship. You are talking to the machine. You are training the machine to train you to train the machine, to train you, to train the machine, ad infinitum, for you to want something. And at the same time, the same machine, the same algorithmic capital, sells it to you. So it's not producing anything, but it is a remarkable, produced means of modifying your behaviour. That's the first difference with terrestrial capital.

The second difference is that for the first time in the history of capital accumulation, cloud capital does not necessarily need waged labour in order to accumulate. So a steam engine, an industrial robot, an electricity grid, require waged labour to be produced. But the capital stock of Twitter, of TikTok, of Uber, of Google – that increases by what *you* do, as a user. You don't even realise that you are producing free labour that is replenishing and accumulating cloud capital on behalf of the owner. So every time you go on your phone, that increases the capital stock of Google because the Google Maps application knows where you are and improves its capacity to

predict traffic jams. And therefore it improves its capacity to attract users. So you are contributing directly as a user, as a consumer – you're not a consumer, you're a user really. I call these people – us! – “cloud serfs” to go together with the technofeudal narrative. You're creating capital. That has never happened before in the history of capitalism.

So these are two major differences. Now, who owns them? Well, that is no different to monopoly capitalism, say in the same way that Thomas Edison, you know, owned shares in his enterprises. But of course, he owned most of the shares. And they are no different from enterprises like Henry Ford's, like, you know, Westinghouse, like these people. Similarly, you've got the owners of cloud capital, call them “cloudalists”, like Jeff Bezos, like Elon Musk, like Mark Zuckerberg.

And finally you mentioned the State. To begin with, you alluded to my hypothesis that it was after 2008 – or 2009 to be more precise – that quantitative easing began at a massive scale, especially after April 2009. There was that meeting in London between the G7, government heads and central bank heads, which unleashed, in my estimation, \$35 trillion between 2009 and 2022.

Now, don't get me wrong, there is no conspiracy here. I'm not saying that these central bankers printed this money to give to the cloudalists to build up their cloud capital. No, that's not what they did. They were panicking. The political leadership of the G7 proved cowardly and weak and effectively surrendered in front of the tsunami of bankruptcies that started the financial sector collapse in 2008. Effectively all they did was to impose austerity on the peoples of Europe and the United States. But they unleashed the central bankers – they said: Print as much money as you need. So they printed \$35 trillion. And they refloated finance.

Now, we know how central banking works. You can't just print money and spread it using a helicopter – the Milton Friedman idea. I wish they could, that would have been much better than what they did. Because their charter, their rule book imposes upon the Fed, the ECB, the Bank of England, but not Bank of Switzerland, and so on – imposes upon them that they should give it to the banks in exchange for paper; bonds and mortgages and all sorts of worthless pieces of paper, entitling the owners of that piece of paper to some kind of asset. And the idea was that the banks would then lend it on to business, and business would create jobs and that would help the North Atlantic capitalistic economy to recover.

But of course, because of austerity being practiced everywhere, dampening aggregate demand, the bankers looked around to see small, middle sized businesses struggling, households struggling. As if they were going to give them the money. So they gave it to big business. Now big business was also in the same predicament – Volkswagen, CTS, Aston, Rolls Royce, looked at people out there and saw that these people did not have the purchasing power. So they decided: we're not going to invest the money. Even though they took the money! So they took the money and they took it to the Stock Exchange and they bought back their own shares. So their shares went up, their bonuses went up. Everybody was happy amongst the board of directors. But of course that was wasted resources. The only capitalists who invested that money were the Zuckerbergs and the Bezoses – the cloudalists, who took this money and pressed it into the service of building up cloud capital. And once they did that, they acquired gigantic economic and political and social power over the rest of society, including the state.

I was talking to somebody, one of the founders of Facebook. McNamee is his name. He confirmed that nine out of \$10 that were spent on cloud capital by Facebook – Meta – came from central bank money.

Michel Zouboulakis: OK, so if this cloud capital was the result of the 2008–9 crisis, and then it changed the monetary policy, doesn't this confirm Hyman Minsky's central argument that in times of crisis the Central Bank as lender of last resort, accepts all kinds of new instruments to stabilise the market? But, by the same token, that it also creates the basis for more bubbles and instability?

Yanis Varoufakis: Absolutely.

Michel Zouboulakis: So what is new here? Isn't this something that was already described by Minsky in the 1980s?

Yanis Varoufakis: Yes, but Minsky came up with a financial cycle idea. So stability brings instability which then creates bankruptcy, which then creates stability, which then again breeds instability, and so on and so forth. In the same way that in the case of Marx, the falling rate of profit caused a recession, which then boosted the profit rate, and that gave rise to another period of falling rate of profit, and so on. It's the same way that for Keynes, the indeterminacy of aggregate demand led to these periodic crises.

But in all these three thinkers – Marx, Keynes and Minsky – what you have is a sine wave, but the underlying economy doesn't change. The structure of the underlying mode of production doesn't change. Here's my hypothesis: the underlying mode of production changed. So it's not just that you had a sine wave, but you also had a fundamental, profound transformation of the structure of the economy towards rents, away from profits, towards fiefdoms, away from markets, and with the secular – not periodic but *secular* – reduction in aggregate demand as more rents are being extracted from the economy. So, I think that yes, from our traditional political economy, Marx, Keynes and Minsky were vindicated by the events of the last 15 years. But I would also add Thorstein Veblen to this, and his particular take on the disequilibrium aspects of the economy and his own understanding of how our perspective on value is constantly under threat and in flux.

All this of course foundered, in my view, on the revolutionary role that this new form of capital has played in shattering the basic pylons of capitalism.

Michel Zouboulakis: I found this idea very attractive and I very much liked in your book the fact that you insist so much on the material conditions of these changes. But, is it not an overstatement to emphasise the revolutionary character of cloud capital? For example, if cloud capitalism is based on rent and not on profits, do you have any idea of what share of GDP rent is, for example, in some countries or in the world? In other words, do you have any proof that rent is more important than profit?

Yanis Varoufakis: Well, you see the problem is that we don't have the data. There's no statistical service anywhere in the world which has the capacity or the interest to discriminate between cloud rent and profit. So take a company like Microsoft. We know what the official – *official* – turnover is; we know what its net income is. We know that Microsoft produces machinery, so that's a

standard capitalist profit driven thing. But it also builds up cloud services which extract gigantic rents from everyone, including governments, the National Health Service in Britain, and so on. But there's absolutely no way statistically to know what the percentage is. So you have to go on the basis of instinct – instinctually to move.

My estimation is that in countries like the United States, Sweden and South Korea, you're already pushing the barrier of 30% of GDP as cloud rents. And it's not just the proportion of GDP. It is the rate of change in respect of different compartments within GDP. So the dynamic part of growth – of wealth growth, of income growth – is cloud rent.

And I think that becomes far more evident in developing countries. If you go to Kenya, if you go to Malaysia, to Indonesia, you'll find that cloud capital is growing much faster than any other kind of capital. I was astounded – and I mentioned this in the book – that in Indonesia you have three and a half million kiosks over ruins – like *periptera* here in Greece – now purchased by cloudalist companies. And they use them for the purposes of micro credit, for the purposes of digitising the markets in the vicinity of these poor neighbourhoods. So if cloud capital has already managed to penetrate the alleyways and byways of Indonesia and Kenya, then we are already very deeply within the technofeudal phase. It's not something that will happen. It *has* happened.

Michel Zouboulakis: So even the measurement of GDP is problematic because it is underestimated, after all? Our world GDP is far bigger than we know?

Yanis Varoufakis: Yeah, we know how bad GDP is at telling us anything, not just in this regard. National accounts have never managed to distinguish between profit and rent, well before cloud rent came along.

Michel Zouboulakis: So I have two more questions. How does this new phase, this new mode of production you have called technofeudalism, affects our understanding of the economic phenomenon? Do we need a new economic theory to deal with this new mode of production?

