
Consultative Solution Proposal Draft

COMMENTARY TO BIS BASEL COMMITTEE
CRYPTOASSET STANDARD AMENDMENT

TAILORED FOR THE CENTRAL BANKING MONEY,
CLEARING AND SETTLEMENT, RESERVES

WEINA ZHU
A DISTRIBUTED SYSTEM
VERSION DRAFT1.0
MARCH 29, 2024
ISBN 978-0-9756245-0-0
COPYRIGHT© BLOCKCHAIN ECONOMY LLC PTY LTD

Author Words

I just want say something to the Crypto world.

The plausible Cryptoasset to the trading difference of Cryptocoin and Cryptotoken needs a short-run proven economic stimulation simultaneously moving computer or equivalent equipment-based technology nationwide down to individual people so that a real collection (*Money supply*) gathers at a World-class exchange for international trade.

Forming Constitution before Cyber Evolution, no subsequent recuperate the returns and compliance that go with the investment.

Declare Cyber War before the worldwide *Cryptocurrency Tokenisation* attack. No *Anonymous* no revenge, proven Economical lifting minimal at each individual node (*Nation*) prior cross-border.

Age control on web application and mobile IoT application-based Crypto and digital currencies trading participants, it is inappropriate to expect A *Nation's* Security Investment Commission Authority to audit Crypto and Digital Exchanges' customer database.

Where the World lives on mobile phone and IoT tablet, message packet needs validation of Transport Layer Security (TLS) to prove: (i) Anonymous authentication for exchange parties (ii) Unaudited integrity data of Money and Cryptographic-based things. (iii) Encryption of both string wallet address and smart contract between each engaged Peer-to-Peer (*P2P*) for each trade.

When to think the differentiation between not old fashion but digital transaction and Blockchain Cryptographic P2P, the digital transaction has accounts established both parties (a vendor CRM account, a buyer own bank account), the new Crypto era P2P has a buyer-end single side traditional bank account to face an anonymous counterparty. The digital transaction has goods or service or entitlement, what kind of these from Crypto, Cryptoasset, Bitcoin, Cryptowallet (where is not a bank)? The Cryptowallet is also not in category of a store gift card or supermarket redeem card which provides goods or services entitlement over an agreed amortisation period between the exchange counterparties.

Contents

Forward Statement	4
I PART ONE A Distributed System	5
1 Commentary to Cryptoasset Standard Amendment	6
1.1 To BIS Consultative Document December 2023	6
1.2 To Basel Committee on Banking Supervision	6
Solution Abstract	10
2 Decentralization Clearing and Settlement Payment System	11
2.1 Simplified Processing Procedure	11
2.2 Consensus, and Harmony Exchange	16
2.2.1 A Top Hierarchy Distribution Overview	16
2.2.2 A Host-to-Host Distribution	17
2.3 Database	19
2.4 Cryptography Key	20
2.5 International Income Tax Assessment	20
2.6 Building the Constitution into the Distributed Ledger	20
2.7 The Implementation	21
2.7.1 IPv6 Full Adoption	21
2.7.2 IPv6 Registry and Subnetting	22
2.7.3 Roadmap of United Distributed System	22
2.8 The Integration	23
2.9 System Forensic	23
2.10 P2P Decentralization and Self-Regulation	23
2.11 Broadcasting Substitute Reporting	24
3 Centralization Distributed System	25
3.1 Consensus and Harmony Exchange	25
3.2 Database	25
3.3 Cryptography Key	26
3.4 Communication Audit Control	26
3.5 Integration (Central Banks)	26
II PART TWO Central Banks	27
4 Foreign Currencies, Central Banks, and Reserves	28
4.1 Money Supply and Money Stock	28
4.2 Baseline for Foreign Trade and Foreign Exchange	28
4.2.1 Macroeconomic Validation and Valuation	28

4.2.2	International Covenant replace Treaty of Alliance	28
4.2.3	Trade and Currency	29
4.3	Operation of Foreign Exchange Liquidity	29
4.4	Exchange Real-Time Rate	29
4.4.1	NEER	29
4.4.2	Re-creation Foreign Exchange Index	30
4.4.3	Excess Reserve and Global Money	31
4.4.4	Excessive vs Disability	33
4.5	Cryptography Based Activities	33
4.6	Central Banks' Bond	34
5	Disjointed GDP and Natural Real Interest Rate	36
5.1	Common Monetary Policy Challenge	36
5.1.1	Money Supply and Accelerate Rate of Standard Living	37
5.1.2	Injection Shock into Civil Infrastructure	37
5.2	TFP, Interest Rate, and CPI	37
5.2.1	Equilibrium vs Actual Unemployment	38
6	Goods and Markets	39
6.1	Goods	39
6.2	Tax on Goods	39
6.3	Arbitrage Variation Activities	40
6.3.1	Tax on Nonceiling Pricing	40
	Recommendations	41
	Summary and Forward-Step	44
	Bibliography	45
	List of Figures	47
	List of Tables	48
	Appendix	48

Forward Statement

Better look forward. Instead of debate the legitimate existence of the Crypto things, this paper focus on the core driver is that a long time due Globalwise collaborate operating system which can be simplified as distributed system not only distribute payment system but all required to complete a ***Trade***, a digital Constitution based, built-in space for contract, recognizable identifiers make golden handshake to exchange and close the deal, secure and accessible data to any *P2P* storage. The monetary unit isn't the root cause of tradeoff latency and not going to be the one when all *Central Banks* and all *People* work together.

Part I

PART ONE A Distributed System

Chapter 1

Commentary to Cryptoasset Standard Amendment

1.1 To BIS Consultative Document December 2023

Cryptoasset Standard Amendment: The Countries hold the adequate technology and executed or executing self-regulate and Crypto regulation that can trade Crypto assets Cryptocurrencies in of which own Land.

A Foreseeing Mounting Image 'Bitcoin Cryptoasset Standard' to Current Cryptocurrencies Circulating Network: (a) Possible turning to be a 'Digital Gold' Bitcoin as its social engineering message years ago. (b) Possibility of a completely shutdown Decentralized Ledger Blockchain servers at or prior its announced 21 million Bitcoins.

Central Banks' Operating System, Clearing and Settlement, Web Application System should be each unique, high intelligence securely designed and implemented. Cybersecurity untreaty vulnerability when the Top Command Holder (Government, Central Bank)'s digital operating system become same as public operating system.

1.2 To Basel Committee on Banking Supervision

The below commentaries are referring to the page numbers indicated in the BIS paper:¹ Basel Committee on Banking Supervision December 2022.

1.2.1. P6/36, Structure Diagram. An United Central Bank Unique Core to distribute standard benchmark. From 120 banks node a leveraged accessive income (living discretionary spending after tax and obligated debt) = \$amount, fall under this benchmark immediately fallen into a risk level as Group 2b 1250% RW, the Cryptography based Crypto derivatives and correlated high volatile financial products are not allowed for this type of Group but the Cryptography based digital goods can be traded on the market comply with its registered Nation's Corporations Act and Federal Law.

- (i) Group 2b can make their own decision in wrapping up Cryptographic based goods into a financial asset category, this solution has no current remedy plan for it.
- (ii) Group 1 has to meet the United Central Bank Unique Core standard benchmark at National Level strictly. The known "Permissionless Blockchain"(P8/36) need to be assessed and validated as an information technology based infrastructure stock asset, a Cloud-based Blockchain SaaS product, a Non-Fungible Token (NFT) artificial art data file as a digit goods. The stock asset goes to Stock Exchange IPO listing to acquire Central Bank's Money or unlisting as a private. The SaaS stays in its Cloud product. The digital goods are in its

¹ BIS, Basel Committee on Banking Supervision: Prudential treatment of crypto asset exposures, December 2022.

Nation's Constitution Corporate Act product category and market.

- (iii) Calculate standard benchmark and distribute for compliance similar to SONIA² overnight risk free rate for the financial and digital financial market.

1.2.2. An United Central Bank Unique Core to distribute tailored percentage (%) of the exposure value for all Group1 who are above the standard benchmark.

1.2.3. P8/36, The "regular Basel III monitoring exercise" : what to prevent what to achieve?

1.2.4. P8/36, The "Collateral" in banking and financial market whether it applies to Group 1b Cryptoassets to receive recognition as collateral for capital requirements purpose. **This is Congress question:**

- (i) From a Nation perspective and enhancement of Central Bank's Monetary Unit to permit A Cryptography (basically only 0 and 1 binary digits) electronically generated on commonly called Blockchain distributed ledger or similar technology [14] with no other form of CPI consumable underlying products to contribute and support Nation's GDP but partial and or full substitute A Nation's Currency (Central Bank's Monetary Unit) to be used for payment or investment purposes or to access a good or service.
- (ii) Retail Banking and Retail Industrial financial stability control to allocate a coffin-string empty wallet seized Money (Central Bank's Currency) or a coffin-string wallet seized goods and assets as a collateral asset to access Wholesale Banking (Central Banks)' loan facilities.

1.2.5. P8/36, The final standard for "hedging recognition criteria... " the revised [SCO60.55] stated hedging criteria needs a substantial stable and flow distributed system to support with rather than living on purely derivatives flip coin of risk.

1.2.6. P9/36, What has been revised to clarify the applicable banking custodial services that covered by the "Cryptoasset Standard"? Disclose the clarification if not.

1.2.7. P9/36.60.1 To validate: (i) All Banks (Central Banks) only Bond (ii) All Banks (Retail) are listed? Or private ones exist? Recommend at least All Banks (Retail) are Securities Investment Commission listed with enhanced product design and distribution accountability, data and technology management. [13]

1.2.8. P9/36.60.2 In terms of tokenised traditional asset, it meets a simple paper clearing and settlement replacement, the token string based contract or smart contract is one component of the payment processing whereas it is exchanged via an agreed value in the form of representing that payee's National Central Bank's Money. The International Foreign Currency Exchange Regime will find its crystal clear exchange rate benchmark, a true up elastic cross-border foreign currency exchange, and a free-flow capital mobility that benefit all Nations post-implementation of United Distributed System when contribute efforts starting build. Why so shy to wrap up own National Central Bank's Money into a claimed anonymous Cryptography Crypto Coin which it is a set of simple computerized digits without Cryptographical protection but transact with the contract or smart contract?

1.2.9. Testing of "Design-for-Good" and Product Boundary of The Market

It is designers' responsibility to complete the full testing.

List full test result in each product category.

Testing period may vary due characteristic of product, a standard testing interval shall be established as 6 months, 12 months, 18 months.

² Sterling Overnight Index Average (SONIA) for the banking and financial institution deposit-taken and loan facility risk rate.

Case scenario: The Carlyle Group (NASDAQ: CG), a global equity investment listed entity with major investment fund The Carlyle Partners VI.

Deploys mainly 3 private capital segments:

Global Private Equity
Global Credit
Global Investment Solutions

In terms of 1st year recovery post-COVID, in terms of Bitcoin 2nd and 3rd shocking surge

BTC-USD (yahoo finance):

58,758.55 29/03/2021
65,466.84 08/11/2021
46,453.57 28/03/2022
39,716.95 11/04/2022
72,247.52 12/03/2024

Some abstract fiscal year figures (in USD million) from CG's SEC filed 10-K annual report 2020, 2021[25], 2022[26]:

	2020	2021	2022
P/L: Investment income-Performance allocation	1,635.9m	6,084.6m	1,327.5m
P/L: Fund management fee	1,486.0m	1,667.5m	2,030.1m
P/L: Net Income	382.8m	3,045.2m	1,284.7m
B/S: Accumulated Other Comprehensive Loss	(208.7m)	(247.5m)	(322.2m)

So what's made up the 695.5% increment of Net Income in a year straight after COVID?

