Bitcoin Policy AUSTRALIA

"In 2024 and beyond, fee-free digital payments should be the norm, not an exception."

MP Jerome Laxale

29 November 2024

Head of Payments Policy Department
Reserve Bank of Australia
GPO Box 3947
Sydney NSW 2001

Dear Sirs

Re: Merchant card payment costs and surcharging

We refer to your recent Issues Paper and welcome the opportunity to provide input on the important questions raised by the RBA's work.

Background

The primary question posed by the Issues Paper is *"whether the RBA could do more to put downward pressure on merchant card payment costs by promoting competition and efficiency and whether the RBA's surcharging framework remains fit for purpose."*

We attribute the current impact of card surcharges to the following factors:

- The decline in the use of cash as a medium of exchange
- The capital / cost structure of the current digital payments ecosystem
- The ad valorem nature of the pricing model that has evolved over the last 25 years (including blended fee arrangements) from which surcharges are derived
- The economics of final settlement (discussed below)

Introduction

This submission will:

- Focus on debit card transactions and related surcharges (as they relate to consumption for personal use)
- Analyse the cost structure of debit card processing (particularly as it relates to settlement) vis-à-vis alternative payment solutions
- Offer recommendations as to options that could be considered by the RBA to:
    - Increase competition in relation to payments processing
    - Thereby reduce the fees currently being incurred by merchants and consumers

Please note:

- Answers to specific questions raised in the Issues Paper are set out in Appendix 1
- While focused on the Australian context, much of the analysis could apply equally to other jurisdictions where similar issues have arisen
- The recommendations are applicable even in the event that surcharges are subsequently banned

The cost of payments – Part 1

When a consumer pays $5.00 for a cup of coffee they understand that there are hard costs involved:

- The grounds themselves (growing, shipping, roasting, etc)
- The takeaway cup and lid (if applicable)
- Labour
- Rent
- Numerous other overhead costs

Some of these costs are variable (ie relate to the volume of individual units sold) and some are fixed.

A key factor in the growing consumer frustration with card surcharges is an understanding that the marginal cost of processing digital payments is effectively zero.

These transactions are just bits and bytes of data being transferred over fibre-optic networks at the speed of light.

So it is understandable that consumers would be wondering why it ends up adding 8c to their morning coffee?

While it is true to say that there are fixed (and variable) costs involved in maintaining the infrastructure associated with these networks, these costs are being spread across a volume of transactions which is measured in the billions per annum.

(A recent AFR article estimated that Australians spend $1 trillion each year across 15 billion cashless transactions).

The economics of final settlement

What would be less well understood by consumers is the fact that these transactions do not constitute final settlement.

As the RBA would we aware, this is due to two factors:

- The scheme operators are providing periodic (rather than instant) settlement
- Purchases are generally subject to various consumer protection provisions:
    - Based on a complex and overlapping regulatory framework
    - For which no lower economic bounds have been specified

Not surprisingly therefore, the publication of the Issues Paper triggered a response from the scheme providers who pointed out that a proportion of the costs go towards funding *"protections for customers, like if they haven't received their purchases or if they've been victims of fraud."*[1]

[1] https://bit.ly/3VcS411

Consumer sovereignty vs consumer protection

The above coffee example (along with the scheme providers' response) illustrates the distinction between 'consumer sovereignty' and 'consumer protection'.

Consumer sovereignty is the economic concept that the consumer has a degree of power over what goods are produced, and that the consumer is the best judge of their own welfare. (If a consumer isn't happy with a particular product or service, they can seek out alternative suppliers).

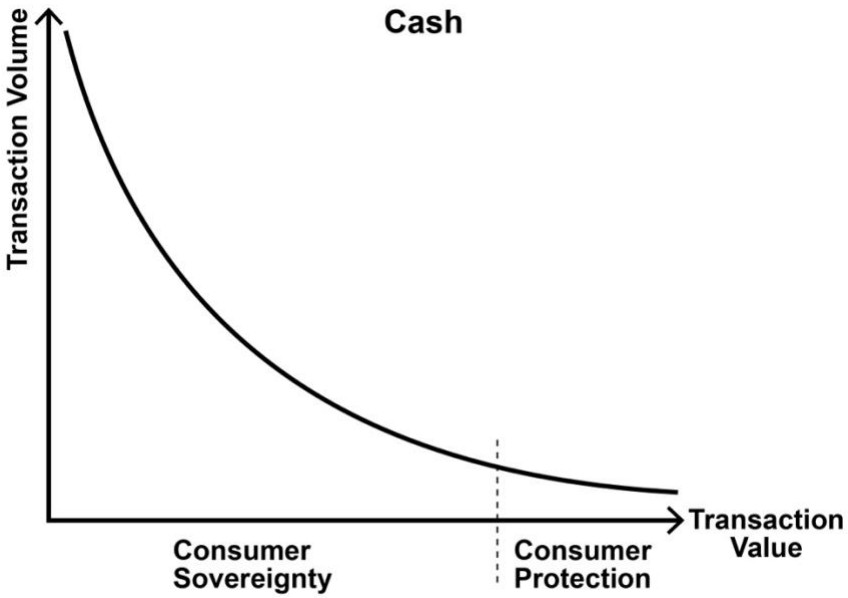
It should be noted that much of our modern standard or living is a consequence of centuries of free markets operating subject to the rigours of consumer sovereignty.