Yanis Varoufakis: Well, we needed a new economic theory to deal with capitalism, because, let's face it, the ones we had were not fit for purpose! So we constantly need to update our understanding. Look, I am an unreconstructed Marxist – the early Marx in particular when it comes to understanding the manner in which the advancement of means of production – the technological revolutions – eventually bring you to conflict. The conflict between our means of production, the state of advancement of our means of production, and our social relations with production. And that rupture not only changes society, but changes our way of understanding society. For me, economics was never a science. It was always a struggle to keep up with what was going on in the social economy. What I find fascinating, both as a thinker and as a teacher, is this: how do you tell the story of the development of the forces of production, the evolution of capital on the one hand, and the evolution of our ideas about the economy? So economic theory always plays catch up. And it never succeeds. That is not going to change.

Michel Zouboulakis: Yes. Speaking of teaching, my last question is: what should we change in the way we teach economics after all these new developments?

Yanis Varoufakis: I'm not going to give you an answer that's different to what I would have answered twenty years ago, well before technofeudalism. For me, the worst development in economic education began in the middle of the 19th century when we started behaving as if we were physicists, as if we were natural scientists trying to evince the truth about capitalism from solvable mathematical models. The moment we started doing that we lost our capacity to say anything useful about capitalism, even to recognise capitalism, to recognise the reality in which we find ourselves. So for me, what a proper economic education must involve is this parallel narrative. Economic history on the one hand – what has been happening on the ground, changes in the way in which we are producing things, and the social relations of production and distribution – and how those changes have been affecting our theories and our models of this economic history. To try to abstract from that and create a textbook like Mankiw, whereby all the truths about capitalism, or indeed even the schemas of reproduction by Marx, where everything can be reduced to some kind of system of equation that can be solved: that is a major disservice to society and to our students.

Michel Zouboulakis: Thank you very much, Yanis. It was a great pleasure to talk to you.

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Bankers as Immoral? Some Parallels and Differences between Aquinas's Views on Usury and Marxian Views of Banking and Credit

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Abstract

Since ancient times the practices and ethics of bankers and banking in general have undergone a great deal of criticism. While lending is motivated by profit, and while households are not explicitly coerced into borrowing money, the justice of a system which exploits workers and at the same time encourages them to borrow money in order to maintain a certain standard of living can be viewed as sometimes unfair and perhaps immoral. The value of goods, according to St. Thomas Aquinas and Karl Marx, should mostly reflect the value of labor embodied in them, and for that reason, labor should be compensated fully for its work. For these reasons, Aquinas and Marxian economists offer somewhat similar and at the same time different views on both the labor theory of value as well as on the morality of certain banking practices. If credit and the banking system also bring about crisis and the greater concentration and centralization of capital, then the morality of these outcomes also needs to be examined.

Keywords:

Banking, exploitation, usury, Aquinas, Marx

JEL Classification:

B11, B51, N20

"I like thieves. Some of my best friends are thieves. Why, just last week we had the president of the bank over for dinner."

W. C. Fields

Introduction

Throughout history, the performance, practices and ethics of bankers and banking in general have received mixed reviews in both popular and scholarly writings. Early writings by philosophers, clerics, and scribes played a crucial role in the perceptions of banking and banking occupations.

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Thomas Aquinas' thoughts and writings are greatly influenced by the Romans' and Aristotle's opinions on usury and the charging of interest, and Aquinas is in a position to have his opinions implemented in policy and practice.² One of Aquinas' main arguments against most forms of usury is that lending to the poor or destitute often puts them in a worse situation than they are before receiving a loan. The ability of those with wealth to take advantage of the poor or low income through lending is seen as immoral and unjust by Aquinas. Goods and services should reflect the value of the effort and labor expended to create them, and usury is a charge above what the real values of goods would be worth. There evolves a separation between real use value and exchange value. Along the lines of Aristotle, Aquinas believes that usury uses money to create more money, something which is artificial, unnecessary, and parasitic. There are similar themes with Marx's writings in that Marx believes that labor is exploited by being paid less than what the goods that labor helps to create are worth. Unlike Marx, however, Aquinas does not oppose the class system of his times and does not address or challenge the form of labor exploitation that exists under feudalism and never explores whether labor is underpaid compared their employers. This is not questioned by him, and as part of the Church hierarchy which dominates feudal society, this perhaps is not surprising. In this way he is different from Marx who focuses on labor exploitation and how exploitation extends and strengthens the degree of class differences in a society. As time goes by, views on money lending change as feudalism gives way to capitalism, and the reasons for this change are multifaceted, and some of the reasons are debated today as to whether they are important or unimportant. This paper explores Aquinas' writings on usury and money lending, how his writings played out in practice in the Middle Ages, and how these views persisted even as attitudes toward money lending and banking change under capitalism. Additionally, the neo-Marxist view of lending and banking is compared to the ideas of Aquinas, and it is found that these ideas have a few parallels as well as some differences to those of Aquinas' thinking.

Aristotle, Aquinas, and Historical Views on Money Lending and Usury

Historical accounts of the first money lenders, exchanges and/or banks go back to the ancient world.³ Aristotle is noted as one of the first philosophers to comment on the value of money and the morality of commerce, especially money and banking in his two works of *Politics* and *Ethics* in which he notes that money serves the two important functions of a measure of the value of something (money as a medium of exchange) and as a measure of intrinsic value (a store of wealth).⁴ Although money can be used in exchange as an alternative to bartering between two parties in a transaction, Aristotle is not convinced that lending money is a justifiable act of

² In much of history, the term usury has had much the same meaning as the charging of interest on a loan. It has only been in modern times that the word usury has taken on the connotation of charging a debtor an extremely high or excessive and legally prohibited rate of interest. See *Merriam-Webster*, "Usury," accessed February 26, 2019, <https://www.merriam-webster.com/dictionary/usury>. This paper will use the term usury in the same sense as charging interest on a loan as in the original sense of the word.

³ Niall Ferguson. *The Ascent of Money: A Financial History of the World* (London, UK: Allen Lane Publishers, 2008), 29-30.

⁴ Diana Wood. *Medieval Economic Thought* (Cambridge, UK: Cambridge University Press, 2002), 70-72.

commerce and considered it immoral since the lending of money is not the same as trading a commodity for a commodity or giving money for a commodity, and therefore, he did not see any justice, equality, or fairness in lending, especially since the lender is receiving a payment (interest) in addition to the money he loans for something he has not actually created but has just accumulated.⁵

Aristotle mostly sees money for the purposes of exchange, not for lending, and believes that unlimited borrowing and lending could lead to the unlimited accumulation of money by money lenders. This accumulation of wealth by money lenders later becomes a preoccupation of Marx. Lending money to make more money was seen as unnatural and wasteful in that no use values (usefulness of the goods exchanged) between the two parties (debtor and creditor) are created in the transaction. That is, money cannot be used like a chair, consumed like food, etc. It is also not considered as something usually or actually “belonging” to the lender/creditor since the government or some government entity is the issuer of money or currency in a society. Since the creditor is having to pay back more money than what he borrows thanks to usury or the charging of interest, this is not seen as a fair exchange, although in modern times, giving a debtor the opportunity to buy something now with borrowed funds is justified by and seen as the equivalent of forcing someone to save money and to wait to buy something in the future.⁶

The Bible of the Medieval Roman Catholic Church, which would have had influence over Thomas Aquinas as a Dominican Friar and Catholic Theologian, is not as clear on the topic of money lending. The Bible has many passages in which usury and the charging of interest are explicitly forbidden whereas other passages only forbid Israelites from charging interest to fellow Israelites for loans yet allows the charging of interest to others.⁷ Both the Old and New Testaments contain verses that appear contradictory, and for this reason, religious views on money lending have varied over the years. In breaking with Roman law which allows interest, in AD 325 the Catholic Church’s Council of Nicaea issues canon law which explicitly forbids money lending by clerics, and this is later followed by numerous other papal and Church council decrees that expand and reinforce Church prohibitions against banking and interest/usury.⁸ As more and more loans are given in the form of money rather than commodities as the Middle Ages progresses and comes to a close, arguing against interest and money lending becomes more and more difficult for the Catholic Church.⁹

⁵ Ibid, 84. And not all money fees or charges were opposed by Aquinas or the Church. Those who were late paying for goods or those who damaged goods being shipped could legitimately be expected to pay late fees for late payments or pay extra for damaging goods.