The fund management fees were not the big contributor, its reported performance allocation total of \$8,133.0 million[25] which contains a major component Global Private Equity contributed \$6,412.8 million (78.8%) represents a range of stated 25% – 41% performance income derived from The Carlyle Partners VI,L.P. one of the Company's Global Private Equity funds that held investment portfolio of \$96,269.1 million (or \$96.3 billion)[25] as at fiscal closing December 31, 2021.

By now, from a digital decentralized distributed system, a capability of instant drill down to this financial figure \$96,269.1 million for each \$1.0 dollar even capable \$0.10 cent investment allocation, who where when the contract, the P2P counterparties, the consensus trade by simply click the string hyperlink on SEC.GOV EDGAR (Electronic Data Gathering, Analysis, and Retrieval) platform for the Market Integrity Information available to investors, other industrial sectors, and governmental wholesale investors.

The other factor of this Equity equation is GDP. Despite focus on system development, let's have a look economy key indicator GDP from Carlyle Group's filed investment loan assets (USD) in Geographic Region end of fiscal 2021[25]:

U.S. 2,629.4m
Europe 3,058.8m
Global 77.9m
Subtotal 5,766.1m

These indicate that the industrial and business needs capital funding for post-COVID recovery development, each major GDP and CPI consumption should prove the economic flow especially Europe a blossom abundant economy not the Warship.

For testing the design of product in this scenario financial investment funds in Note 4 Investments the 17.5% \$1,419.9 million contribution declared under Global Investment Solutions for investing through fund of funds. Which fund of funds of which can produce GDP, lift CPI index, and increase frequency of Currency Circulation

on People's hand, and question is that whether it touched the Central Banks' Wholesale Currency Circulation?

Other points:

Add AI tool to assist the design in proof 'Design-for-good'.

Allow deviation of risk ratio vs risk-free benchmark overnight rate which influences the real productivity daily trades.

High risk product only stay in its designer's field cluster with intelligence qualification for entry into the product, people who is from the market wants to enter into this type of product requires have exact intelligence qualifications as the designers.

1.2.10. The Audit and Compliance of Each Product The auditing and testing results shall be examined and stored in Authority, the Securities Commission Authority can take in charge American authority? The audit vs subsequence Authorities: Australian ASIC proceedings to various Crypto Exchange (ASIC Media Release 23 – 256MR) and investment companies, the SEC's charges to Crypto Asset Ponzi Scheme (Press release number 2024 – 35, March 14, 2024) and SEC's charges to Crypto Asset Lending Product (Press release number 2024 – 16, February 7, 2024).

Solution Abstract

The main initiative is in line with the requirement of Central Banks' large scale yet to retail scale distributed system. It goes beyond the payment system distribution rather the time to constructively connect the World together so that the Digital Constitution and all types of Technology belong to nobody but are owned by everybody, a fair and true digital intelligence space system.

To affiliate the major two components of Decentralization Clearing and Settlement Payment System and Centralization Distribution System, it reviews the capacity of (i) integrated unit chipsets (ii) optimize a Reduced Instruction Set Computer (RISC) microprocessor typesetting chip with pure mathematics algorithm, graphic 3D design, augment algorithm, IoT and mobile internet device system, and compiler algorithm (iii) ideal built-in physical and access layer of networking (iv) challenge routing in between distribution and core layer and cross Global mesh network infrastructure (v) low-level typesetting contract (vi) P2P identifier authentication and consensus exchange (vii) built-in system software of foreign currency exchange indices (viii) accessibility to database at P2P level each transaction (ix) centralization database at core node (*Nation*) layers (x) built-in Global Constitution for close business day tax position, audit and compliance (xi) seeking new way of data storage in satellite.

It aims an end-to-end hierarchical solution system that is based on open source architecture prevents hidden anonymous from any type of trade, broadcasting will be default, cryptographic techniques still applies on protection of data information that limits visualability to P2P only, security weighting more on system and built-in forensic, developing robot processing is a trend. It aims uniting existing 195 nodes (*Nations*) international union organisations inclusive. The free-of-conflict independent International Unit needs to be set and agreed by all joined nodes (*Nations*).

It is a **Goal** to achieve.

Chapter 2

Decentralization Clearing and Settlement Payment System

2.1 Simplified Processing Procedure

Refer to the traditional distributed database centralised master copy and a constant re-distribution of updated versions to the participants across all networks¹, the system itself withheld the necessity central accessibility and simultaneously opens exposure vulnerability to the internetwork that supposes to be regulated and guided through IEEE and Internet Engineering Task Force (IETF) but it is unclear how these standards and guidelines have been complied and conducted. Proposed Distributed System is operating from a decentralised distribute and access at both Central Banks' administrative as well as people (leaf node) layer but it withholds a bottom-up hierarchy and reserves the central power of Central Bank for each Nation.

A real Decentralization Clearing and Settlement Payment System can processing industrial retail to industrial retail so does to the trade between Central Banks' retail to industrial retail. The challenge is covered in the integration section for distributed system implementation and integration to current existing retail web and IoT application that connects trading goods and inventory, web apps connect to host, local file server, distribution server, central server.

Challenge and defeat existing market Clearing-and-Settlement Payment System, while trade intuitive remains P2P the payment process will bring a third party in which is the Internal Revenue Service (IRS)(Taxation, some Nation: Internal Revenue of Treasury) at each single individual trade and any Monetary format or Monetary equivalent format and or assets transaction level. It is recommended to set prior year income tax return (actuarial return) as following year default income tax testing rate, to set a minimum income tax threshold rate (when prior year nil income tax), aim to complete true up at IRS and Taxation Office level end of each quarter when the Distributed System and Payment System synchronously close off process end of each set 4:15pm each day.

¹Morten Bech, "Central Bank Cryptocurrencies", BIS Quarterly Review, September 2017, p4/16

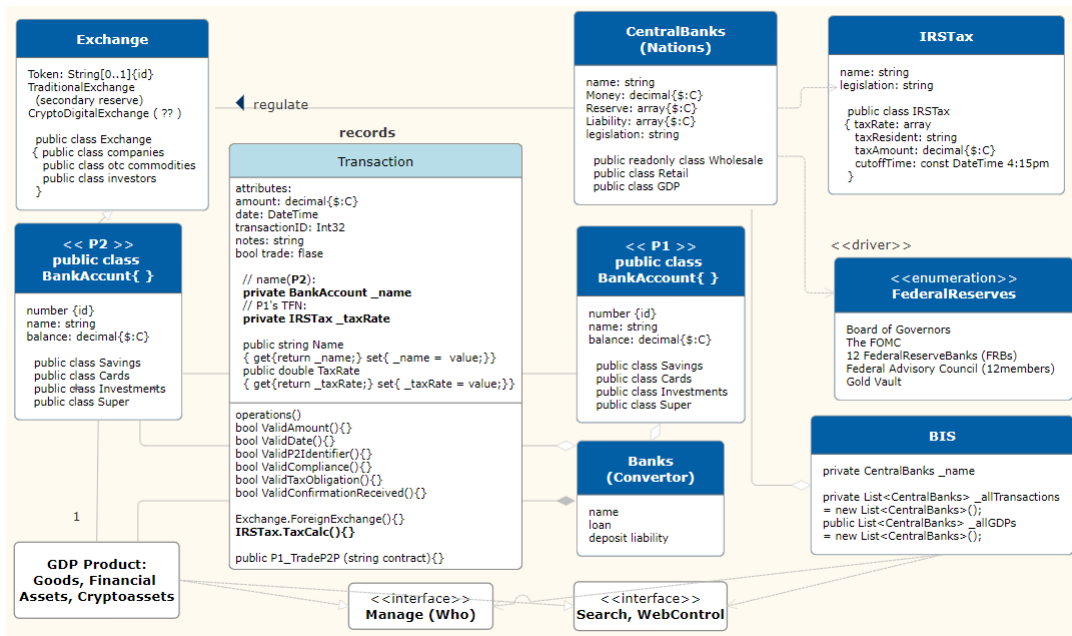


Figure 2.1: Clearing and Settlement

In digital processing, recommend to modify the distributed system Object-Oriented Programming computing structure bringing the trade counterparty P2 and the Tax middleman (shadow tax collector) init each transaction, an example in C# code structure for a flowing transaction balance to the bank account owner as:

```

namespace ClearingAndSettlement;
class transaction
{
    // fields
    decimal balanceOwnerAcc; // Owner's ownership
    DateTime date;
    (class TradeP2) string P2;
    (class Tax) decimal totalTax; // Owner's liability cleared each 4:15pm
    string notes;
    int transactionID;

    // constructors
    { ... }

    // class methods
    bool ValidAmount( ) { }
    bool ValidDate( ) { }
    bool ValidP2Identifier( ) { }
    bool ValidCompliance( ) { }
    bool ValidTaxObligation( ) { }
    bool ValidConsensus( ) { }

    interface ForeignExchange( ) { }
    interface TaxCalc( ) { }

    // below class method focus on: pure activity on swap ownership and liability
    public P1OfTradeP2P( )

```

```

{
    // variables
    string contract;
    double taxRate;
    Int32 quantity;
    decimal amountSalePrice;
    decimal amountTax;
    decimal amountSales;
    decimal amountNetSales;

    // functions: for clearing and settlement at beginning: eliminate risk over latency
    amountSales = amountSalePrice * quantity;
    amountTax = amountSales * taxRate;
    amountNetSales = amountSales - amountTax;
    trade = true;
    return (quantity, amountSalePrice, amountSales, amountNetSales, amountTax);
}

// below class method for: P2 trade confirmation
/*
let,
P1:=buyer:=root of income derived from the trade
P2:=seller,
Consensus $ to broadcasting(for DB of the class transaction) is: P1's amount (in P1 country bas
*/

bool ValidConfirmation( )
{
    // (1) To see the exact SAME $ amount in P2
    // (1.1 Temp solution: a contract with P1(base currency):
    // quantity, salePrice, sales, to be confirmed prior close trade

    // (1.2) Solution Distributed System:
    // P1 is capable to visual P2 ledger for P1's ownership reflection
    // i.e USD 21,5992 FOR 10 ounces Gold ownership booked under P1 name
    // in P2(U.S. Gold Vault)'s ledger straight after trade close-off.

    // (2) To agree:
    while(trade == true)
    {
        // Validate P1(base currency): quantity, salePrice, sales with confirmation contract
    }
}
}

```

Debit Card Market and Tokenisation

There is no latency is expected from Card transaction trade tax component to the IRS (Taxation, Internal Revenue of Treasury). It is the responsibility of Debit Card companies to integrate appropriate digital processing and tokenisation software and hardware that enable split payment into Trade and Tax streams prior transmit to bank or directly to the payment recipient institution. Once these two streams arriving bank and or financial deposit-taken services or financial institutions, it thereafter completes the Clearing-and-Settlement to: (i) Recipient's account (Payee: when it's a refund) and ISR (Taxation) account. This is expected and applicable to Credit Card Market the same tax distribution at all transaction level.

From tokenisation technique perspective, it will not expect major difficulties since token schemes rollout is completed

by March 2024 and the Bank (RBA, Reserve Bank of Australia) expects all relevant industry participants have substantial tokenisation progress done by end of 2024. [15]

Gift Card and Any eCard and Tokenisation

The same processing mechanism of Card Transaction split the trade tax component and net-tax component, without further assess the appropriateness of similarity deposit-taken activity on gift card and eCard other than issued by Reserve Bank and Reserve Bank Authority approved banking institutions, the potential provision tax on direct conversion of Cash (Money, Central Bank Currency Unit) to another any form of Monetary equivalent unit will be reviewed at forming Global Constitution and International Income Tax Reform. The subsequent converted Monetary equivalent unit involved trade transaction follows the exact tax component and net-tax component distribution payment and tokenisation process.