Regulated consumer protections layer on top of this sovereignty additional rights. Importantly they do not apply minimum nominal thresholds.

But even in the context of legislation such as the Australian Consumer Law, high volume, low value purchases paid in cash effectively constitute 'final settlement'.

(Is a consumer really going to their State consumer protection agency for a refund when their favourite decaf, soy cappuccino is not up to scratch?)

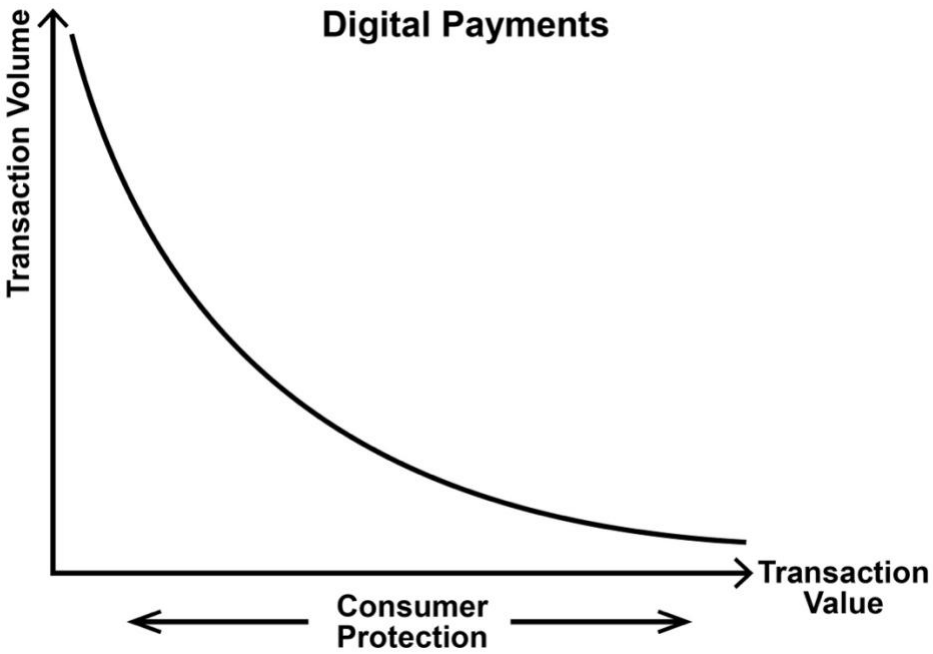
This economic reality can be illustrated by the following diagram.



In the 21st century we have seen expansion of consumer protection provisions, particularly in relation to financial services.

Under the AFSL regime card-issuing banks must operate a dispute resolution scheme for their customers, and again this regime does not specify a lower monetary bound.

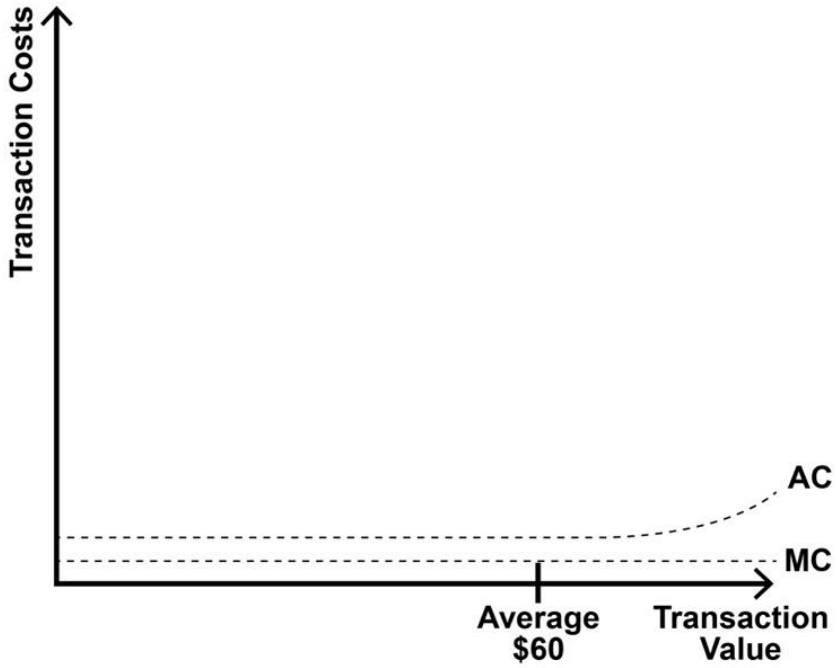
Growth in the use of digital payments has therefore resulted in an expansion of the role of consumer protection vis-à-vis consumer sovereignty.