⁶ Ibid, 84-86. More specifically, the interest charged and paid back is considered the equivalent of the patience endured by saving money and waiting to purchase later rather than sooner. One could borrow \$10,000 today for 5 years at 5% simple interest per year or invest a certain amount each year for the next 5 years at 5% to buy the same item which may cost more in 5 years, and the amounts could be about the same. Yet in borrowing, one can have the same good now at a lower price versus waiting to purchase in the future.

⁷ Open Bible, “What Does the Bible Say About Charging Interest,” OpenBible.info, https://www.openbible.info/topics/charging_interest (no date, accessed on February 25, 2019).

⁸ Barry Gordon, *Economic Analysis Before Adam Smith*, (New York: Barnes and Noble Books, 1975), 140-41.

⁹ O. F. Hamouda and B. B. Price, “The Justice of the Just Price,” *European Journal of the History of Economic Thought*, 4, (1997): 201-02.

In his time, Aquinas is strongly influenced by Church teachings and by Aristotle's writings on money lending and basically agrees with him that money is to be used primarily for the purposes of facilitating exchange.¹⁰ In answering Question 78, "Is it sinful to charge interest (usury) for lending money?" in the Second Part of the Second Part of the *Summa Theologiae*, Aquinas writes,

To take usury for money lent is unjust in itself, because this is to sell what does not exist, and this evidently leads to inequality which is contrary to justice. In order to make this evident, we must observe that there are certain things the use of which consists in their consumption: thus we consume wine when we use it for drink and we consume wheat when we use it for food. Wherefore in such like things the use of the thing must not be reckoned apart from the thing itself, and whoever is granted the use of the thing, is granted the thing itself and for this reason, to lend things of this kin is to transfer the ownership. Accordingly if a man wanted to sell wine separately from the use of the wine, he would be selling the same thing twice, or he would be selling what does not exist, wherefore he would evidently commit a sin of injustice. On like manner he commits an injustice who lends wine or wheat, and asks for double payment, viz. one, the return of the thing in equal measure, the other, the price of the use, which is called usury.¹¹

Not only does Aquinas characterize money lending as unjust or unfair but states that it also generates inequality between the parties engaged in the transaction, which would violate the principle of a just price.¹² It also does not matter as to what the purpose of a loan is.¹³ The time value of money is not yet a fully developed concept during Aquinas' time, and so in modern times we would find complaints against charging interest for loans as strange. Today, most introductory economics textbooks consider banking, money lending and the charging of interest for loans as normal and necessary aspects for a fully functioning economy.¹⁴ Yet Aquinas' characterizations of money lending as immoral would influence Catholic Church and state thinking on banking and lending for the rest of the medieval period until the beginnings of capitalism.¹⁵ Finally, returning

¹⁰ Barry Gordon, *Economic Analysis Before Adam Smith*, 160. Aquinas did allow for charges to be paid by a borrower if the borrower was late in paying back money to a lender.

¹¹ Thomas Aquinas, "Question 78: The Sin of Usury" in *St. Thomas Aquinas on Politics and Ethics*, ed. Paul E. Sigmund, (New York: W.W. Norton and Company, 1988), 74.

¹² Favio Monsalve, 'Scholastic Just Price Versus Current Market Price: Is It Merely a Matter of Labeling?', *European Journal of the History of Economic Thought*, 21, (2014): 8.

¹³ Barry Gordon, *Economic Analysis Before Adam Smith*, 163.

¹⁴ See for example, among many others, David C. Colander, *Economics, 11th Edition*, (New York: McGraw-Hill Publishers, 2020), 645-50.

¹⁵ There has been some debate over whether Church prohibitions against usury made some logical sense from an economic point of view in that since most of the medieval period saw little if any economic growth and capital investment ("Malthusian" economic growth), which would make the cost of capital virtually zero, then charging interest for loans would not make sense much less be justifiable. Jacques Melitz evaluates the writings of Schumpeter, Dempsey, Hoover, and Noonan on this issue and finds little support for this view. It appears that prohibitions against usury exclusively came from moral reasons. See Jacques Melitz, "Some Further Reassessment of the Scholastic Doctrine of Usury," in *Pioneers in Economics: St. Thomas Aquinas (1225-1274)*, ed. Mark Blaug, (Aldersthot, Hants GU11 3HR, England: Edward Elgar

to the point of labor exploitation, Michael Hudson argues that Aquinas and the scholastics of medieval times believe in an early form of a labor theory of value in which the price of most goods mostly reflects the value of the labor that goes into producing them.¹⁶ For a banker to receive more money (interest) above the value of the loan itself would be unjust compensation. Although Aquinas could be more concerned with usury being charged on loans/claims against the Church or other institutions rather than on peasants and serfs, and although it is never explicitly addressed, recognizing that a labor theory of value exists means for Aquinas that labor deserves a “just price” or “just wage” and implies that exploitation is not acceptable. Aquinas probably does not see the role of serf or peasant as exploitive, however, and therefore does not see labor exploitation present. In fact, during his time, the late stage of feudalism, wage labor is only slowly replacing that of serfs working on a manor for no pay and in return for protection and services by lords and barons. Therefore, concepts such as wages and profits are not as common in his time as in subsequent eras, so the recognition of labor exploitation in the pursuit of profits may be much more difficult to discern.

Max Weber acknowledges Aquinas and Catholic Church teachings and believes that the beliefs of Protestantism permit and condone the saving and lending of money, which is one of the reasons for the growth of capitalism and industry in Europe after the middle ages.¹⁷ In fact, Weber writes that the Church slowly and unofficially begins to abandon its teachings on usury and banking as immoral as the Church begins to have political and business interactions with wealthy bankers as time passes (popes and monarchs needed financing for wars and other ventures) and as money lending becomes more and more common. However, banking is still looked upon with suspicion since gain is being made by an individual or institution through lending without the actual creation of a product or service.¹⁸ According to historian R. H. Tawney, the Church of England “quietly dropped” all explicit admonitions against usury and money lending around the middle of the 17th Century mostly due to the growth of thinking that commerce, thrift, and industriousness are good and for the betterment of society, not to its detriment, and also due to the rise of Puritanism which seeks to rid Protestantism of any remaining doctrinaire vestiges with the Catholic Church. Changes in attitude toward business include the business of banking, and by the middle of the 17th Century, the success of many merchants, bankers, and traders make it harder and harder to criticize business and banking practices.¹⁹ Although some have argued that

Publishing Limited, 1991), 173-92. Originally published as J. Melitz, “Some Further Reassessment of the Scholastic Doctrine of Usury,” *Kyklos*, 24 (1971): 473-492.

¹⁶ Michael Hudson, *Killing the Host: How Financial Parasites and Debt are Destroying the Global Economy*, (New York: Avalon Publishing Group, 2015), 39-40.

¹⁷ Max Weber, “Chapter II: The Spirit of Capitalism,” in *The Protestant Ethic and the Spirit of Capitalism*, (New York: Charles Scribner’s Sons, 1958), 47-78.

¹⁸ *Ibid*, 73-75 and 201-02.