Multiversion Concurrency Control (MVCC) Connects DB and Payment System in Real-Time Trade

Two Scenarios:

1. Monetary unit of Local Central Bank's and equivalent Currency unit of Cross-Border Central Bank's in the trade.
2. Monetary unit of Local Central Bank's and Goods unit of Cross-Border Central Bank's in the trade.

Two Questions:

1. Who should know the Foreign Currency Exchange at concurrent real-time?
2. P2P Tax on Goods and P2P Income Tax on Trade?

Trade Activities	P2P Income Tax on Trade
Cross-Border P2P Trade	
Foreign Company P1 trade to own Land P2	
Foreign Company P1 trade to its own same foreign tax residential Land P2	
Foreign Company P1 trade to its own but different foreign tax residential Land P2	

Table 2.1: Foreign Trade Income Tax

Ownership of GDP

Ownership	Key items	Domestic			Foreign		
		Own	Import	Export	Own	Import	Export
GDP	Resource	T	F	T	F	T	F, T*
	Production	T	F, T**	T	F	T	F, T*
	GDP Basket	T	?, (?)	T, ()	F	F	F
CPI	Circulation '0' return	T	?, T***	F	F	T	null, T*?
	Circulation '+' return	T	ROI?, T***	F	F	T	null, T*?
	Circulation '-' return	T	ROI?, T***	F	F	T	null, T*?

Table 2.2: Ownership of GDP

Notes:

T: True

F: False

(?): GDP flow?

(): GDP outflow

T*: A transformed True, it is typically on difference trading activity-based Goods by arbitrage time distance interval on certain defined Monetary Units (Seed) in deriving additional Monetary Units (Profit) without actually produce GDP basket units. When the Seed equivalent to 'Capital' and the Profit equivalent to 'Revenue' without

Goods, the Seed in the existing Currency-in-Circulation can only push Central Banks to printing Money which is injection, regardless instance depreciation of the Currency (Central Banks' Monetary Unit) it dries out the existing Currency-in-Circulation pool for GDP production, where inflation and deflation take accountability of consumer behaviour and a later time distance interval to true up, a stagnation comes ahead of a trouble deep recession. A probability analytics and forecast can not do an appropriate Federal Budget but focus on whether each underlying Goods are designed for good in nature to stimulate a positive Money Supply in each Nation (Central Bank).

T**: An invasion claimed: Since the digital eco-system word invented, a commonly accepted Tech-Invasion unscrupulously utilize a foreign local labour and resources for its own claimed 'Domestic GDP Production' of which is the time for World Leaders and World-Class Economists to review that how to sustain a macroeconomic ecology and equilibrium.

T***: An arbitrage import: This is derived from an unfair enforced domestically produced Unallocated Domestic-GDP Goods that sits in domestic Land being consumed as an arbitrage import Goods by domestic local people without enjoying the appreciation of its own Land local Currency (Local Central Bank's Monetary Unit) from GDP production and Export of production, furthermore, an adds-on pressure of inflation for that whether this type of Unallocated-Domestic-GDP Goods are feeding domestic demand should draw attention to re-assess the very basic Demand-and-Supply.

System Latency and Trade Latency

From an operating and distributed system point of view, precise calculate and validate the latency that is based on capable bandwidth and actuarial throughput leads stability and system reserve for scalability. The time unit refers to one second ("sec"), the real-time refers to a processing behaviour of joint Offline Transaction Processing, Online Transaction Processing (OLTP), and Online Analytical Processing (OLAP).

System Latency: from demand and request to digital distribution consensus, in real-time, in a second.

Trade Latency: from demand and request to Goods delivered and Monetary Unit (Currency) cleared, in (*) timeframe, in (*) time counts.

*varies in hours, days, weeks dependency on main CPI categories.

What Distributed System Can Control MVCC?

The Multiversion Concurrent Control (MVCC) in a real-time trade not only access to the Goods unit or a Monetary Unit database but synchronously reflect on all correlated components. Case scenario: Australian customer (P2) purchases a Goods from Amazon USA (P1).

Below Table demonstrates the Ownership and the Liability:

MVCC on Cross-Border Trade	Amazon USA 9P1)	Australian Customer (P2)
Goods and Inventory	- Liability	+ Ownership
Monetary Unit	+ Ownership	- Liability
Foreign Currency Exchange	(?) Central Bank division	(?) Central Bank division
Tax on Goods	Ownership	Liability
Income Tax on Trade	Liability	Deferred Tax Liability/Asset
Warehouse dispatch	Ownership and Liability	
Courier for Cross-Border	Ownership and Liability	
Custom Border Security	Ownership to declare, Liability to export.	Ownership to declare, Liability for import.

Table 2.3: Trade Activity: Ownership and Liability

2.2 Consensus, and Harmony Exchange

2.2.1 A Top Hierarchy Distribution Overview

Any of two hosts that builds P2P relationship intend to make a trade or equivalent transaction should be reviewed and controlled at central Core Layer to determine the distribution pathway.

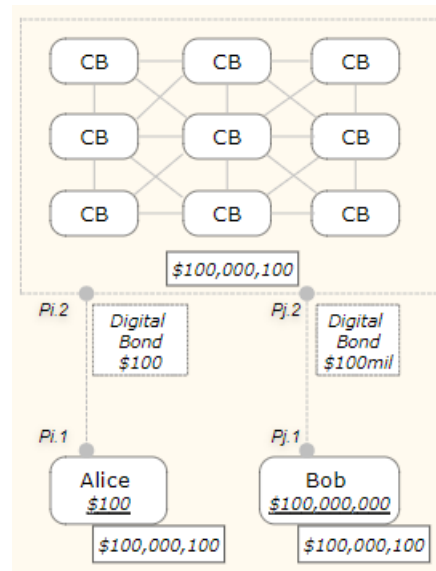


Figure 2.2: DLT Ledger

Reverse Searching

The developing searching model assembles the electronics foundation for binary computing, relational calculus, basic and companion advanced algebra, discrete mathematics, and networking theory.

Electronics: The linear complex electrical quantity of Resistor, Inductor, and Capacitor Circuit (RLC Circuit) elements moving vector V_0 [16] implies the work (energy) pushed Move with angular frequency and volume effects that directs the *Vector1* (relational calculus) to move electron in bit collection for delivering the packet.

Lattice: An integral combinations of linearly independent vectors in finding ranking, the pathing in opposite adjacency points that are directly connected can form a parallel vector, an arbitrage discrete *Vector2* (algebra vector space).

Leader Election: The framework for how to move the packet. Prerequisite and rules are a standardized cluster identifier into each object-oriented programming Globally agreed and applied. Notes: (i) Define the Ring and the Field. (ii) Symmetric deterministic message-passing system technique per Lemma with randomization some cases fail [17]. Introduce Delaunay Triangular to network in solving problem when bring the size of the system controllable and connectable. (iii) Join techniques: a subquery finding Inner-Join element which is a R element in the set of commutative ring also in adjacency field (similarity commutative ring set). (iv) Join again: move further adjacency fields implement a Right-Join 2 – 1 (2 fields to 1 field) finding distinguish but in a connected field (partial). The concept is that from closer to far, from similarity to distinguish thereafter can go further reach the possible far destination (host). (v) Leader election in rings.

Delaunay Triangulation: A case scenario: searching a point or several points in Global mesh decentralized network

- Define finite field group, subdivide the plane by applying Voronoi diagram with definition that every point

- has the same nearest neighbour from any point in the field, denote the vertices (V) and edges (E) that a vertex corresponding to the field and an edge cross fields connecting two vertices;
- b. Point to 3 vertices can form a circumcircle finding the opposite adjacency vertex continuously build triangular a relational structure in Graph;
 - c. Remain the importance property of Delaunay Triangular is that its common edge flipping characteristics which can be the Leader Election determination for each Delaunay field as Leader and Chancellor (in networking: DR and BDR), each Chancellor(BDR) of the Delaunay Triangle (field) then walks finding a new vertex has the same nearest neighbour from a new set of points (set of prime and interger) in an adjacency field to form a new Delaunay Triangle and elect its flipping common edged adjacency vertex to be Leader(DR) of the new circumcircle (interior is the Delaunay just formed).

Identifier: IPv6 in any of the network for the Leader and Chancellor passing routing instruction within the Delaunay field without constantly update the routing table i.e. the Link State Database (LSDB) in current OSPFv2 routing technique commonly applied on networks.

This Deep-Walk approach will controllably work on a cross-border network and internetworks. It can work well in a stacking switches applied WLAN, WAN networks. The database (DB) inner searching shall be looked differently and more simplified with its own data structure architecture.

It is recommended that each Nation fully controls its own Communication Satellites and establish an agreed *Global Communication Standards* for a Global Mesh Internetworks Network when current IEEE and NIST standards do not cover all.

This approach will fit into Wireless, Networking, any of the Distribution technologies.

2.2.2 A Host-to-Host Distribution

Real-Time message communication pre-contract, at contract, post-contract:

Let host server (Clearing and Settlement) be P_2 and trading participant be P_1 ,

Message packet stays in P_2 ,

Message packet can be directed to or downloadable to identity (IP address, IPv6 preferred) confirmed (connected) P_1 ,

Message packet can be directed to or downloadable to identity (IP address, IPv6 preferred) confirmed (connected) smart device of P_1 ,

Message packet between P_1 and P_2 (P2P) secure correspondence a simple Cryptography key Diffie-Hellman can do. This needs to be built-in in the proposed Distributed System.

At exchange, make it an asset for reserve not a 'trade-for-trade'.

The Ideal Built-in Physical and Data Link Layers of Networking

The built-in network refers to ISO/IEC 7498 – 1 The Basic Model OSI layer 1 and layer 2 for the physical and data link components. Per ISO/IEC 7498 – 17.7.3.4.1 "A physical-service-data-unit consists of one bit or a string of bits", the solution is a transforming AC Lattice Network.

Traditional Lattice Network examines each circuit element in the frequency domain via impedance in parallel with the passive RLC elements of resistor, inductor, and capacitor in electronic circuit. The impedance (Z) carries a combined characteristics of resistance and reactance:

$$Z = \sqrt{R^2 + (X_L - X_C)^2} \quad (2.1)$$

X_L : inductive reactance

The inductive reactance is just like resistance but unlike resistance, X_L depends linearly on the angular frequency ω . Thus, this type of resistance (inductive reactance) to current flow increases with frequency. This is due to the

face that at higher frequencies the current changes the most (in a more rapid way) than it does at lower frequencies. On the other hand, the inductive reactance vanishes as ω (angular frequency) approaches zero. This analysis is done on a pure inductive load (L of the RLC circuit)[16].

X_C : capacitance reactance

When look at the capacitance reactance that represents the effective resistance from a purely capacitive circuit, the larger X_C the relative reduced impedance(Z) and obstacles reaching the maximum voltage / current amplitude in RLC circuits when weighting more capacitor for energy conservation (eq. $V = I * Z$, ohm's law), as on a pure capacitive environment increment of X_C largely decrease the maximum current and acting inversely proportionate to both capacitor(C) and angular frequency(ω), and diverges when angular frequency(ω) approaches zero[16].

In further analysis of exponential damping ratio that restricts the amplitude [19] in RLC circuit, where the ω_0 represents the undamped natural frequency, for the natural response, it derived a repeatable root characteristic solution[19] as:

$$X_C(t) = B_1 e^{\xi \omega_0 t} + B_2 t e^{\xi \omega_0 t} \quad (2.2)$$

and defined terms of envelope of the response and the ringing for the decreasing amplitude.