The costs of payments – Part 2

As per the above AFR article, the average value of cashless transactions is in the vicinity of $60 (and within that statistic there will be billions that are just a few dollars, so the median will be far lower).

The following chart is an approximation of the (effective) average and marginal cost of processing a debit card transaction.



The chart is designed to illustrate the following:

- Regardless of the nominal value of a transaction, the marginal cost (MC) of payment processing is effectively zero (due to its digital nature)
- Below a given threshold (which would account for the vast majority of transactions by volume if not value) average cost (AC) also approximates zero, because:
    - There is no realistic prospect of the transaction being other than 'final settlement'
    - As such the fixed and variable costs associated with chargebacks, etc are not applicable

> At its core the problem with card surcharges is that the ad valorem nature of the pricing model does not align with this cost structure.

This differential goes someway to explaining the frustration of consumers with card surcharges (whether debit or credit).

It simply doesn't make economic (or regulatory) sense to apply the same settlement model to high volume, low value transactions.

The costs of payment – Part 3

However in practice this analysis is of little benefit to consumers, who have already moved on from using cash as a medium of exchange, notwithstanding the price signals that surcharging provide.

The challenge is therefore to find a digital payments solution:

- That is analogous to cash
- And for which consumer sovereignty predominates

The challenges of regulating a complex value chain

The experience of the RBA with regulating payments over the last twenty years reflects the inherent challenges of managing an industry where both technology and consumer behaviours are constantly evolving.

That there are overlapping regulatory regimes only amplifies these challenges:

- Consumer protection
- Financial services licensing
- Anti-money laundering

In such a context an approach which:

- Is technology neutral
- And leverages market-based solutions

will always tend to:

- Generate more competitive, economically efficient outcomes
- While reducing the burden on regulators

A least cost routing analogy

As the Issues Paper illustrates, the RBA has made recent progress in terms of leveraging least cost routing (LCR).

This is analogous to the approach described above.

The RBA has applied market forces to drive transaction volume towards lower-cost debit cards.

Unfortunately the structure of the digital payments ecosystem means that this has had only a modest impact on consumer outcomes.

Extending the LCR analogy - an open-source solution presents itself

Solving the core issue at hand requires a digital payments platform which:

- Is analogous to cash
- Is digitally-native and requires minimal changes to current consumer behaviour (which is focused on mobile wallets and a tap-and-go experience)
- Has a fundamentally lower capital / cost structure (ideally reflecting an open-source governance model)
- Constitutes final settlement[2]

Fortunately Australians already have access to exactly this kind of payments platform.

It is called Bitcoin.

The following table provides a high-level comparison of the existing fiat payment rails and Bitcoin.

Traditional payment rails	Bitcoin (and Layer 2 technologies)
Capital intensity	Capital-light innovation based on an open-source protocol
Due to capital structure, a tendency towards centralisation / oligopoly	Decentralised
Multi-jurisdictional compliance	Single global standard
Not final settlement	Final settlement

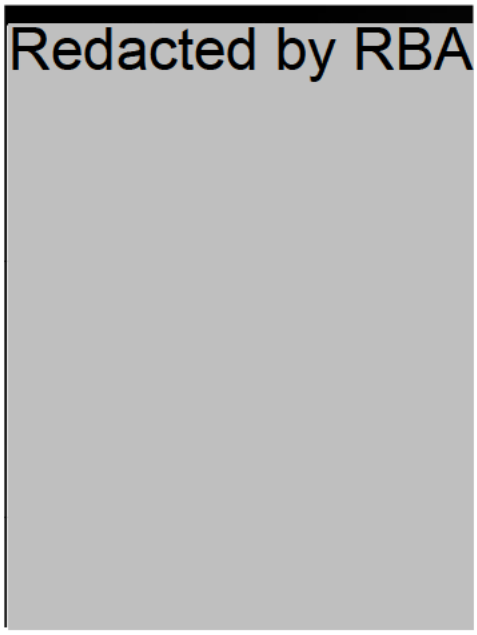
[2] Subject to the comments above on pages 3-5.