¹⁹ R. H. Tawney, *Religion and the Rise of Capitalism: A Historical Study*, (Gloucester, MA: Peter Smith, 1962), 191-93 and 209. Tawney also notes that those who commit the sin of usury could donate to the Church to atone for their sins and that there are ways to “hide” interest payments for loans by a borrower pledging to the lender to share in the profits of an enterprise enabled by the loan. Sometimes the interest on the financing for the purchase of goods is hidden by the buyer paying an inflated price for the goods at a later date or paying in a foreign currency that has a higher value than the domestic currency. Sometimes a debtor would pay a loan through working more days than what the loan is worth or

that Protestantism arrives first and then helps to make capitalism the widespread dominant economic system, Marx argues that it is capitalism that comes first and then seeks an accommodating religion in Protestantism to support capitalism's expansion and continuation.

The thinking of David Hume and Adam Smith and others also no longer see money lending and banking as against good morals.²⁰ However, even after the beginning of capitalism and a greater acceptance of banking, a cynicism toward money lending and bankers would continue to persist because there would exist for many centuries a mode of thinking that considers banking as immoral and unscrupulous.²¹ This is particularly the case during times of economic crises. While campaigning for President of the United States in 1932, during the Great Depression of the 1930s in the United States, Franklin D. Roosevelt states that too much economic concentration and national wealth in the hands of large corporations and banks has been to the detriment of the US economy with a massive wave of bank failures which hurt depositors due to unchecked greed on the banks' part.²² Subsequently, reformist legislation aimed at banking practices and helping consumers is enacted to curb bank excesses.²³ After the subprime mortgage and housing crises of 2007 to 2009, which leads to the Great Recession, the banking and financial services industry finishes in last place as the least trusted industry of all in annual global opinion polling among the general public of different nations.²⁴

Marxian Views

Among economic schools of thought, it is perhaps the Marxian and neo-Marxian points of view which has carried on to the greatest extent the tradition of casting banks and banking in an negative light. In Chapter 31 of *Capital*, Volume I, Marx notes the stagnating effect that usury laws have on the development of different national economies due to usury laws limiting capital formation, yet with capitalism, large amounts of national government debt are becoming more common in most nations in order to finance military expenditures and imperialism.²⁵ For Marx, there is nothing inherently immoral about charging interest for loans since money lending provides

would render goods to the creditor for more than what the loan is worth. Usury violations are not always consistently enforced as well. See pages 47-53 and page 244 of Tawney's book.

²⁰ Arie Arnon, *Monetary Theory and Policy from Hume and Smith to Wicksell: Money, Credit, and the Economy*, (Cambridge: Cambridge University Press, 2011), 1-5.

²¹ William Shakespeare's character Shylock in the play *The Merchant of Venice* (1600(1994)) is just one of many examples.

²² Franklin D. Roosevelt, *Commonwealth Club Address*, delivered 23 Sept 1932, San Francisco, CA, <https://www.americanrhetoric.com/speeches/fdrcommonwealth.htm> , 1932, (accessed on February 26, 2019).

²³ Jonathan Hughes and Louis P. Cain, *American Economic History, 4th Edition*, (New York: Harper Collins College Publisher, 1994), 450-453.

²⁴ Steve Denning, "How Can Bankers Recover Our Trust?" *Forbes*, February 6, 2013, <https://www.forbes.com/sites/stevedenning/2013/02/06/will-we-ever-trust-bankers-again/#226646af3856> , 2013, (accessed on February 27, 2019).

²⁵ Karl Marx, *Capital: A Critique of Political Economy, Volume 1*, (London: Penguin Books, 1990), 914-19. Matias Vernengo notes that the central banks of most developed nations were started with the main objective of economic development. See Matira Vermengo, "Classical Political Economy and the Evolution of Central Banks: Endogenous Money and the Fiscal-Military State," *Review of Radical Political Economics* 50, 4 (2018), 665.

the means for producers and merchants to expand their businesses. The main problems with money lending are that labor has to be exploited to pay creditors their money owed, paying interest cuts into a firm's profits, and that banking systems could easily become and often do become unstable and thereby threaten an entire economic system.²⁶ According to Shuklian (1991), Marx feels that interest or usury earned by bankers has no connection to thrift, abstinence from spending, or the productivity of capital but comes from the surplus value generated by exploited labor (in which the value of labor's output is greater than its pay) of the firms to which it loans money. These features of money lending may not be immoral in the minds of bankers and businesses, but labor exploitation relies upon the unfair use of human labor through not paying it its real worth, and the instability of a banking system can lead to recession or depression in which millions lose their jobs and homes due to no fault of their own.

As businesses and an economy expand rapidly, borrowing money to purchase assets can become mostly if not entirely speculative, and then once expansion stops and economic contraction begins, asset values can drop dramatically, which in turn can trigger an economic crisis.²⁷ As banks take in deposits from the excess profits of firms which are basically earned by exploiting their workers, the banks in turn lend out money to other firms and earn interest on loans.²⁸ Hein (2006) argues that in Marx's views on money lending and interest, just as there are class tensions between workers and owners over surplus value, there also exist tensions between finance (banking) and industrial capitalists over the rate of interest to be paid for loans, and the latter set of tensions influence interest rates charged, not the supply and demand of loanable funds.²⁹ If profits fall or interest rates rise, a crisis can be triggered in which bankruptcies and business closings can occur, which in turn leads to greater industry concentration in the hands of fewer and fewer firms over time as smaller firms exit markets.³⁰ Such concentration is deemed to be not only inefficient in the minds of economists, but also because of the economic power of the concentrated industries, it could also lead to decisions on the part of industry leaders that are harmful or perhaps immoral or exploitive to their consumers and to society.

Financialization: Modern Banking Immorality?

Marx appears mostly concerned about bank lending to businesses and not so much with lending to households and individuals.³¹ Although the desire for profits is mostly amoral in the sense that business people are following the logic of capitalism, some of the consequences of doing so may

²⁶ Steve Shuklian, "Marx on Credit, Interest, and Financial Instability," *Review of Social Economy* 49, 2 (1991), 204- 213.

²⁷ Ibid, 211-15.

²⁸ Costas Lapavistas, "On Marx's Analysis of Money Hoarding in the Turnover of Capital," *Review of Political Economy* 12, 2 (2000), 234-35.

²⁹ Eckhard Hein, "Money, Interest, and Capital Accumulation in Karl Marx's Economics: A Monetary Interpretation and Some Similarities to post-Keynesian Approaches," *European Journal of History of Economic Thought* 13, 1 (2006), 121-5.

³⁰ Bill Lucarelli, "Marxian Theories of Money, Credit and Crisis," *Capital and Class* 34, 2 (2010), 208-12. See also Rudolf Hilferding, *Finance Capital. A Study of the Latest Phase of Capitalist Development*, ed. Tom Bottomore (London: Routledge & Kegan Paul, 1981), 12, <https://www.marxists.org/archive/hilferding/1910/finkap/> (accessed on March 1, 2019).

³¹ Shuklian, "Marx on Credit, Interest, and Financial Instability," *Review of Social Economy*, 211-212

give rise to situations in which market activities and outcomes have at least the appearance of immorality to many. Since Marx's time, many have noted the growing importance of banking and finance in the capitalist global economy as well as their expansion into household and consumer lending. In 1994, the neo-Marxist economist Paul M. Sweezy notes that over the preceding 20 years, the US and global economy have seen the rapid growth of the banking and finance sectors due to the stagnation of other industries, large profit margins on financial products, the increasing globalization of economic activity, and the stagnation of workers' wages which compel them to borrow money in order to retain a certain standard of living.³² That is, because of increasing exploitation, workers are not earning enough money to buy what they need (O'Boyle 2012).