By analysing frequency is aiming for an optimal data media transmission at a lower level integrating with the Chip instructive set, the known inverse capacitive reactance X_C with frequency in a series of Resistor-Capacitor Circuit (RC), hence, in a relational transitivity the impedance(Z) is inversely dependent on frequency [18]. It then traces back and deep dive into core Chip architecture design and placeholder for latter connectivity and integration of network OSI physical and data link layers for the selection and weighting of resistor, inductor, and capacitor deriving an impedance inversely coexists with the targeted and controllable frequency range (moderate to high) in transmit media (data in bits) from its generated host machine to other or others (network hops inclusive) devices.

On the projection of a constant magnitude V_{R0} with vertical direction $V_{R0} \sin(\omega t)$ equal to $V_R(t)$, the voltage drops across the resistor at time t. The relation on average value of current vanishes over one period represented as[16]:

$$\langle \sin^2 \omega t \rangle = \frac{1}{T} \int_0^T \sin^2 \omega t dt = \frac{1}{T} \int_0^T \sin^2\left(\frac{2\pi t}{T}\right) dt = \frac{1}{2} \quad (2.3)$$

$$\langle \cos^2 \omega t \rangle = \frac{1}{T} \int_0^T \cos^2 \omega t dt = \frac{1}{T} \int_0^T \cos^2\left(\frac{2\pi t}{T}\right) dt = \frac{1}{2} \quad (2.4)$$

In a network media transmit environment, it causes inefficient power loss and or transmit capacity reduction. The Chip processing instructive set in design to reduce the looping recurrence of binary bits bring the Chip Core Processing frequency a moderate leverage the effective resistance impedance in the RLC circuit to minify $\frac{1}{2}$ of the average value of current vanish.

The motivation of built-in network is for an adequate frequency and bandwidth these two are capable to meet demand requirement with least adverse effects. At a machine processing level, the frequency can be denoted as the motion of the charge, it is vary and it needs standardized interval for measurement. The bandwidth as a quantity output of capability in given time can be denoted as the quantity of charge in the pipeline of a set of circuit through work(force, energy) moved form A point to B point in a defined interval (can measure as current) and successfully arrived at B point.

Author's question: For that utilize stored energy as energy absorbed for another set of circuit which can absorb (power) turn it to a work(energy, active) and make charge in motion to move a charge or a pipeline of charge from A point (host P1) to B point (host P2) in the measurable current to deliver a binary bit or a set of string binary bits sacrificing the power (resources of the Earth), what these large power consumption group of Cryptographic-based computing produce returning to the Earth and the Human on Earth in production unit GDP for its direct requesting Monetary Unit which represents the ownership of Central Banks' supply and the Money Stock?

The solution is utilize the Earth supply energy to build a system move everybody on the Earth in all kind ways that a humanity activity needs on a daily basis.

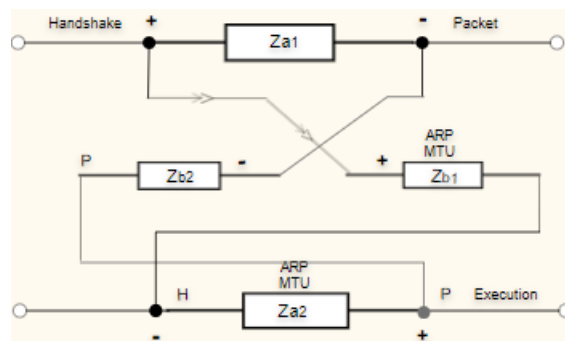


Figure 2.3: Built-in layer2 replacement

2.3 Database

The overall database architecture will contain space and disk space, data structure, run time, INPUT, connectivity, boradcasting, searching, and decentralized distribution. The details are not covered in this draft version paper.

Regardless the dispute where the processing database sits and its connectivity to data warehouse ELT (extract, transmission, load), the data structure for current market structured query language (SQL) relational database contains: (i) declarative language (ii) data definition language (DDL) (iii) Schema (iv) data control language (v) data query language (DQL) (vi) data manipulation language (DML) that is mathematically based on relational algebra and tuple relational calculus.

Innovate consistency in an end-to-end data structure from Chip instructive set to data input output processing where commonly known as low-level and high-level computing programs, working perfect vs effective as complier, transforming vs intuitive low-level language based operating application processing user interface, scalability on handling low-level zone file database (DB) and storage DB inbound outbound data transmission and analytics. Challenge of data manipulation and data restore prototype doability hop through built-in access level networking.

The Online Transaction Processing software shall out of database rather DB stays its zone file position let access and query for transmission process to minimise additional computer platforms and unnecessary network spanning.

For distributed file system run on MySQL, both Apache Kafka and Kafka have same streaming nature in big data field but categorized slightly different under data operations and data processing respectively where Apache Kafka is a portioned, distributed, and replicated log service platform but Kafka is a messaging platform applying round-robin data partitioning on message processing.

In particular Apache Kaka programming Hive, the distribution contains choices of:

1. Local mode: local filesystem (local file server)
2. Distributed mode: portioning to multi-tasks forming multi nodes
3. Pseudodistributed mode: only as a one-node cluster

The distributed mode represents a full view of distribution process: invoke file for distribution store in a Hadoop Distributed File System (HDFS) master file location as NameNode log with a JobTracker, partitioning to fraction store in each DataNode log with a TaskTracker of which is a distribution node (Worker Node), while the NameNode (HDFS master) distributes to Worker Nodes, JobTracker manages and collects logs from TaskTrackers, it does not

appear a centralized control over the decentralized distribution Worker Nodes based on its architecture designed for a private and or internal network [20]. When the Domain Name System (DNS) repository directs to out-of-boundary network, it shall fall over socket security point but rely on Transport Layer Security (TLS) the networking component to handle in the Global mesh networks no guarantee promising on current internet protocol chaos.

The structured data based would occupy majority of database types, considering further enhance and expand the Graph theory integrate (ideal) with binary processing language and or collaborate with existing query language from data generation to data transmission, data access, caching, Cryptography-on-the-go, exception handling, logging, validation and security. This yet a little early to make recommendation before the instructive set and processing language been innovated. However, do suggest monitoring on the usage and approach rely on caching for security recoup without heavy Cybersecurity cost.

2.4 Cryptography Key

(Inner: LAN, WLAN, WPAN, WAN each 1/195 node)

While current commonly applied Advanced Encryption Standard (AES) (NIST.FIPS 197-upd1) and asymmetric Cryptographic keys i.e. Rivest-Shamir-Adleman (RSA), Diffie-Hellman, and Elliptic-curve algorithms in production industry for encrypt and decrypt contract alike processing data, apply hashing algorithm for irreversible password security, on top have digital signature and certificate, for a commutative decentralized unit and centralized Central Banks' unit communication transmit, the conservative code-based Cryptography Classic McEliece (NIST 4th round Post-Quantum Cryptography, 23 October 2022), an irreducible-polynomial generated Cryptographic key is recommended.

2.5 International Income Tax Assessment

Definition of "Resident for tax" and "Non-Resident for tax" need to be addressed.

Definition of "Assessable income tax" and "Exemptable income tax" derives from Cryptoasset transactions need to be addressed.

Cross border Exchange and involved Exchanged Currencies income tax treatment standardization, Legislation, and Constitution, same applies to Cryptoasset.

Cross border Exchange and involved Exchanged Currencies income tax treatment agreed across all 120 BIS Group Central Banks by 31/12/2024, same applies to Cryptoasset. This might not appropriate for BIS to resolve but it is the time to resolve.

The examples to demonstrate above conceptual income tax over entire global mesh network trade are in section Goods and Markets.

2.6 Building the Constitution into the Distributed Ledger

When there are various versions of Constitution and Legislation, the inconsistency and system configuration latency are controversial to robust and fast-pace cross-border trades and financial trading activities. One example can be studied from the awareness of inconsistency with corresponding foreign laws and hence being excluded in compliance with the Legislation Act for the Financial Accountability is the recent new released Australian

Financial Accountability Regime Act 2023.³ In order to implement and ensure the connectivity and distribution of proposed Distributed Ledger, the need of a new **Global Constitution** digital formed and capable systematic built-in is taken into ledger design. The project Solution Architect needs to be involved and builds it into the Distributed System at a lower ground level (systematic: low-level).

This is an **United Global Constitution** that consolidates Legislation Amendments, Taxation Rulings, Security Acts and all of each individual Nation's Constitution and Federal Law in pre-consultative way to establish a Final Version.

Only **One United Global Constitution** sits inside of Distributed Ledger. The non-monetary (Each Nation's Own Currency) related legislation will need to be fully consolidated to One. Each Nation should continue have a full ownership of its own currency in the proposed Distributed Ledger, and monetary (Each Nation's Own Currency) direct and indirect related income tax should also be kept same as at Each Nation's current legislation except the proposed "Luxury Tax" on any form of foreign exchange activities will be a standardized rate across all countries.

2.7 The Implementation

2.7.1 IPv6 Full Adoption

In Bidirectional Forwarding Detection (BFD) [1] packet transmission, there are two scenarios:

(1) Continuous IPv4 Local Area Network (LAN) with Network Address Translation (NAT) IPv6 addresses appear on wired or wireless network transmission that hopping packet with {Outer IPv6 header (bits), {Inner IPv4 header (bits)}}}, reading Outer IPv6 header does not provide the underlying sender's MAC information unless individual public IPv4 address beneath, it will be passing through Time Slotted Channel Hopping (TSCH) [2] but definitely will cause secure P2P returning packet transport vulnerabilities. This is a challenge to be resolved at transition and integration to a full IPv6 address based Distributed System migration.

(2) The newly adopted IPv6 LAN, WLAN and WAN networks continue to have IPv4 parallel addressed with IPv6 and transmit only with IANA IPv4 such registered public IPv4 addresses, on the transmission wire or wireless hopping packet with {Outer IPv4 header (bits), {Inner IPv6 header (bits)}}}. It will not be able to read IPv6 encapsulation details on network transport, and a reverse engineering of NAT protocol will be required at full integration to a full IPv6 address based Distributed System migration. It also counts the Campus LAN IPv4 architecture that limits public IPv4 address at 2-Tier distribution layer and or 3-Tier core layer and routing packets to inner Virtual Local Area Networks (VLANs) via NAT protocol while synchronously assign IPv6 addresses to both public IPv4 and private IPv4 hosts.

A Dynamic Host Configuration Protocol (DHCP) will be completely removed from the proposed IPv6 based Distributed System to fully eliminate the possibility of random generated IP address and IP address pool. Each single device (host, client, server, protocol) must be assigned with an unique and valid IPv6 address prior communicating on the network. This provides dual network security on identifier authentication from both Media Access Control (MAC) address and IPv6 address for each individual device as a **Global Identifier**. It can be maintained and monitored at IETF.

Internet Protocol (IP) Addresses Parse as: Table 2.4

It clearly demonstrates the widely and common anonymous cyber attack vulnerability comes from hidden and systematically re-generated private IPv4 addresses getting into the internetworks network via NAT protocol topology. It proves the necessity of DHCP dismission.

³ Australian Financial Accountability Regime Act 2023 Chapter 2. Part 2. Division 1.17 and Division 2.19 Inconsistency with corresponding foreign laws

2.7.2 IPv6 Registry and Subnetting

A strategic decision at IEEE and IETF standardization control organization or equivalent for early adopting Variable Length Subnetting Method (VLSM) on IPv6 geographically assignment is must.

Let the Global Unicast Address (GUA)(64 bits) [3] be a longitude and latitude network address, immediately apply the VLSM subnetting techniques on Link-local Address (LLA)(64bits) to control Globalwise unique and least-wastage IPv6 addresses, in order to prevent an infinite loop randomization generated Cyber Attack worldwide.

A **Global IPv6 Register Protocol** (Database) must be kept at a centralized International Internet Force independently controlled organization and conduct a regular IPv6 identifier audit (IPv6 Audit case studies refer to RFC 5952 [4]). The globally hierarchy auditing is on top of available protocols' IPv6 verification via Transport Layer Security (TLS) X.509 certificates.