However this raises the question – is Bitcoin analogous to cash?

The Bitcoin white paper is entitled: "A Peer-to-Peer Electronic Cash System", so clearly there was intent.

But from the earliest days of the eco-system it was acknowledged that Bitcoin itself would not scale to the level of transaction volumes required of modern commerce (and the primacy of decentralisation and corresponding security preclude such an outcome).

In response to these limitations we have seen innovations in terms of Lightning and e-cash services, which look and feel a lot more like cash than the base chain. And as this screen shot from Wallet of Satoshi illustrates, purchasing a $5.00 cup of coffee with Lightning attracts none of the fees which are at issue here.



For the purposes of this submission Wallet of Satoshi have kindly provided the following quote.

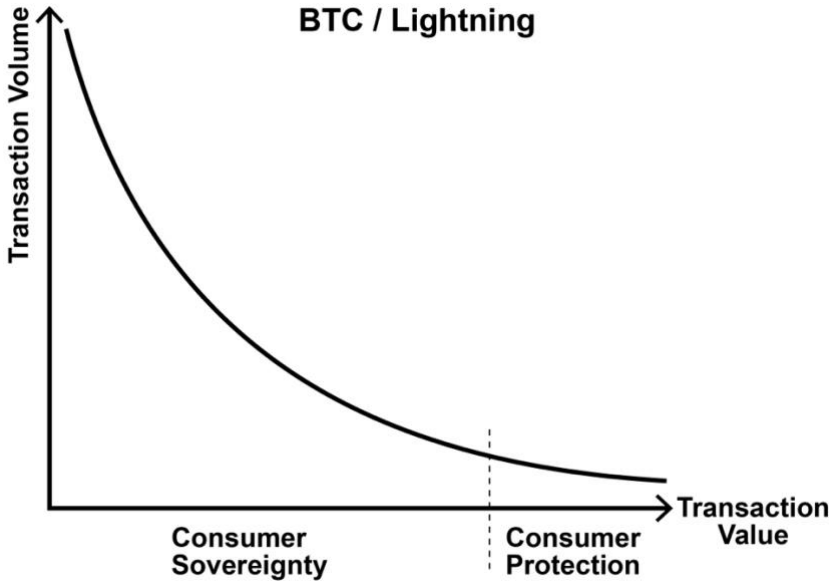
"As a leading Australian Lightning Network payment provider, Wallet of Satoshi proves that absolutely fee-free digital payments aren't just theoretical - they're already happening at scale.

While charging zero fees might seem unusual in traditional finance, it makes perfect sense when you understand that the marginal cost of processing each payment is virtually zero - just the transmission of a few bytes of data.

This economic reality has enabled us to process nearly 20 million retail payments completely fee-free, handling everything from micro-transactions of 0.00000001 BTC (one-tenth of a cent) to large transfers of over 1 BTC ($150,000 AUD), with a median payment of just $1.50 AUD (0.00001 BTC).

Our only real costs are maintaining network liquidity and infrastructure, not processing individual transactions."

Leveraging the Lightning network in this fashion effectively delivers a cash-like outcome but in a fee-free digital format.



International precedents

With its role as a store of value now well-established around the world, Bitcoin's adoption is moving into the next phase – as a medium of exchange.

In September 2021 El Salvador became the first country to recognise Bitcoin as legal tender with passage of the "Bitcoin Law" which included the right to pay taxes denominated in Bitcoin.

The use of Bitcoin has seen increasing recognition as a means of payment in Japan under the Payment Services Act and various municipalities in Switzerland allow payment for public services (including taxes) in Bitcoin.

Recommendations – a regulatory pathway forward

While we have described what the journey to Bitcoin as legal tender might look like in Appendix 2, in the short term there is a more immediate regulatory pathway which:

- Is consistent with the RBA's goals in terms of reducing small business and consumer costs
- Requires only modest changes to existing legislation
- Would allow all stakeholders to gain a better understanding of the socio-economic benefits of a broader transition to a Bitcoin standard
- Would ensure that Australia does not fall behind in terms of the innovation and employment opportunities which this transition offers

The pathway falls into two categories:

- Tax treatment
- Privacy

Taxation

The easiest way to illustrate how Bitcoin could be adopted as a medium of exchange is via a foreign currency analogy.