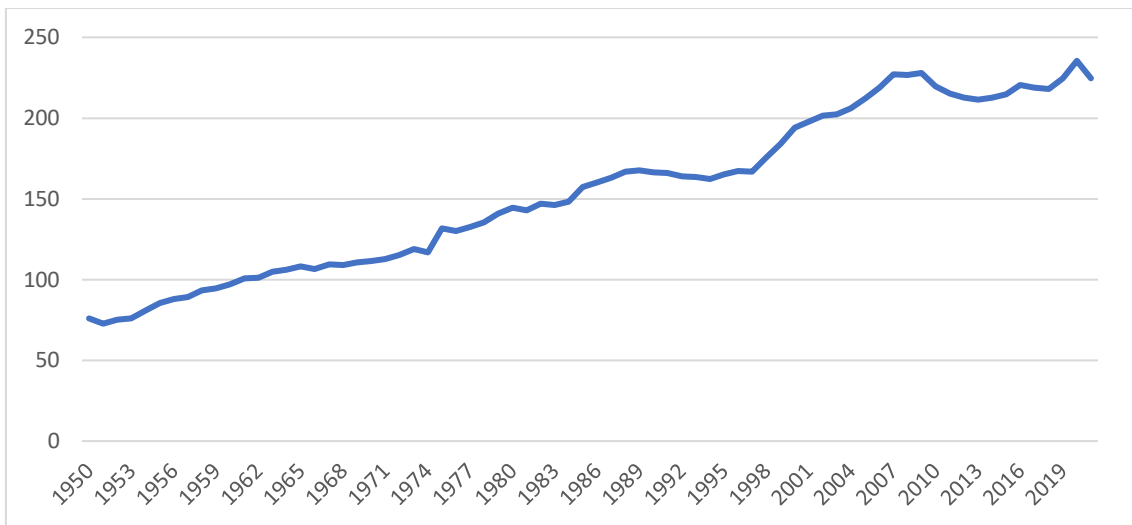
These sentiments are echoed in writings of the neo-Marxists John Bellamy Foster and Fred Magdoff (2009) and by Foster and Robert McChesney (2012) on the causes of and fallout from the housing bubble that burst in 2008 and led to the Great Recession.³³ Additionally, the authors examine how the need to keep investing greater and greater amounts of their profits led to many banks extending loans to high credit risks (the sub-prime loan market) and led to the development of mortgage backed securities (MBSs) or collateralized debt obligations (CDOs) by investment banks, many of which become worthless as the housing crisis unfolds. Lending money to credit risks who could probably never repay their loans as well as selling risky investment instruments (the MBSs) are seen as unadulterated avarice and immoral by many. Any immorality of such actions is also heightened by the fact that many financial institutions expect to be helped by the government in the event of economic turmoil and thereby show a cavalier attitude on their part toward "moral hazard." As Padgett Walsh (2018) points out, efforts by the banking industry to restrict consumers' abilities to discharge their debts in bankruptcy make life tougher for those struggling with financial difficulties and stagnant pay levels. Such efforts could be seen as rational efforts by lenders to protect profits, yet such hardship makes it difficult for many households to consume an adequate amount of housing, clothing, and transportation. Finally, the current debate over student loan forgiveness in the US has often referenced many stories of young adults not being able to purchase such items much less having children or starting families because of the constraints imposed by indebtedness and the inability to get out of such indebtedness. If not an immoral situation, the case of those who are able to graduate from college debt free thanks to having the economic resources to pay for college on their own or with family help versus those of similar talent and promise who have to borrow to attend college certainly raises questions about the inequities of our society. Since many student loan borrowers come from marginalized groups who have suffered from immoral discrimination which has helped to cause many of these groups to fall into modest and low income status, while although and perhaps not directly immoral, the need to borrow money has often been because of past immoral actions against such groups.

³² Paul M. Sweezy, "The Triumph of Financial Capital," *Monthly Review* 46, 2 (June), <https://monthlyreview.org/1994/06/01/the-triumph-of-financial-capital/>, accessed on March 1, 2019.

³³ John Bellamy Foster and Fred Magdoff, *The Great Financial Crisis: Causes and Consequences*, (New York: Monthly Review Press, 2009), 27-38; and John Bellamy Foster and Robert McChesney, *The Endless Crisis: How Monopoly-Finance Capital Produces Stagnation and Upheaval from the USA to China*, (New York: Monthly Review Press, 2012), 49-63. For a statistical analysis of their views and others, see Thomas E. Lambert, "Falling Income and Debt: Comparing Views of a Major Cause of the Great Recession," *World Review of Political Economy*, *World Review of Political Economy*, Vol. 2, No. 2 (Summer 2011), pp. 249-261.

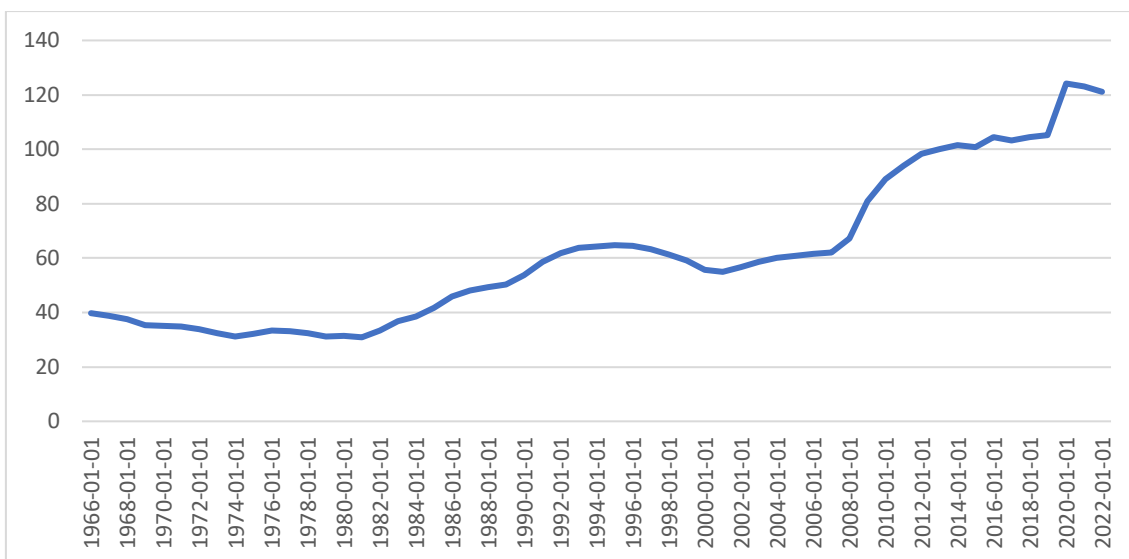
Martin (2002) and Kippner (2011) indicate it almost has become a macroeconomic imperative that financialization exists, thrives, and expands in order to keep a capitalist system going. And as Padgett Walsh (2018) notes, much of this is done in the name of investment when actually most of modern borrowing is done for consumption purposes because of the inequality and labor exploitation that exist today. Hence, some type of servitude is created as Padgett Walsh and Graeber (2011) note in which debt constrains many people and where the things purchased through debt often fail to live up to expectations. As Baran and Sweezy (1966) would claim, a capitalist system has a tendency toward stagnation. Advertising and borrowing to purchase now rather than later are attempts to stimulate consumer demand so as to avoid such stagnation. These also help with absorption of the economic surplus and profits gained from workers exploitation. Inequality is reinforced not just through wage labor, which is brought about by workers not having access to capital, but also by having them borrow much of the profits that they helped earn. This is especially true given that many consumers do not understand finance or the risks associated with lending as Padgett Walsh (2018) highlights. This is something which schooling does not adequately address either so that many consumers are not educated sufficiently regarding personal finance (Lambert 2019).

Figure 1: US Private debt, all instruments (Percent of GDP)



Source: International Monetary Fund. 2023. https://www.imf.org/external/datamapper/PrivateDebt_all@GDD/USA?year=2021

Figure 2: US Federal Debt, Total Public Debt as Percent of GDP



Source: U.S. Office of Management and Budget and Federal Reserve Bank of St. Louis, Federal Debt: Total Public Debt as Percent of Gross Domestic Product.

Discussion and Conclusion: Why are the similarities (or differences) between Aquinas and Marx of contemporary interest?