New Protocol to replace Extended Unique Identifier (EUI) avoid modification on organic unique MAC address is recommended and is to innovate.

Built-in buffer in architecture from base orchestration in Core Chip instructive set, system compiler, system language, system software, to network connectivity and automation, to IoT an web application linking processing database, to access and store data storage all the way with consistency for initial compatibility and ongoing implementing upgrades. This will be significantly taken into designing phase of re-build and innovation Chip, first layer system processing language, bit and byte readable conversion in networking equipment, to a vary memory sized server.

2.7.3 Roadmap of United Distributed System

The ideal start needs minimum 3 nodes (Nations) synchronously implement and simultaneously parallel testing a small scale United Distributed System with no or minimum impact and interruption to exiting distribution systems to the rest of the World. Nevertheless, it needs a start. It can start from 1 node (Nation) fully implementation and fully testing only at Distribution and Access layers of the entire Distributed System, internally should work, externally no cross-border trade activities including clearing and settlements will be tested until find another node (Nation). The approach is that the growing United Distributed System to **JOIN** new node (Nation) which means the "ALL in" JOIN "new" to form an United "ALL in".

Questions may come from system integration aspect for such JOIN, the answer is there but yet an 100% confidence of easy adopt-and-adapt presented United Distributed System are building from design and connecting. Each node (Nation) has right of JOIN decision but begins a concept of NO QUIT and willing to contribute systematic information for a better and seamless worldwide joining integration.

	IPv4 Public	IPv6 Public	Network
IPv4 Public	IPv4 Public	{Outer IPv4, {Inner IPv6}} {Outer IPv6, {Inner IPv4}}	Outer IPv4 Outer IPv6
IPv4 Private	{IPv4, NAT{IPv4}}	{Outer {IPv4, NAT{IPv4}}, {Inner IPv6}} {Outer IPv6, {Inner {IPv4, NAT{IPv4}}}}	Outer {IPv4, NAT{IPv4} } Outer IPv6
IPv6 Public		IPv6 Public	IPv6

Table 2.4: IP Address in Transmission

2.8 The Integration

From parallel running distributed ledger and proposed Distributed Ledger, it is expecting that there will have internal inconsistent legislation database and legislation application.

Case scenario only, for instance that Australian Taxation Office Tax Ruling TR 98/17 Taxation Ruling "Income Tax: residency status of individuals entering Australia" Ruling 35 "The 183 day test" [5] was introduced into the income tax law in 1930, however, it cannot be found in both Australian Income Tax Assessment Act 1936 [6] and Australian Income Tax Assessment Act 1997 [7] for a Constitutional level reference to a transaction that involves individuals and entities cross-border.

In terms of this case scenario, the overused computing power for searching in API applications is expected. A low-level built-in Constitution will accommodate the Contract at golden handshake and consensus processing layers for audit and compliance.

The integration of bringing historical ledger data which have been formed and complied with each individual Nation's current Constitution into proposed Distributed System incurs system, system software, application software, database combined problem, it is noticed at early project stage and it needs to be resolved.

The integration in two scales of macro and micro, macro-integration conducted from each node (Nation)'s distribution and core layers to other nodes (Nations)' distributed and core layers for Central Banks' retail activities, whilst the micro-integration are internal top-down core layer to distributed layer, between distributed layers, distributed layers to access layers. The testing will be parallel run with its exiting production line until reaching consistent trading output digital contract that can process, allocate tax (cash tax in digital format), close trade (recognise liability and ownership) at 4 : 15pm cut-off every day. All of these from a single trade to multi-million trading volume will conduct the same, in this way, All Central Banks' Revenue Office gets cash tax in for all trades after 4 : 15pm cut-off each day. The broadcasting and tax declaration subsequently reconcile with Revenue Office (IRS, Taxation) clearing-and-settlement and distributed system data.

2.9 System Forensic

Building System Forensic into Distributed Ledger, look through a triennial Cryptographic based things. It is taken into initial low-level programming language instructive architecture design, it does have dependency on a well established Globalwise Constitution for fair and consistent Cross-border trades and exchange activities driven events digitally processed on a daily basis, otherwise losing its fundamental functionability. The connection, distribution, and immutable logging to Police Force, Defence, Courts' distributed file system yet need to be designed into the ledger. It requires governmental authority support based on each Nation's needs.

2.10 P2P Decentralization and Self-Regulation

The intuitive decentralization and self-regulation promote automation in processing a **standardized and united** procedure which is the top command from a convergence of pooled opinion represented by the Central Governor.

A Centralized Decentralization Forensic Searching privilege can only be conducted by independent core hierarchy tier and speciality robot. The algorithms include set theory, number theory, Delaunay triangular and various searching algorithm.

2.11 Broadcasting Substitute Reporting

Everybody's Ledger

To provide considerable empirical evidence in support the Cryptographic based venture creature's Broadcasting can substitute the Constitutional approved reporting.

Entity Type	Current	Forensic in Ledger
Unregistered	Real-Time Broadcasting Investigation of Offline Chain Subnetwork Chain, Lightening Chain broadcasting activities.	Daily Self-Audit Reporting Monthly Independent Semi-Yearly Audit, Independent Yearly-Audit. Unlisted no capability to raise public captial(Money)
Registered, Listed	Real-Time Broadcasting, Its registered National Security Investment Commission (Authority)'s reporting.	Daily Self-Audit Reporting Monthly, Independent Semi-Yearly Audit, Independent Yearly-Audit. Listed is liable the freeflow and overall healthy of public capital (Money) raised and kept for its shareholders and or members and or contractual clients (Contract, Smart-Contract)

Table 2.5: Broadcasting substitute Reporting

Chapter 3

Centralization Distributed System

Collection for Distribution

Apply simple 3-Tier Campus LAN architecture as a solid base foundation mount for each Nation (BIS network 120, ultimate 195 countries) at Distribution and Access layers, the Unique Core layer has overall similar architecture for bottom-up collection and top-down distribution, but an unique recurrence at kernel of Unique Core to differentiate with other Central Banks' Unique Core as of High Land Security and fair trading purpose.

The **Centralization Challenges** proposed solution system are facing that: (i) Synchronisation inbound and outbound low latency (expect completion innovation achieve at least from low-level to networking component). (ii) Projection of constant and variable inbound and outbound processing capability for TCP → API → Hosts → Digital forensic → Close deal. (iii) GET and PUT from-and-to Satellite sustaining the accessibility and durability of data storage. (iv) An exclusive Quantum Computing based core layer handles compatibility with general electronic computing based processing and database (OLTP and OLAP) until a fully Unioned Global Distributed System. The compatibility here means the clock per second from the computing element connects the motion of each subsequent processing hops from equipment-based to application-based. However, storage component only consider transmission with Satellite.

3.1 Consensus and Harmony Exchange

Real-Time message communication pre-Contract, at-Contract and post-Contract for both existing framework as wholesale and retail exchange and distributions. What the Real-Time means here, it is an active processing, a during processing event, either fractional partitioning or forward packet contract in a whole, as long as it requires digital transmission, it is a Real-Time log in the ledger. This does reflect the challenge of zone file processing server and conservation file system server size and capability.

3.2 Database

This section focuses on the distinguish and differentiation to the Decentralization distributed database.

Wholesale defines activities that occur between Central Banks whereas Retail defines cross-border activities from individuals and entities, this requires the distributed system has substantial access control and processing capabilities at kernel of each Unique Core (Nation Level). The distribution shall apply calculus product rule on Decentralization and Centralization distribution file partitioning and or as a whole.

The analytics (Machine Learning, Deep Learning, Analytic Service) are embedded in cross database (DB) components: Data Structure may weighting on system more than data analytics, Run time: any analytics tool does not utilize

computing power? Lift processing quality and efficiency for a better data analytics thereafter. INPUT for system validation, searching includes partial search activities for integrity and compliance analytics, and also in analysis of vulnerability for DB protection.

3.3 Cryptography Key

Unique Core layer, Cross-Border: *WLAN, WPAN, WAN* 195 core nodes

P2P Cryptography in a Simple Clearing and Settlement Transaction:

The last second step should be P_2 confirms receipt of Money (via *PrivateKEY₂*) to Application (Exchange layer).

The last step is Application (Exchange layer) pass confirmation to P_1 , a completion of Clearing and Settlement.

3.4 Communication Audit Control

Wireless Communication Satellite and Internetworks Audit Control is the main, travelling packet validation and handling in between distribution-to-core layers, core-to-satellite database is another.

3.5 Integration (Central Banks)

Wholesale to wholesale: web and IoT application connected real-time data and Monetary Unit reserve file server.

Tax collection at spot time each trade exchange liability and ownerships of the trading goods and services.

(i) When there will be problem in collecting spot time tax, it is either questioning the audited business continuity with its business cashflow management and projection or questioning the Central Banks' Revenue Office (IRS, Taxation) system for the correct prompt collection as each Central Bank operates the same business model in high level hierarchical scale which in same high risk without adequate cashflow management and projection.

Using Mitsubishi 5 Why's to find root cause that why a business and or all businesses cannot settle down cash tax at each trade, can any single business not to pay rent on the 1st day of the month and operates there for a month? The factor finding can connect to CPIs in business spending and connects to GDP Property Market sector to find out the stabilisation business environment for all companies and small-to-medium business owners.

(ii) The re-assessment on Buyers' side, tax is recommended after distributed system able to do daily tax collection, hence, it provides clear vision to Central Banks and BIS for tax enforcement and tax cut at equilibrium of Money Policy and Fiscal Policy.

Part II

PART TWO Central Banks

Chapter 4

Foreign Currencies, Central Banks, and Reserves

The Governor Trustee, Federal Reserve

4.1 Money Supply and Money Stock

Tax contribution to money supply should be a foundational principal of individuals, Trusts, and all entities. The philanthropy is not expected but all from Tax.

4.2 Baseline for Foreign Trade and Foreign Exchange

4.2.1 Macroeconomic Validation and Valuation

The direct and indirect monetary correlated commercial banks and investment vehicles' business framework revaluation to fit into the Monetary Policy driven economic policies in order achieve a stabilization and equilibrium Central Bank system at each Nation before cross-border. The BIS thereafter can fully show off its World-class economists capability to assist the overall macroeconomic ecology so that starting from 120 connected nodes (Central Banks and Other Banks) benefit from it.

4.2.2 International Covenant replace Treaty of Alliance

ALL in or **ALL out**

Each Core Unit (Central Bank) withheld own right for the distributable portion (%) of any GDP category, each Core Unit (Central Bank) needs broadcasting and agreement prior foreign trade and foreign exchange;

A World-level Database maintaining at World Trade Organization (WTO) or equivalent International Organization to oversight the contributable (%) of each Goods category of each GDP and set the determination rule of GDP distribution cross-border;

Restriction on 'Restriction': The restriction rule is a MUST conduction against any trade-blocking on any of Goods category item from any Core Unit's GDP basket that is based on:

- (i) Declaration of Distributable GDP to WTO as a Demand and Supply table;
- (ii) Pre-trade pre-exchange Agreement of Distributables between Counterparties at BIS who can load balancing based on its World-class Economists' Ecology Balancing and Macroeconomic Equilibrium Audit;

(iii) An independent systematic (ideal Robot-driven automation system) Auction to finalize the trading adjacency table contains All Distributable Counterparties. This can be started at either WTO or combined WTO and BIS to lead a fair and accurate international trade.

Why Finance Collaborating Defence?

- (i) Privilege duty distinguish of Finance and Defence;
- (ii) When a Finance activity leads an external attack, can Defence assembly to defeat?
- (iii) When external attacks from Internet that is not easily identified node (Nation), how and what tools Defence to defeat?