If a tax resident of Australia were to travel overseas, they might well use a multi-currency stored value card, such as those which can be purchased at Australia Post outlets.

On return they will (inevitably) have made foreign currency gains or losses, however minor.

ATO guidance in this area is that such gains are not taxable if:

- They arise from personal use
- Where the amount is less than AUD 10,000

However in 2023 the Treasury Laws Amendment (2022 Measures No. 4) Act specifically excluded Bitcoin from being treated as a foreign currency.

Reversal of this legislative position would enable Bitcoin / Lightning wallets to be utilised for personal consumption up to this threshold without tax consequences (and it is recommended that such thresholds be indexed moving forward).

Privacy

As in many other jurisdictions, Australia passed the Anti-Money Laundering and Counter-Terrorism Financing Act in 2006.

Embedded in this legislation is what most people refer to as the 'know-you-customer' (KYC) rules.

Interestingly the Act specifically carves out the following service from the obligations as to client identification:

"issuing a stored value card to a person, where the monetary value stored in connection with the card is less than $5,000" (or $1,000 if the card can be exchanged for cash).

What the legislation (in its earlier form) did, was draw an analogy across two monetary mediums: physical cash and stored value cards.

However (in a manner similar to the Treasury Laws Amendment Act) the AML-CTF Act was subsequently amended to specifically exclude 'digital currencies' from the definition of stored value cards.

One of the key reasons that a stored value card would be excluded from the obligations as to client identification is that its primary purpose is in relation to personal consumption.

And therein lies the basis for a simple Bitcoin privacy framework:

- A monetary medium that is analogous to cash
- Used for personal consumption
- Up to a defined threshold

Implementing such a framework could be done in the following stages.

Phase 1:

Specifically include Bitcoin in the definition of stored value card.

This would have the effect of entitling Bitcoin service providers to offer the sort of privacy which consumers associate with cash, but with the confidence that comes from regulatory clarity.

Phase 2:

Revisit the above thresholds and conduct a wider analysis of the legislative changes necessary to support the broader adoption of Bitcoin as a medium of exchange (up to and including declaration as legal tender).

Bitcoin beyond personal consumption

As mentioned at the outset this submission is focused on:

- Debit card transactions
- That constitute consumption for personal use

For the sake of completeness the next section will briefly address issues associated with the use of Bitcoin as a medium of exchange in circumstances where the consumption is not for personal use.

An indirect tax analogy

As they have evolved, payment surcharges bear a striking resemblance to an indirect tax:

- They are added to the transaction on an ad-valorem basis
- To be paid by the purchaser
- For the benefit of a third party (or parties)

In doing so they also provide a pathway for thinking about how Bitcoin adoption could evolve beyond personal use.

The following table is a simplified summary of how an economy-wide transition to a Bitcoin standard could be approached.

Layer	Personal	Business
Lightning / e-cash	Stored value analogy / private within defined parameters	Addresses integrated into existing indirect tax regime (invoicing, collections, reporting, payment)
Bitcoin	Pseudonymous	

One of the key benefits of an indirect tax system such as Australia's GST is that it tends towards self-policing. (As this table illustrates, the vast majority of countries rely to some extent on such taxes and for good reason: they are highly efficient in terms of costs relative to tax receipts).

A registrant cannot claim an input credit unless they submit a Business Activity Statement.

Embedded in that reporting obligation is:

- Evidence of the GST collected
- As a consequence the net value-add produced by that business (to the extent transactions are subject to GST)

As Appendix 1 indicates, the programmable nature of Bitcoin offers up the tantalising prospect of creating a hyper-efficient indirect tax system.

One where such taxes are reconciled and paid in real time, with the following benefits:

- A bi-directional streaming of satoshis based on the value-add being created in the economy
- Greater levels of automation, thereby reducing the compliance burden on all parties
- Improved cashflow planning for both business and Government
- Greater granularity as to where in the economy nominal value is being created (both cross-sectional and longitudinal)

Summary of benefits

The benefits of adopting Bitcoin as a medium of exchange fall into several categories:

- Those directly related to the achievement of the goals set out in the Issues Paper:
    - Greater competition
    - Lower fees for both merchants and consumers
- Those indirectly associated with adoption of Bitcoin across the economy / society
- A greater awareness of:
    - Our monetary history (particularly amongst politicians and the journalistic community)
    - The socio-economic consequences of the drift away from sound money over the last century

As described above:

- Layer 2 technologies such as Lighting have been proven at scale to largely eliminate the cost of processing digital payments
- They provide merchants with instant settlement

In addition, as individuals and businesses get more familiar with Bitcoin (and the related products and services built on the protocol) we would see:

- Greater use in export-focused industries such as tourism (where savings on foreign exchange fees would leave visitors with more funds to spend with Australian businesses)
- Acceleration of its use for international remittances
- Adoption as a store of value

But of all the benefits that would flow perhaps the most important would relate to our collective understanding of the role which money plays in shaping society and driving trade and commerce.