During and after the Great Recession, banking reforms in the US and other parts of the globe are enacted to try to curb the excesses of bank lending. Yet some claim that these do not go far enough and that a repeat of past events could occur, and some reforms recently have been repealed at the behest of many large banks.³⁴ As Figure 1 below illustrates, total US Private Debt (households, businesses, etc.) now comprises over 200% of US GDP and is at an amount greater than that before the Great Recession. As mentioned earlier, the banking industry is held in low esteem by many people throughout the world. This is perhaps the case because of a perception that dates to medieval times with Aquinas’ writings that banking is immoral due to the fact that lending is seen as an unequal exchange which takes advantage of creditors. Marx and modern neo-Marxists would further add to this that this situation is compounded by the fact that money loaned to borrowers comes indirectly from the exploitation they have suffered in the workplace and from aggressive lending practices that prey upon the vulnerable of society as what happened during the sub-prime loan debt bubble. Aquinas’ concern about unequal outcomes as a result of lending and interest charges still holds today, even though he does not challenge the overall inequality of his era. To a greater degree than in his time, not only do the poor but also many non-poor feel compelled to borrow money, and this further exacerbates inequality between high

³⁴ Erica Werner and Damian Palleta, “10 Years after Financial Crisis, Senate Prepares to Roll Back Banking Rules”, *The Washington Post*, March 4, 2018, https://www.washingtonpost.com/business/economy/10-years-after-financial-crisis-senate-prepares-to-roll-back-banking-rules/2018/03/04/e6115438-1e37-11e8-9de1-147dd2df3829_story.html?noredirect=on&utm_term=.6b30be03b9a0, accessed on March 2, 2019.

and low income classes, something which Marxists would note. Finally, the need to keep profits high through labor exploitation and aggressive lending practices may cause immoral behavior by banks in the future, especially in the absence of any meaningful checks against banking excesses.

Aquinas' view of a just wage still influences Catholic Church and social justice teaching to this day. Various Vatican pronouncements over the decades have endorsed the concept of paying a worker what he or she contributes to the production or work process and have supported workers' rights to form unions and to bargain collectively. The arguments for a just wage imply that exploitation should not be allowed. Nonetheless, the Church still defends the property rights of capitalist owners (US Catholic Conference of Bishops 2023) and does not advocate the replacement of capitalism with socialism unlike Marxism. In the Marxian view, exploitation will take place as long as private property and its separate ownership from labor occurs. Therefore, Aquinas' views and their contemporary equivalents can be seen as mostly implying reformist efforts toward capitalism rather than more radical ones. Just as in Marx's time, tensions and differences continue to this day between progressive and reformist activities versus those of the far-left and revolutionaries regarding capitalism.

To this day the Church still follows Aquinas' principles regarding avarice in business and predatory business practices. It is even an advocate of debt forgiveness for developing nations in that it sees third world debt as unfair and against the concept of justice.

The tragic fact is that in trying to pay their debts, the neediest countries are sacrificing their future and the lives of millions of their people to contribute capital to the richest countries through debt service and debt payment. In Economic Justice for All, we restated the classic principles of justice: Commutative justice calls for fundamental fairness in all agreements and exchanges between individuals or private social groups. Distributive justice requires that the allocation of income, wealth, and power in society be evaluated in light of its effects on persons whose basic material needs are unmet. Social justice implies that persons have an obligation to be active and productive participants in the life of society and that society has a duty to enable them to participate in this way (nos. 69-71). In our view, the Third World debt crisis violates all three of these forms of justice. (US Catholic Conference of Bishops 2011).

The author of this paper offers the opinion that the thinking of Aristotle, Aquinas, Marx and of their modern, intellectual progeny still provide us admonitions and caution against banking, lending, and interest/usury as a form of oppression and exploitation. Whether a reformist or revolutionary, growing global debt due to modern finance capital is or should be a concern. Also, the judgement or wisdom, if not the morality, of a government that issues more and more debt to finance its spending rather than choosing to raise taxes on those most able to afford them needs to be examined. As Figure 2 indicates, US Federal government debt is now over 100% of its GDP, and part of this is due to tax cuts for upper income households and corporations enacted during the neoliberal period of the 1980s and onward. If such debt one day becomes unsustainable, then a

society has one of two choices. It can raise the taxes necessary from upper income and wealthier individuals, or it can impose more taxes on those of more modest means along with imposing austerity measures and cutting programs designed to help lower income individuals and other public services such as education, transportation, or emergency services. The latter course of action could be considered against social justice teachings, entail greater exploitation, and simultaneously “fan the flames” of discontent with capitalism. In a modern capitalist economy perhaps Aquinas would see like many Marxists and neo-Marxists how a lack of just wages being paid would lead to a greater rate of indebtedness than would be the case otherwise. Additionally, perhaps he could see the degree to which indebtedness could lead to economic cataclysms as in the Great Recession and decide along with Aristotle that too great of a pursuit of money accumulation could lead to societal ruin. The need to end labor exploitation, pay just wages, and end the necessity of workers and organizations needing to borrow so much for survival and to avoid predation are several issues upon which Aquinas and Marx could agree. How to do so probably would entail disagreements as to whether these can be accomplished via reform and moral exhortations or through some type of revolution.

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Re-Thinking Fast and Slow

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Abstract

Daniel Kahneman's book *Thinking, Fast and Slow* (2011) has had a worldwide impact. The book's insights are profound and have changed the thinking of both decision scientists and general audiences about how choices are made. Kahneman, however, claims that standard utility theory cannot explain these insights because it 1) lacks "reference points" from which gains and losses can be measured, 2) does not predict loss aversion, and 3) assumes preferences are stable (amid supposed counter evidence). These alleged failures of utility theory are what led Kahneman and Tversky (1979, 1991) to develop prospect theory. This brief article shows that a close reading of *Thinking, Fast and Slow* reveals fundamental oversights in these criticisms. Not only does loss aversion arise naturally within utility theory for rational economic agents with stable preferences, but the very measurements of gains and losses rely directly upon reference points. Rather than overturning the insights of prospect theory, proper use of utility theory and its indifference curve representations reveals these behavioral insights and places them within the sturdier, longer-established framework of neoclassical microeconomic theory.

JEL Classification:

D01, D11, D91.

1. Introduction

Daniel Kahneman's book *Thinking, Fast and Slow* (2011) has had a worldwide impact. It has changed the thinking of both decision scientists and general audiences about how choices are made. The book details many deep and profound behavioral insights. Some of these, according to the author, overturn traditional economic theories of choice and the methodologies used to model them. One that receives particular criticism is utility theory and its graphical depiction with indifference curves. The theory is deemed inadequate because it 1) lacks "reference points" from which gains and losses can be measured, 2) does not predict loss aversion, and 3) assumes preferences are stable (amid supposed counter evidence). These alleged failures are what led Kahneman and Tversky (1979, 1991) to develop prospect theory and its graphical depiction with value functions. A close reading of *Thinking, Fast and Slow*, however, reveals fundamental oversights in these criticisms of indifference curve analysis. Not only does loss aversion arise naturally within an indifference curve framework for rational economic agents with stable preferences, but the very measurements of gains and losses rely directly upon reference points.

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Rather than overturning the insights of prospect theory, proper use of utility theory and indifference curve methodology reveals these behavioral insights and places them within the sturdier, longer-established framework of neoclassical microeconomic theory. Clarifying the neoclassical and behavioral linkage that exists within *Thinking, Fast and Slow* will enhance the book's value to economists and prevent potential readers from throwing out the neoclassical baby with the behavioral bathwater.

2. The Endowment Effect Arises for Stable Convex Preferences

The clearest explication of these oversights in *Thinking Fast and Slow* appears in Chapter 27, where Kahneman explores the endowment effect. In this chapter, Kahneman uses the device of two “hedonic twins,” Albert and Ben, with identical tastes and jobs as represented by position 1 shown below in Figure 1 (Kahneman’s indifference curve depiction) and Figure 2 (same as Figure 1, but excludes his superfluous indifference curve and includes his numerical values).