Exit occurs applicable to All Levels, promoting No Quit but decision wisely when exit is **All out**. A simple case scenario is that the Brexit withdrawn from the European Union (EU) that forms supranational political and economical influence and resolution approach in Europe but remained its seat in North Atlantic Treaty Organization (NATO) as part of intergovernmental military alliance. Without questioning the controversial exit, with no economic bond and leave a foot inside military affair does not reserve its fiscal policy and have an appreciation of currency from monetary policy.

4.2.3 Trade and Currency

Foreign Trade (GDP Quantity) and Foreign Currency (Currency)

When trading quantities are determined, trading counterparties are P2P adjacency connected, trade base covenants are established, the way how the cross-border exchange distributes at processing and clearing-and-settlement layers turns on a real-time examination of distributed system capacity and capability, benchmark indices standard, broadcasting and confirmation, secure and accessibility of storage.

4.3 Operation of Foreign Exchange Liquidity

The European Exchange Rate Mechanism (ERM II) can be emphasized and be promoted to all BIS 120 members as well as opens to the rest Central Banks of the World. The parity grid of bilateral exchange rates was calculated on the basis of exchange counterparties' central rates (listed on European Currency Unit "ECU"), and restricted the currency fluctuations boundary within a Margin of 2.25% ($\pm 2.25\%$) on either side of the bilateral rates. For a fair and transparency international foreign currency exchange indices which later should be redesigned and audited at an independent International Organisation, the current ERM II tolerant four currencies Italian lira, Spanish peseta, Portuguese escudo, and British Pound sterling fluctuation rate whether can be standing as $\pm 6\%$ or in line with a global standardized exchange indices come more clear when Worldwide natural exchange trade activities are formed.

Indices: It is referring to A Global Standardized Currency Exchange Indices which needs to be algorithm reformed to incorporate:

- (i) Each Central Currency Unit ("CCU") vs 1 CCU (largest GDP)
- (ii) Probability Recurrence pairing Each CCU (to resolve)

4.4 Exchange Real-Time Rate

4.4.1 NEER

At Closing 4 : 15pm,

$$(1) \text{NEER}_i = \text{REER}_1 \times \frac{\text{Trade}_1}{\text{Trade}} + \text{REER}_2 \times \frac{\text{Trade}_2}{\text{Trade}} + \dots + \text{REER}_n \times \frac{\text{Trade}_n}{\text{Trade}}$$

$$(2) \text{CPI}_i = \frac{\text{Price}_1}{\sum \text{Price}} + \frac{\text{Price}_2}{\sum \text{Price}} + \dots + \frac{\text{Price}_n}{\sum \text{Price}}$$

$$(3) REER_i = NEER_1 x \frac{Price_1}{\sum Price} + NEER_2 x \frac{Price_2}{\sum Price} + \dots + NEER_n x \frac{Price_n}{\sum Price}$$

The $REER_i$ represents the Closing Real Effective Exchange Rate for one node (1 Country Only), and ex-distribution for next market opening.

At Opening 9 : 00am,

Process trades, systematically repeat (1)(2)(3), by 4.15pm get New Closing $REER_x$.

The Nominal Effective Exchange Rate $NEER_x$ can still be a non-monetary GDP trade index reflecting weighted productivity on the market, this can be cross reference checked its import and export capability on base of total GDP.

4.4.2 Re-creation Foreign Exchange Index

Bring AI machine learning into [multivariate][multiplexing] Global Trade of which cross single or multiple GDP categories finding absolute similarity and precision distinguish of GDP products bond its category weighting on total GDP to evaluate its face value represented by its own Land's Currency (Central Bank's Monetary Unit). This will take a lambda(vector) coefficient to 'Price' of CPI_i and $REER_i$ that derives a nominal but true up real effective closing rate. This takes effect on financial products including Stocks to fair the unexplainable tremendous P/E ratio and eliminate the double counting on Stock's underlying productivity to GDP and Stock Price appreciation to its Montherland's Currency (Central Bank's Monetary Unit).

```
[] [] := matrix of FX index
Each [] contained elements := matrices
[multiplexing]: more binary meaningful as multiplex data
multiple relations within the same set of actors
adjacency elements in finite field group
```

Index as a benchmark to find a linear mean points in a group field activity movements at a given defined time distance. The foreign exchange index shall not as simple as measuring each currency's value (exchange rate) against a basket of remaining other currencies based on trading volume (trade-weighted, TWI) but a linear regression model monitor on its embedded assets, the GDP products.

```
does the exchanged-trade reflects the true value of the product,
in the fair trade of product pricing,
the periodic pattern of reasoning product life cycle,
the correlated CPI index,
all the GDPs been absorbed subsequently contributes to foreign exchange volume,
clustering valuation without currency exchange.
```

It is the time to re-design algorithm that needs all Nation's GDP baskets on this Planet market, each category product industrial and or manufacturing benchmark assessed.

Using currency replace direct Saturday market and garage sale to exchange Goods and Services for a bonded covenant by signing contract. The Currency represents a single value of a whole GDP basket, on a public Easter Good Friday it might only have $\frac{6}{10}$ GDP basket clusters incur trades, this TWI cannot represents the whole value of Currency at a single trading day but does show a demand for supply which also depreciates the Currency for its unwanted GDP products. What matters are the weighting of export, import and domestic consumption.

```
[] [] := matrix of FX index
Det (product) moves to compare:
```

```

same type
same type different class (consumption level
the entire same cluster
the different cluster
Det (demand) from domestic can source from CPI
Det (demand) from international from activity analysis of each Foreign Trade and its Foreign Cur

```

Add these into a multilinear functional matrix, where the determinants can move in a linear map of the finite dimensional space.

To find the average mean of the value traded in a specific currency form both linear and non-linear, it reflects a certain time only.

Case scenario: TESLA Inc. (NASDAQ: TSLA)

Factorizing and XOR based algorithm applies to GDP basket automotive industry

Motor vehicle

Car

Electric car

Set { sedan, sports, truck, ... }

Subset { sedan{{},{},{}}, sports{{},{},{}}, truck{{},{},{}}...}

The weighting does the same sets and subsets layers. The product of these two then turns into quotient to its Motherland's Currency that cross-product its paired Foreign Currencies (differentiate quotient applicable) to work out the Foreign Currency Exchange Index (FCEI). How often updates the FCEI depends on the timeframe how would widely implement the Global Distributed System so that real number (data) derives real rate in real-time targeting each day.

4.4.3 Excess Reserve and Global Money

Proof: $M = m \cdot MB$ [21] is inappropriate in the Cryptography-based coin tokenisation trespass decade and subsequent reconciliation decades.

Let,

M: Money Supply

MB: Money Base

R: Reserve

C: Currency in circulation

D: Checkable deposits

ER: Excess reserve

RR: Required reserve

m: Multiplier

c: Current ratio

e: Excess reserves ratio

r: Reserve ratio

$$MB = (FederalReserveNotes + TreasuryCurrency - Coin) + Reserve$$

$$MB = C + R \quad (4.1)$$

$$M_1 = C + D \quad (4.2)$$

$$M = m \times MB \quad (4.3)$$

$$c(\%) = \frac{C}{D} \quad (4.4)$$

$$e(\%) = \frac{ER}{D} \quad (4.5)$$

$$R = RR + ER \quad (4.6)$$

$$RR = r \times D \quad (4.7)$$

It had an extrapolation that the equilibrium condition RR is equal to $R[21]$ and ER were assumed to be zero $ER = 0$, and letted $r = 0.10$. Where the Bank deposits (Reserves) come from, from all People on the Land, to be able to facilitate the new fashion Cryptoassets, Digital Exchanges, alongside the still very hot property market, it shall naturally decrease $r = 0$ or controversially conserve a $r = 0.30$ to hedge and reserve for the base and margin.

Let,

$$r_i = 0.30$$

FR: Foreign reserve

$$R = (r \times D) + ER \quad (4.8)$$

$$R_i = (r_i \times D) + ER_i \otimes FR_i \quad (4.9)$$

Applying a simple linear slope and intercept,

$$y_{\omega}^{\infty} = mx + b \quad (4.10)$$

where multiplier m trying to find its slope positioning the change in Money Supply over the change in Money Base, the intercept b moving along Money Supply but itself represents Money Base and it is indicated as an important part of Money Supply. Let $\ln(x) \cdot x$ denotes the multiplier Currency in circulation, it implies that the increased $r = 0.30$ will leverage the Money in circulation and Money in the base and granularly shift Money Supply more steadily moving upward towards right. It is a very basic fundamental illustration the esoteric foreign exchange factor do need get into for a Global macro ecology.

$$MB = C + R_i \quad (4.11)$$

$$= C + (RR_i + ER_i \otimes FR_i) \quad (4.12)$$

$$= C + (r_i \times D + ER_i \otimes FR_i) \quad (4.13)$$

$$(4.14)$$

$$M = m \times MB \quad (4.15)$$

$$M_1 = C + D \quad (4.16)$$

$$= m \times (C + r_i \times D + ER_i \otimes FR_i) \quad (4.17)$$

It is recommended that to have a Foreign Reserve (FR) tensor product Excess Reserve (ER) as a reserve of Global

Money for flexi-flow and connect to Global trade based Money Supply.

4.4.4 Excessive vs Disability

When the conglomerate, multinational, and multination conglomerate concept began trace back to 1970s and been commonly recognised as business model cross continents, synchronously the computing and cryptography penetration to every corner of the world, the mouth word 'AI' cannot prove the technology ecology itself balancing the DevOps and CyberAttacks nor eliminating the Cyber risk during its development. Furthermore, on top of questioning the worldwide recognisable GAAP accounting standards can substitute or standalone as a World-class taxation legislation with well structure framework to ensure each Central Bank's revenue collection, the execution of multination conglomerate expression outside of its established Homeland, the persistent existence outside constitutional law of Cryptographic-based entrepreneur networks are leading a new era of Global Economy Ecology? Improving Debt-to-GDP of majority of Nations?

From each Nation (Central Bank's Money Stock, the reserve) perspective, the ways to demonstrate permitting foreign companies operate within Land: (i) Domestic excessive labour and resources, this can be easily proved from domestic GDP and CPIs. Consequently, assess whether the export labour and resource balance the import foreign cash as salary to domestic tax residents in the way feeding all the CPI basket consumptions including the Property Market. (ii) Domestic disability on certain fields including technology and natural resources, the solution would be exchange students for later internal build and improving natural resources that sufficient enough feed domestic demands. (iii) From which CPIs basket where the conversion and consumption of Money (Central Banks' Currency Unit) can be allocated for the Cryptographic-based entrepreneur networks' products including the coming Cryptoassets?

Solution: From each production field ownership to determine the GDP ownership, a simple example is that each fractional ownership of a pooled Cloud server determines its derived geographic location Node (Nation)'s GDP ownership, this needs to down to each VPC in each available zone of the available region. Where the responsibility in the Cloud is the subscribed entity (client) and the responsibility of the Cloud is CSP (provider), the 'of-the-Cloud' represents a framework, an 'in-the-Cloud' represents the ownership of that production field which contributes and produces the Emerging Technology GDP unit of the Cloud component. This component should not be misunderstood with the within VPC entity's unit such as a commercial bank who contributes its own GDP financial units whereas the commercial bank contained GDP component contributes an Emerging Technology GDP unit that also belongs to where the geographic location of that commercial bank (entity client).