At the heart of this collective re-awakening is the concept of opportunity cost, which is described in more detail in Appendix 3.

Finally - all of the above benefits should also be seen in the context of just how modest are the regulatory changes proposed.

Conclusion

Austrian economist Freidrich Hayak once wrote: *"If in the long run we are the makers of our own fate, in the short run we are the captives of the ideas we have created."*[3]

[3] The Road to Serfdom, 1944

Bitcoin Policy AUSTRALIA

While we acknowledge that for the RBA and its stakeholders consideration of these changes will generate a degree of psychological dissonance, we respectfully ask that evidence of the socio-economic benefits of a return to sound money – based on an open source monetary protocol that lies beyond the reach of centralised governmental authority - be considered in an objective manner.

Not in the context of any pre-conceived notions of what Australia's monetary future might or should look like.

We would welcome the opportunity to discuss any of the above at your convenience (and note that ABIB recently extended an invitation to make a presentation to the RBA regarding Bitcoin on behalf of its members).

Regards

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Appendix 1

Q6: What other regulatory action should the RBA consider to increase the competitive pressure on scheme fees?

A6: The regulatory pathway described on pages 8-10 of this submission would place organic competitive pressure on scheme fees, and drive price(s) towards globally-defined marginal cost.

Q8: Is there a case for greater transparency of fees, wholesale costs and market shares for some payment services? If so, what form should this take? What benefits or drawbacks might arise from implementing any of these measures?

A8. Greater transparency as between the cost of the traditional fiat payment rails and Bitcoin would empower merchants and consumers in relation to alternative payment technologies currently available.

Q10: Should PSPs be required to publish standardised information on their pricing and services for merchants (in line with reforms introduced in the United Kingdom)?

A10: While standardisation of PSP pricing information can improve competition in relation to the existing payment rails, as we have seen with LCR the net result can be constrained by the oligopolistic structure of the industry. Instead what should be targeted is transparency as between that system and the Bitcoin protocol (as per the table at the bottom of page 6).

Q11: What other regulatory measures should the RBA consider to improve competition between PSPs?

A11: The regulatory pathway described on pages 8-10 of this submission would place organic competitive pressure on PSP's.

Q12: Is there a case for revising the RBA's surcharging framework? If so, which options or combination of options would best address the current concerns around surcharging? What other options should the RBA consider?

A12: Rather than revising the existing surcharging framework it is recommended that further analysis of the Bitcoin protocol by undertaken to improve the RBA's knowledge of alternative payment solutions.

Q13: What are the implications for merchant payment costs from changes to the surcharging framework? Could the RBA address these with other regulatory actions?

A13: As per the quote from Wallet of Satoshi, payments processing on the Lightning network is effectively fee-free for high volume, low value transactions, thereby eliminating merchant payment costs in the vast majority of cases.

Q14: Are there any other regulatory actions that the RBA should consider taking in response to the issues raised in this paper?

A14: Please see further the regulatory changes set out on pages 8-10 of this submission.

Q15: Are there any issues in, or implications for, the broader payments ecosystem that the RBA should be aware of when designing a regulatory response to any of the issues discussed in this paper?

A15: This submission is designed to provide the RBA with a broad understanding of the innovations which are already taking place in relation to the use of the Bitcoin protocol, and we would welcome the opportunity to discuss these in greater detail.

Appendix 2

It is 2035, and the Australian Federal Government has just declared Bitcoin as legal tender.

However, the announcement was met with little fanfare because much of the economy was already operating on a Bitcoin standard (an outcome which commentators attributed to relatively minor policy changes which had occurred nearly a decade ago).