Figure 1: Original Depiction

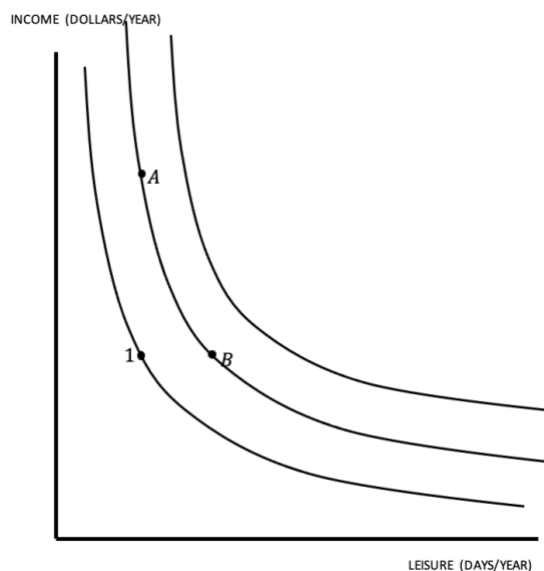
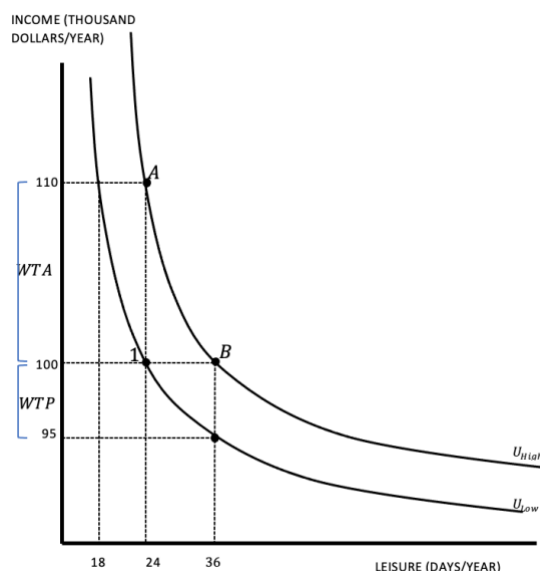


Figure 2: Detailed Depiction



In the scenario, the twins are offered the choice between two new jobs that differ only in the additional benefit each provides: a \$10,000 increase in their salary or 12 more vacation days, depicted by A and B, respectively.² As the twins are indifferent between the two jobs, they flip a coin. Albert moves to position A taking the job offering the additional income, while Ben moves to B with the additional vacation days. After time passes, the twins are offered the opportunity to

² Note that a potential problem arises immediately by using income and leisure—standard components in a budget constraint (i.e., “time” and “money”)—as arguments in a utility function. Such a procedure is generally avoided as it easily creates confusion in the analysis as will be shown below.

switch positions. According to Kahneman, this is the point at which utility theory fails and prospect theory succeeds in predicting behavior. He writes (pp. 291-292)

The standard theory represented in the figure assumes that preferences are stable over time. Positions A and B are equally attractive for both twins and they will need little or no incentive to switch. In sharp contrast, prospect theory asserts that both twins will definitely prefer to remain as they are. This preference for the status quo is a consequence of loss aversion [which occurs because even] if a gain of 12 vacation days was as impressive as a gain of \$10,000, the same improvement of leisure is not sufficient to compensate for a loss of \$10,000. Albert will stay at A because the disadvantage of moving outweighs the advantage. The same reasoning applies to Ben, who will also want to keep his present job because the loss of now-precious leisure outweighs the benefit of the extra income.

First, let us address the issue of reference points by asking the following; how should the “impressiveness” of a “gain of 12 vacation days” and “gain of \$10,000” be measured? Standard microeconomic theory uses the Willingness To Pay (WTP) to measure the value of moving from position 1 on the initial utility level, U_{Low} , to the higher utility level, U_{High} , at either A for a gain in extra salary or B for a gain in extra vacation days. The WTP for 12 additional vacation days is measured by how much additional income the twins could forego (pay) and still maintain utility level U_{Low} . This value is \$5,000 in forgone salary (100 – 95 on Figure 2), and not the \$10,000 offered. Similarly, the twins’ WTP for the additional \$10,000 is 6 forgone vacation days (24 – 18 on Figure 2), not the 12 offered. Albert and Ben’s valuations are different, however, at their higher utility levels at A and B on U_{High} . These points serve as references from which standard economic theory measures the amount to “compensate for a loss of \$10,000” by the Willingness To Accept (WTA) at the higher utility level, U_{High} . That is, Ben would need \$10,000 (not \$5,000) in additional income to compensate him for his loss in vacation days as he moves back to position 1, while Albert would require 12 (not 6) more vacation days for the loss of his additional income that moved him back to 1.

This analysis contradicts Kahneman’s claim that the “representation of indifference curves implicitly assumes ... evaluation of a possible job does not depend on the terms of your current job.” The WTP and WTA methods of evaluation depend entirely on the twins’ current job characteristics as portrayed by a point on their current indifference curve. In Kahneman’s terms, reference points do matter to valuations with indifference curves. Ben’s WTP for the movement to B can only be measured in reference to where he started, position 1. His WTA for the movement back to position 1 can only be measured in reference to its starting point, B. The same requirements hold for Albert to measure his corresponding WTP and WTA values.

Notice also how the WTA and WTP analysis with indifference curves directly contradicts Kahneman’s claim that indifference curves do not predict that “disadvantages [i.e., losses] will loom larger than advantages [i.e., gains].” This asymmetry between commensurate losses and gains – the loss aversion exhibited by $WTA > WTP$ – arises automatically and necessarily when indifference curves are convex.

3. Preferences Are Fixed; It Is Behavior That Varies with The Reference Point

How was the complementarity between behavioral outcomes and utility theory with indifference curve methodology overlooked by Kahneman? The problem arises from confusing changes in behavior for changes in preferences. This results in prospect theory explaining loss aversion as changes in preferences rather than behavior, as utility theory does.

Consider the utility theory explanation of Ben's behavior. Giving Ben additional vacation days increases his utility and moves him to a higher indifference curve. Providing more vacation days to Ben, *ceteris paribus*, decreases the value of an additional vacation day while simultaneously raising the amount of salary that must be provided for any decrease in vacation days to maintain the higher utility. In other words, diminishing marginal rates of substitution hold as convex indifference curves require. Under this explanation, the apparent change that Kahneman notices in Ben's valuation of vacation days comes from the need to maintain U_{High} of utility, rather than a change in his tastes or preferences.

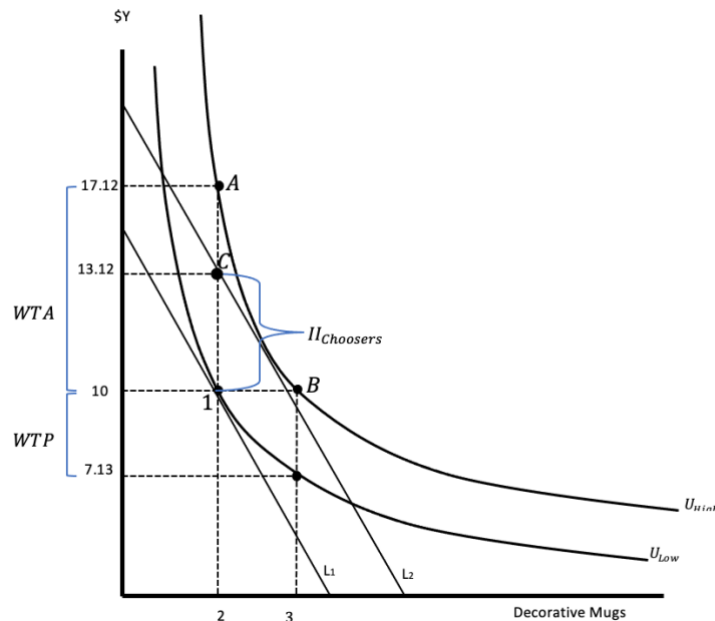
Prospect theory, on the other hand, ascribes the endowment effect to a change in preferences. Endowing Ben with 12 additional vacation days alters his preferences for vacation days which causes WTA to exceed WTP. In fact, the increase in leisure causes leisure to become more, rather than less, valuable (e.g., "now-precious leisure"). The preference change means Ben is no longer indifferent between points A and B. Preferences and the utility function that describes them are unstable and subject to further changes. This explanation is problematic on a few grounds. First, invoking preference instability to explain the endowment effect unnecessarily complicates the analysis and invites ad hoc explanations based on changes in tastes. Such explanations reduce the testability of the theory. Worse, attributing Ben's differing valuation to an increased endowment of leisure creates internal contradictions. For example, economic theory and common experience indicate increases in leisure should become less valuable at the margin. That is, the preciousness of leisure should be lower at B as the flatter indifference curve and common experience both imply. Otherwise, the value of a good increases with its abundance rather than its scarcity. Attributing these impacts to changes in behavior, rather than preferences, fully complies with utility theory and preserves our common notions of value and scarcity.