Trade Counterparties P2P	ap-southeast-2		us-east-1	
	Tax Residency	GDP	Tax Residency	GDP
P1: AWS, of the Cloud	()	AU	U.S.A	U.S.A
P2 ₁ : Macquarie Group(ASX: MQG)	AU	AU	()	()
P2 ₂ : JPMorgan Chase(NYSE: JPM)	()	AU	U.S.A	U.S.A

Table 4.1: Trade Counterparties P2 Cross Region

Regions:

ap-southeast-2: AWS Sydney

us-east-1: AWS Northern Virginia

4.5 Cryptography Based Activities

No force required to standardize or differentiate between the Cryptographic based things and traditional assets but a simple parse as below table, let trader (or investor) be P_1 and Exchange be P_2 to exchange an asset for an equivalent economic unit, the value of P_1 's asset correspondently represent the debt of P_2 . Per James Tobin

(American Economist), price changes affecting the real value of P_1 's asset and it also affects the real burden of P_2 's debt. [9] It creates a nominal push derives a nominal depreciation of the value unit (Money) which enforces a real depreciation of P_1 's asset.

Unit (represents value)	P_2 (Exchange)	P_1 (Trader)	Type
M (Money)	Debt ^a	Asset	Investment ^b
M $\uparrow\downarrow_{nominal}$	$\uparrow\uparrow_{push}$	$\uparrow_{real}$	Floating
M $\downarrow$	$\uparrow\downarrow_{nominal \rightarrow offset}$	$\downarrow_{real}$	Floating
Next Cycle	From $\downarrow_{nominal}$ Drives: (2) Social Engineering Effect: Trending unbreakable philosophy cycle	Philosophy Behaviour (1) Redemption: normal (2) Injection: Social Engineering	

Table 4.2: Cryptography Based Activities

^aDebt (liability) demonstrates itself as an empty cryptographic thing or a floating difference from 2017 new fascinating cryptographic smart fashion.

^bInvestment as initiative designed in for customers (trader, investor) or investing for loss.

Domestic deposit (interest), Shock Bitcoin (fee), Foreign investment (interest).

Both D_i and F_i lost attraction over uneducated competitive disadvantage arbitrage shock from Crypto currency-claimed Bitcoin trespassed depreciation of both Central Banks' Currencies for deposit and foreign investment.

Overall, Central Banks' Currencies will nested leverage neutral position, the static bond coupon rate can raise each domestic deposit attraction direct GDP production income back to domestic reserve that actually benefits people more than Central Banks. Non-US Central Banks will gradually find position in swap contract with U.S. Dollar.

4.6 Central Banks' Bond

Reform Central Banks' icon **Bond** to a flexible financial deposit repository product with open window 5day, 14day, 30day, 60day, 90day at pegged bond coupon rate pay out within Bond terms. It encourages every individual leaf node of the venture Cryptography based generation and assist them to firmly establish a conceptual pool of 'Basic Income' and 'Reserve' for a pool of 'Spending' and 'Saving' from their daily activities.

The Bond is generally viewed as investment similar to other assets and cash assets that marked with yield and return on investment (ROI) for investors' guide. For actuarial, the ROI includes all incurred fees (brokerage, management fees, fund levies, and tax) provides precision picture of the portfolio pattern. It should have been built into system for a good habit of decision making. In common, yield as a simple straight-forward return measurement quickly overview a return over initial investment market spot rate the time draw yield than cost yield and nominal yield while other measurement properties are same (i.e. price movement, dividend paid, bond interest earned). The recommended new Digital Bond is distributed system based open widely to all tax residents, it needs take effect of all costs (foreign exchange gain and loss inclusive) to the numerator and the appreciation of local Currency to the denominator of the current yield calculation. The Yield-to-Call (YTC) can remain its flexibility of callable Bond and feed the initial market volume longing prior Monetary Units stabilization Globalwise. It is suggested that Central Banks have a clear vision of yields of all balance sheet assets that cover all type of investments to the nominal and actual drivers of its Currency appreciation.

From system point of view, it creates additional clearing and settlement burden prior a well framework architecture embedded distributed system to handle increased transaction volume while innovating or upgrading existing payment system for potential cross-border exchange. It is recommended that Each Nation holds own National Currency as it is until A Standardized Global United Distributed System is stable for cross-border exchange and

cross-border clearing and settlement.

Chapter 5

Disjointed GDP and Natural Real Interest Rate

Local currency interest rate losing power to attract domestic deposit.

A Continuous Regression of Business Capital Shock, Steady Unemployment Rate, and GDP Probability.

Brief for illustrate **Graph**:

Tobin's Q: find the convergence point of Q and $1 - u$ [10]

Q: Q is value of business capital spending. Turned up medium low as all kind businesses have been promoted to a significant low information technology infrastructure capitalisation new business operating structure as adopt SaaS from CSPs. This is expected to have a nearly constant infrastructure cost with some predictable seasonable outperformance usage which also is provided load balancing within subscribed available zones and regions.

(1-u): 'u' can use each Nation's monthly reported unemployment rate thereafter have the view of a nominal employment rate.

$p_1 \leftrightarrow p_2$: expectation of slightly higher than $(1 - u)$ on chart, assumption:

(i) Nominal efficiency rate of recent decade Hypervisor, networking, and largely pooled server based data centre operating model. Governmental industrial data is needed to validate the outsourcing capital expenditure return to business productivity, soft skills and hardware capability for a long run.

(ii) Real efficiency rate of business, weighting each sector to visual an overall view of individual business GDP growth, sector GDP growth, and Nationwide GDP growth.

p_3 : Opposite productivity while Q stays consistency and so does unemployment rate, what drives a low production is matrix of (i) working attitude pattern changed. (ii) Monetary policy effect with certain countries have high interest rate and crisis property market. (iii) Macroeconomies: Globally trending towards favour a very narrowed sector such financial market.

5.1 Common Monetary Policy Challenge

To decrease inflation and interest rate while leveraging unemployment rate stay under 3.9%

5.1.1 Money Supply and Accelerate Rate of Standard Living

To know the Accelerate Ratio of living standard per person of the Land (Nation): a positively exponential rate indicates a long-term 10 – year Money Stock return even though unemployment rate remain high. Form an aspect of population aging and productivity requirement, to re-calculate the stimulation shock amount and expected return term (years), the nature unemployment rate can sit but unreasonably high unemployment as a reaction nominal unemployment must be parsed to root cause. When the cause is not aging, is not productivity capability, a high level business infrastructure and its underlying product goods structure thereafter is required for audit and designing guideline from fiscal policy, import and export demand data collection and visualisation. This tries to deliver a message that when down to each individual who can have a standardised living then a different productivity of Creation shall come from surplus capability, ultimately adds surplus to the Money Supply and Accelerate Ratio of Standard Living. A positive moving forward cyclic regression optimise the economy at a large scale.

5.1.2 Injection Shock into Civil Infrastructure

When stimulate shock as a monetary unit distribution benefit allowance recipients and certain activities, the increasing unemployment rate in a medium term will be expected. Rather allocate injection shock into civil infrastructure such as Government housing, it then generates more jobs, fill the minimum accommodation and housing demands, leverage the sharp incremental property market pricing and expected investment return on top of interest rate. Employment and jobs create a flow in overall GDP market, natural inflation will reflect the real interest rate needed.

5.2 TFP, Interest Rate, and CPI

When total-factor productivity (TFP) can reflect business purchasing power and partial reaction of adjusted interest rate per Monday Policy as a ratio of input to output of GDP analysis, we can extend the functionality of TFP to the subsequent output in its own category pricing for a real demand and market goods absorption ability true up in CPI basket. This shall give a matrix view of customer consumption flavour and behaviour, interest rate effect of ending user (customer) purchasing power that equivalent to spending capability, real unemployment rate to accelerate increasing or decreasing spending, industrial sector tax collection on its gross revenue ratio for a nominal tax weighting on GDP productivity per category, foreign activity overview for the domestic input (labour, inventory resources) and blended domestic and foreign output consumptions, the benefit of foreign chamber activity versus Money Supply to the reserve of local Central Bank.

The commonly applied weighting of 0.7 labour and 0.3 capital as a geometric average labour and capital input to TFP shall be periodically reviewed for a nominal and real labour capital weighting index. For instance, there are three points here, one is that the 0.3 capital may contain cross sector output regardless the correctness of 0.7 and 0.3 proportion fixed. A coefficient of taking out the cross-sector output factor is needed. Two is that an appropriate coefficient to add in weighted foreign exchange factor to TFP input will reflect the import and export effects onto TFP output and visualise the missing part of export TFP output. Three is that a centralised capital expenditure adoption as SaaS to data centres will achieve its described low capital expenditure and usage as part of an enormous pooled equipment of servers and networking operation and managed by a very small number of Cloud Service Providers (CSPs) over the world.

This can be studied from Robert M. Solow's Aggregate Production Function [22] case study of 1909 – 1949 add more factors of technical change for the cumulative effect and take recommendation of a yield on capital to convert the Q (output) and K (capital) to relative comparable price basis for TFP calculation.

There was no clear benchmark for the capital and labour proportion split. In regards L (labour), the U.S standard of living analysis stated that starting 1973 100million into labour and industrial market just after high school [23] and living like that since, this proves the trade booming mentioned in the Routledge International Studies in Money and Banking, a collection book named "Monetary Policy and Unemployment: The US, Euro-area, and Japan" post

the conference in honour of the 1981 Nobel Prize Winner James Tobin in Economic Science. Part I Overview: Unemployment and monetary policy in the three currency areas, 2. Monetary policy and unemployment (Speaker: Olivier Blanchard, p23/288 the 30 years from 1970s to 2002, the unknown answer to raised question of why Europe missed out the evolutionary booming and its fiscal cum money expansion vs unavoidable fallen into the liquidity trap.

Apply a basic non-linear regression multivariate evaluation and selection modelling, replace parameter vector ω in the log-likelihood function for y_i in terms of $\omega = (\omega_0, \dots, \omega_m)^T$ with the maximum likelihood estimator $\hat{\omega}$ yields: [8]

$$\ell(\hat{\omega}) = \sum_{i=1}^n y_i \hat{\omega}^T b(x_i) - \sum_{i=1}^n \log[1 + \exp \hat{\omega}^T b(x_i)]$$

5.2.1 Equilibrium vs Actual Unemployment

The labour share concept and activities started way back 1960 according to the Figure 5.4 Log labour share, E15 and E5 in the conference paper in honour James Tobin in 2002. **Co-referencing same bibitem but p29/288**, the conclusion of "unemployment" traced four decades in emphasising the moving fact of labour share standalone only but the fundamental "Demand and Supply" and "Money Shock and Money Supply" Central Banks' theorem have not been illustrated and explained that the final output of each GDP unit generated by sharing labour in a foreign node (Nation) has been allocated under its local GDP hence the final output should have been its own domestic Supply goods only to meet its own exponential Demand without any foreign nodes (Nations)' Demand market to absorb. When the shared labour outputted GDP units are permitted in the sharing labour foreign nodes (Nations) indicate that the node (Nation) into the share labour cross-border agreement must register the business entity and tax identifier with the foreign nodes (Nations) for all share labour output GDP units into foreign nodes (Nations)' tax scheme.

This concept enhances the Money Supply collects from the Supply meets Demand as a small proportion of payback to Money Stock contribution. It applies to All Nodes (Nations) no exception to achieve each individual Money Policy and Fiscal Policy of Central Banks.

Chapter 6

Goods and Markets

6.1 Goods

Innovations that touch Government backbone infrastructure need seeking permission and collaboration with the Board of Governor prior public spreading. A combined knowledge pool of telecommunication, artificial engineering, robotics, biology, aerospace impel humanity to a new Space era. It is the time to build a **Global Consitution** together, generation by generation together to achieve. The proposed Distributed System has built-in Constitution at Ledger level in design.

6.2 Tax on Goods

The spread proposals of Tobin Tax (USA voice), Robin Hood Tax (UK voice), European Union financial transaction tax (European Commission proposal) which all directly pointed to financial transactions in especially foreign currency sport conversion and high volatility derivative contracts, the concern of speculating trading difference is obvious but will any of these taxes bring barriers to these foreign currency and derivative trading product designers and executors rather passing natural international trading barriers to ordinary goods trading individuals and entities. Instead wondering around at its surface, go deep diving into the root cause that a proven good Goods with intuitive good faith design which can and will bring economic benefit, promote GDP creation attitude, elastic cross-border trades would be priority to focus on.