Regardless, there were several inflection points in the transition to an open-source monetary system:

- In 2026 political pressure resulted in the abolition of certain card surcharges, which meant that:
    - Many businesses were incentivised to offer alternative payment channels such as Lightning
    - Consumers were equally incentivised to adopt these tools, particularly for high volume, low value purchases
- This was reinforced by amendments to the Anti Money Laundering and Income Tax Assessment Acts to facilitate the use of Bitcoin for personal use transactions up to $10,000 (with this threshold being automatically indexed)
- At the same time Square and other payment providers:
    - Updated their software offerings to enable retail businesses in Australia to accept Lightning payments alongside existing fiat options
    - While automating the accounting processes required to manage such a dual currency point-of-sale environment
- Because of the above regulatory changes and corresponding innovations, more than 99% of retail transactions were eligible (and consumers were able to transact with privacy that was equivalent to cash within these boundaries)
- By 2030, growing confidence in the policy direction and socio-economic benefits lead the Australian Tax Office to launch Project Hayak, otherwise known as “Single Touch GST”
- Just as they had done with payroll and superannuation a decade earlier, payment providers and accounting software vendors integrated their systems directly into the ATO, and as a consequence GST processing could be done in real time
- However this only applied to transactions denominated in Bitcoin, due to its programmable nature
- In the period since 2030, the differential cost savings arising from the above changes accelerated adoption of BTC as a medium of exchange by businesses
- As had been forecast by Treasury, Project Hayak also triggered efficiency gains in terms of collections, which were then used to double the tax-free threshold

- This allowed many taxpayers on lower incomes to do away with annual returns altogether
- While at the same time:
    - Creating a more progressive system
    - Encouraging saving vis-à-vis consumption

Appendix 3

"Scarcity is the starting point of all economics. It is not possible to produce unlimited quantities of all inputs; trade-offs need to be made."

Saifedean Ammous, The Bitcoin Standard

Introduction

Like all of us Nikola Tesla was granted a limited time on this planet. (Born in what is now Croatia in 1856, he died in a New York hotel room in 1943).

Nonetheless he was a prodigious inventor, with arguably his greatest achievement coming in 1884 with the creation of the induction (electric) motor.

Tesla was clearly a brilliant mind, and he could no doubt have been equally successful as a doctor or lawyer.

But if he had gone down either of those paths it would have come at a cost, measured by the achievements in electrical engineering that would have been foregone.

Because of the scale of his contribution to humanity, he is also a classic example of the role which opportunity cost has played throughout human history.

Opportunity cost

As the above quote from Saifedean Ammous indicates, the concept of opportunity cost lies at the heart of economics.

In a world where resources – and particularly human time – are finite, trade-offs are inevitable.

As a consequence of this necessity, individuals, organisations and even nation states end up focusing on producing those goods and services that minimise opportunity cost. This specialisation is also referred to as comparative advantage.

Comparative advantage in turn is the key foundation on which our current standards of living are based.

Nikola Tesla had a comparative advantage in the design and development of the electric motor. (That Tesla did not personally benefit greatly from his inventions is not relevant at a societal level. What determines collective outcomes is the discipline of opportunity cost across both time and space).

Austrian vs Keynesian Economics

Tesla was born into a period characterised by the sound money of the 19th century, which in turn was rooted in the Austrian school of economics.

However by the time of his death it was the views of John Maynard Keynes which had become the de facto standard in macro-economic thinking.

Keynes believed that governments should seek to actively manage economic activity in order to avoid recessions and unemployment. That his views would gain traction at the same time as the world launched into the era of central banking (the US Federal Reserve was created in 1913) has echoed through public policy for more than a century.

In a move that in hindsight was prophetic, in 1999 Time magazine included Keynes among its 'Most Important People of the 20th Century', reporting that *"his radical idea that governments should spend money they don't have may have saved capitalism."*

The idea that governments should spend money they don't have solidified over the course of the 20th century, reinforced by the cost of waging multiple wars.