Kahneman's empirical support for prospect theory's explanation of the endowment effect also requires scrutiny. In fact, it may even provide support for the utility theory explanation. The test of the endowment effect he cites is from his 1990 paper with Knetsch and Thaler (Kahneman et al., 1990) using their famous decorative mugs experiment among undergraduates. After randomly endowing half the participants with a mug decorated with school insignia, these "Sellers" were allowed to sell their mugs to those without mugs, "Buyers." Buyers had to use their own money to purchase a Seller's mug. As utility theory with convex and stable preferences would predict, loss aversion arose with the $WTA > WTP$. Specifically, the average Seller's valuation of the mug was \$7.12; the average Buyer's, \$2.87. To ensure this divergence in values was caused by the endowment effect, a third group was included who could receive either a mug or a sum of money they deemed adequate. These "Choosers" indicated \$3.12 was as desirable as receiving the good. The authors claimed this proved the endowment effect existed and operated as emotions changed one's preferences for the endowed good. Kahneman argues (p. 296) that the

“...gap between Sellers and Choosers is remarkable, because they actually face the same choice! If you are a Seller you can go home with either a mug or money, and if you are a Chooser you have exactly the same two options. The long-term effects of the decision are identical for the two groups. The only difference is in the emotion of the moment.”

Utility theory explains the difference between Chooser and Seller valuations as arising from a change in constraints rather than preferences. To illustrate the situation, we revise Figure 2, this time by placing Decorative Mugs on the horizontal axis and the dollar value of all other goods, \$Y, on the vertical axis. Assume the representative non-mug participant to start at position 1 with \$10 and 2 different decorative mugs at home. The WTP for the mug at this position is \$2.87 (\$10 - \$7.13). Participants who have been endowed with the insignia mugs begin at position A and have a WTA of \$7.12 (\$17.12 - \$10). Note that the Buyer and Seller valuations conform to the previous examples and are well-explained within the indifference curve framework.

Figure 3: Revision 2 – Decorative Mugs



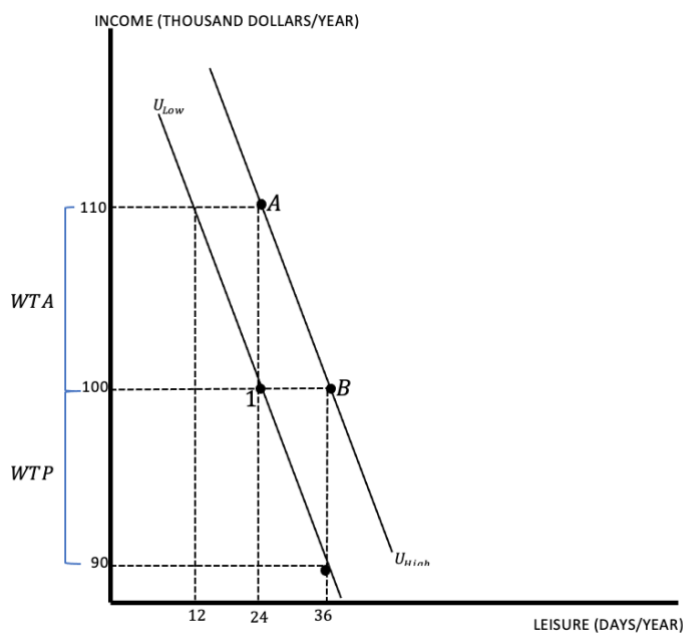
Contra Kahneman, Choosers are not the same as Sellers. While Sellers endowed with the mug would view themselves at point B, Choosers would view themselves as being at the same position as buyers: starting at point 1 with neither mugs nor money. Their choice is between two “gains”. They can either “receive the mug” or “a sum of money” that is “as desirable as receiving the [mug]”. This is viewed as a move from 1 to a position on the indifference curve, U_{High} , where the “desirability” of each position is the same by definition. Unlike Buyers who must sacrifice their own income to move to U_{High} , Choosers are asked, in essence, to estimate the increase in income that would move them to U_{High} . To capture the increase in income, two budget lines are drawn. The first, L_1 on U_{Low} , must lie tangent to position 1 if we follow standard economic theory and assume Choosers optimize such that their marginal rate of substitution, MRS, equals the relevant price ratio (i.e., the slope of utility and the budget line at position 1 are equal). The estimated increase

in income is represented by a parallel budget line, L_2 , tangent to U_{High} . Convex indifference curves require the MRS at 1 be smaller than the MRS at A, which requires the income increase for Choosers to be smaller than the WTA for Sellers, in accordance with the empirical results. The income shift for Choosers to U_{High} – the desirability of the mug in terms of income – is shown as the gap between C and 1 and labeled II Choosers in Figure 3. The required income increase is \$3.12 (\$13.12 - \$10). Though there are many possible values that could arise based on the level of convexity, the values will reasonably be closer to the WTP than the WTA value.

4. Eliminating the Endowment Effect: “Thinking Like a Trader” Or Recognizing Perfect Substitutes

A final argument for using neoclassical economic theory to illustrate behavioral insights comes at the end of Chapter 27, where Kahneman considers how one can avoid falling victim to the endowment effect. His answer: think like a “trader.” He argues that expert traders in commerce and finance face multiple gains and losses on a daily basis and must learn to ignore reference points and avoid overweighting losses. To do so, they alter their preferences in order to treat the assets they trade as goods that are simply “carriers of value for future exchanges.” That is, they are to treat their goods as perfect substitutes for the money they can earn, so dollars and the particular good are mutually interchangeable. Under neoclassical utility theory, goods that are perfect substitutes are depicted by straight, linear indifference curves as shown below using the income and leisure example.

Figure 4: Revision 3



Perfect substitutes exhibit no diminishing MRS. Both the WTP and WTA for 12 vacation days is \$10,000 and the WTP and WTA for \$10,000 is 12 vacation days, regardless of one's current level of either. Neoclassical economic theory accounts for the psychological conditions Kahneman requires for "thinking like a trader." One need not attempt to alter inherent preferences to ignore reference points; gains and losses are invariant to reference points with perfect substitutes. One need not engage in psychological manipulation to cease weighing losses more than gains; loss aversion (and thus the endowment effect) simply cannot exist for perfect substitutes. One merely needs to recognize the goods for what they are: perfect substitutes. Changing how a good is perceived seems simpler than changing one's psychological response to the good.

5. Conclusion

Thinking, Fast and Slow is a magisterial book whose insights are profound and true. This short note argues that neoclassical economic theory represents and clarifies these insights better than prospect theory. Contra Kahneman, reference points are integral to measuring gains and losses with indifference curves and loss aversion is a built-in feature. These behavioral insights can be modeled without assuming any violations of preference stability. Thinking, Fast and Slow should be read with this neoclassical framework in mind to reveal the link between these new insights and our long-established, standard economic theory.

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