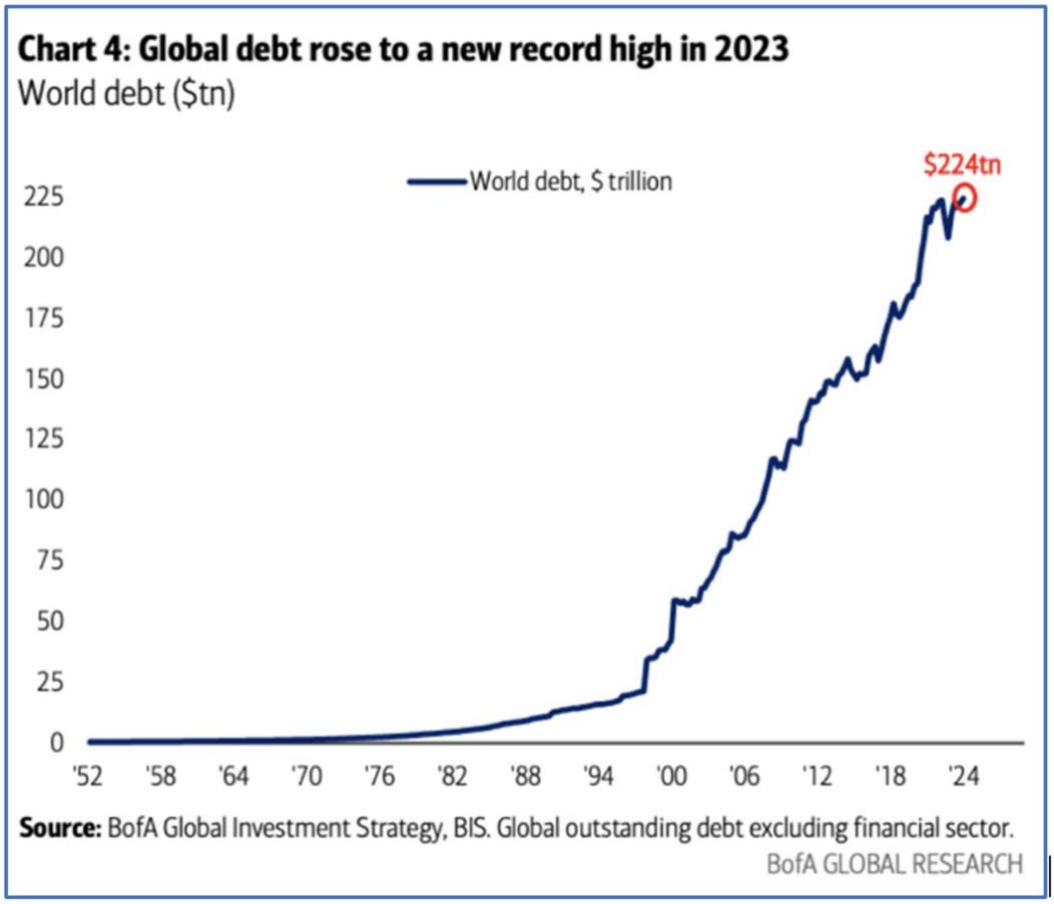
1971 saw the culmination of this trend with the decision of the Nixon administration to formally abandon the gold standard.

In 2024 Australia is living with:

- A century of Keynesian economic orthodoxy about the role of government in society
- Half a century of a purely fiat monetary system

This combination can have consequences for an economy and society that are toxic.

That toxicity is reflected in the following chart, which shows that since 1971 public and private debt has soared.



There is a sub-title to this chart which reads:

Opportunity cost doesn't matter anymore.

When you start to print new monetary units to pay for goods and services, the concept of scarcity starts to atrophy.

Taking a page from the Argentinian playbook

Australia's public sector now represents almost 28% of GDP, and is responsible for generating a significant proportion of growth in employment.

However this statistic has corresponded with both falling labour productivity and per-capita GDP.

Our 21st century trajectory echoes the experience of countries such as Argentina, where in some regions public sector employment has represented as much as 70% of the workforce.

Like their Australian peers, no doubt most of the Argentinian politicians who oversaw these outcomes were well-intentioned.

However after decades of debasing their currency to generate this employment:

- Nearly half the country lives in poverty
- It has taken a radical libertarian President to finally draw a line in the sand in terms of this expansion of the role of the state

Milei's 2024 speech to the World Economic Forum represents a warning to all policymakers about the drift from entrepreneurship to unbridled collectivism.

The role of Bitcoin in crafting public policy

Bitcoin's monetary scarcity means that the idea of opportunity cost is reintroduced (and reflected in the quality of public policy).

On a Bitcoin standard politicians and policymakers must constantly calculate the real cost of each monetary unit they choose to spend, and this discipline is reinforced and refreshed with each electoral cycle.

Bitcoin as Ministry for the Future

Within the forward estimates Australia's Federal and State debt will approach $2 trillion.

That debt and its servicing costs will be borne by young Australians and future generations.

None of whom have had a role to play in the decisions which lead to that debt being accumulated. But who will bear the consequences, good or ill.

In this context, Bitcoin is like appointing a 'Minister for the Future'.

A Minister whose role is to represent the interests of future generations, such that we maximise the probability that – with the benefit of hindsight – decisions as to public policy can be objectively justified.

Conclusion

The standard of living we all enjoy (and no more so than in a trading nation like Australia) is a direct consequence of the role that opportunity cost has played over the course of centuries of human innovation.

Ignoring that discipline will inevitably come at a heavy price, no matter how much we might pretend otherwise in the short term.