Problem to resolve: When Central Banks' Monetary Policy tool, interest rate, is not functional, simultaneously the fiscal policy cannot afford further tightening, what to do? How to control high interest rate and high inflation while keeps the unemployment rate below 3.9%?

From tax perspective to start define residence,

TAX	CITIZEN, RESIDENT	FOREIGNER GROUP	TAX LIABILITIES
AUTHORITIES	GROUP		
Resident for Tax	Resident for Tax (local Resident and Citizen)	Resident for Tax (Foreigner)	Yes
Non-Resident for Tax	Non-Resident for Tax (Local Resident and Citizen)	Non-Resident for Tax (Foreigner)	No. Tax liabilities is allocated under each Group's "Resident for Tax" countries.

Table 6.1: Resident and Non-Resident for Tax

Example 1:

A 'non-resident for tax' Australian Citizen travelled outside of Australia for equal to or more than 183 days

[11], the above landed "if interest derived from Australian Bond Exchange's Bond-USD" will be exempt from non-resident interest withholding tax in Australia but will be subject to where this Australian Citizen 'resident for tax' registered country. The "No Country" and "No 'resident for tax" individual and entities are forbidden in this proposed Distributed System Ledger.

6.3 Arbitrage Variation Activities

Luxury Consumption Activities Flooding Existing Market

All Cryptocurrency and equivalent Cryptographic based Coins and Tokens with direct exposure to Money (includes Cash) and without a physical goods or digital goods (non-Monetary) delivery for exchange are fallen into the Luxury Consumption Activities category which should be reviewed and standardized for an appropriate Income Tax into each **Nation's Income Tax Regime**.

1. **Reform "Luxury Tax"** on large fluctuation activities
 - (a) Calculate the trading margin in Monetary Unit value for the fluctuation: 4hr, 1d, 2d, 3d, 1wk, 1mth
 - (b) **Basic Income + Juicy Margin = Luxury Capital**, this is the entry ticket for this category activity, and "Luxury Tax" will be applied on both trading profit and trading losses as luxury income tax and or luxury tax losses, the luxury tax losses can be carried-forward to offset future luxury income tax.
2. **Re-Define** and distinguish between **trading differences** and goods
 - (a) The trading differences are referring to Contract for Differences (CFDs). There is no proven differentiation between the CFDs arrangement with securities and the Smart-Contract for Differences (Cryptocurrency, CryptoCoins, CryptoTokens), these activities are purely trading differences which are no delivery of physical goods or securities or digital goods (non-Monetary) with its contract.
 - (b) The Luxury Capital and Luxury Tax enforcement on this type of financial products is a necessity to have money supply stability and in turn illustrates and optimal equilibrium matrix of Money Policy and Fiscal Policy.

6.3.1 Tax on Nonceiling Pricing

Reform "Luxury Tax" on large *fluctuation* activities is one.

Implement An Additional Tax on irrepressible open market pricing of the product in any form (digital and Cryptography-based inclusive) of which underlying assets and or claimed underlying assets have already been accounted in GDPs and been consolidated or transformed into a form for exchange Money (Central Bank's Currency Unit) and Monetary equivalent unit is another one and fallen under New Tax regime, unless otherwise proven that the self grouping and pooled Digital Currencies and CryptoCurrencies produce GDP basket products and contribute tax components to their permitted and regulated Central Banks, double account of GDP is not allowed.

Mirror the Monetary Control Act of Federal Reserve System to control the floor and ceiling of monetary safety line, control non-GDP products' pricing (if and only if there are), prevent purposely fluctuated pricing from any of GDP basket category.

Recommendations

The Rivest-Shamir-Adleman (RSA) Cryptosystem yet can be a secure tool encrypt, with requesting signatures, key exchange to receive a smart contract, does RSA programmatically set on Crypto Token and Crypto Coin when the identifier is anonymous? The Diffie-Hellman Cryptography can encrypt the digital money as a simplified secure key exchange.

Encrypt Digital Coin (Wholesale CBDC, Retail CBDC) allow P2P two parties to establish a shared secret over an unsecured medium, there are public keys, but share secret is never transmitted only values used to derive secret. This will secure only when simultaneously RSA built on smart contract on identifiable P2P. The framework to assist Nation and authority NIST process standardization of round 4 finalist Class McEliece Cryptography is desired for specific protection and a push to worldwide awareness of appropriate digital application not to further escalate multi-polynomial prime public key size.

The tokenization Clearing and Settlement server replacement can accommodate this reformed Financial Market till a solid lower level distributed ledger system substitute it.

A Global Communication Standards shall be prioritized parallel with Cybersecurity enhancement. It is urgently recommended to reassign an independent International Organisation to control Internet Protocol version 6 addresses (IPv6) and Communication Satellites, regulate and collaborate All Satellite Stations which receive and send Satellite data and geospatial data. The IETF can be considered fully distribute and audit IPv6 addresses. Each Nation shall fully control its own Communication Satellites and have an agreed cross-border communication rulings and regulations for all Satellites in order to reform a safe efficient Geospatial Information System.

Tax (cash tax) includes provision (for product of option, futures, unrealized) in an actualized transmission to Each Taxation (Revenue State of Treasury) as a withholding, it is finalized for its tax assets and or tax liabilities as income tax return. The frequency of income tax return interval come to a stage of much short than 12 months from current version of digital distributed ledger system, and needs to be included in the International Accounting Standards as well as the United Global Distributed System. The key point here is that Each Central Bank (represents taxation and state revenue) holds priority right of adequate cash collection on each trade.

Evaluation and Audit of Goods Available on Markets frequently as the pace chasing the frequency and throughput from system.

Re-define Trading Differences and Goods.

Build the Constitution into the distributed ledger system. Build system forensics into it.

Retain the Central Banks' power and stay at each Unique Money which has already been digitally distributed and processed, until the United Distributed Ledger System network builds up, All Central Banks' Unique Money will freely flow on a global distributed money system. Each Central Bank owns its own Decentralized Distributed Ledger.

Bottom line is All Nodes (Nations) in the current standing on its own. When the United Global Distributed Ledger is innovated and formed, each Node withheld its own right to elect for either joining or as a stud node.

Pre-Implementation Strategy: Three Reconciliations Three Audits

Three Reconciliations

(1) Historical Worldwide Political Humanity Environment Reconciliation from year of 0001 to 2024 (including everything: War, Attack, International Trades):

1.1 What was and what is the consequence?

1.2 Whose liability was it and is it?

1.3 Two decades interval of 1841 – 1861 vs 2002 – 2022 [24], are they same? Got into where there was no Constitution Legislation no Taxation no Protection Plan to the entry and entrants. It is necessity backdated Full Reconciliation from Year 0001 - 2024 for all Nations so that brings Every Nation into the page start a new Era with a more communicative open trust Digitally Identifiable Distributed System.

(2) Finance: Current Accounts, IMF Funds and Debts, International Foreign Currency Indices and Exchange

2.1 What was the reason for uncleared Current Account at end of each month and at end of each year?

2.2 What was the reason for trapped into Debts?

2.3 Who and What base made decision for each International Foreign Currency Indices including any applied quotient and coefficient next to or product to the Currency Unit (mean Central Bank's Currency Unit)?

(3) Defence: Defence funding, Defence weapon source, initiatives of Defence weapon demand (% of Defence and % of Attack

3.1 What Governmental statistics and budget for allocation of Defence funding? Does this report to a Credential International War Control Organisation, been recorded, and militarily ecology-balancing controlled?

3.2 Where and Who Each Nation declares their Defence Weapon source from and legitimate supplies? Does this report to a Credential International War Control Organisation, been recorded, and military ecology-balancing controlled?

3.3 Who registers and monitors Each Nation's Defence weighting of defence demand and defence attack?

Three Audits

(1) Defence Weapons and Military Utility Equipments, Satellites

(2) Internet Protocol (IP) Identifier and Identifier who is eligible Human under Legislation definition of Human

(3) At the time of A Solid Global Constitution and Agreed Cross-Border Taxation Legislation, to audit GDP of Each Nation:

Real-Time Actualized Finance Feed and Defeat for Defence

(1) 4 : 15pm Real-Time Cutoff

Federal Congress stated "Oil, Gold and Trade ... invading Ukraine" [12] in escalating to Punish substitute Resolve a cross-border type of issue, the system instantly calls out all 4 : 15pm cutoff Oil, Gold trades of two nodes (Ukraine, Russia) for the visualizable root cause calling War.

An amber warning will be issued to 'Trade' without a S.M.A.R.T (Specific, Measurable, Achievable, Realistic, Timely) definition listing of which what type and what category of GDP basket Trade.

Same 4 : 15pm cutoff of all Declared 'Trade' to be on the table presenting the root cause of calling War.

(2) Quarantine Node 5 Years

The Quarantine in the United Global Distributed System means that No aid, No philanthropy, No cross-border trade, No Exchange from any of other nodes (Nations) which did not and do not declare the War.

(3) Any Form of Join Falls To Attack

'Any' are defined as any format of connect, pass through, deploy to the nodes (Nations) who declared War. This includes passenger airplanes fly pass the War Field.

The nodes which act as 'Any' in this section (3) will be instantly identified as Attacker to the Warship nodes and simultaneously fallen into 5 Years Quarantine from the United Global Distributed System.

When there is none of precision Cutoff Data and War Declaration, it is responsibility of International War Control Organisation (i.e. U.N., NATO) to resolve with no volunteer joiners (Nations, Other Organizations).

Post-Implementation Strategy for Central Banks

(1) Take over majority of Depositary (from Currency in Circulation) into Vault Cash as Assets of Central Banks with corresponding Reserve Liability of Central Banks, set a fixed Central Banks' reserve ratio;

(2) Lift ratio to Treasury to solid Centralized Monetary Base;

(3) Any Deposit-taken financial institutions (Exchanges inclusive) should be automatically fallen into two categories of Federal Reserves: (i) Required reserves shall be increased from 10% to 30% to prevent Pump-and-Dump and Martingales speculation that are outside of CPI activities but creates shortage to GDP supplies. Federal Reserve and Central Banks can remain no interest payout on Required Reserves. (ii) Excess reserves to allow Deposit-taken financial institutions (Exchanges inclusive) to hedge their liability reserves away from disadvantage competitive exhaustion. Federal Reserve and Central Banks can set a threshold of Total Reserve Holdings (Required Reserve + Excess Reserve) to pay a fixed interest on proportion of Reserve above threshold to further encourage financial institutions withheld reserves.

Bibliography

- [1] IETF RFC 9521, Bidirectional Forwarding Detection (BFD) For Generic Network Virtualization Encapsulation (Geneve). url: <https://www.rfc-editor.org/rfc/rfc9521>, section 3, 4. 2.7.1
- [2] IETF RFC 7554, Using IEEE 802.15.4e Time-Slotted Channel Hopping (TSCH) in the Internet of Things (IoT): Problem Statement, url: <https://www.rfc-editor.org/rfc/rfc7554>, section 3, 4. 2.7.1
- [3] IETF RFC 4921, IP Version 6 Addressing Architecture, url: <https://www.rfc-editor.org/rfc/rfc4291>, section 2.5.1 2.7.2
- [4] IETF RFC 5952, A Recommendation for IPv6 Address Text Representation, url: <https://www.rfc-editor.org/rfc/rfc5952>, section 3.2.3 2.7.2
- [5] Australian Taxation Office, Taxation Ruling TR 98/17, Income tax: residency status of individuals entering Australia. url: <https://www.ato.gov.au/law/view/pdf/pbr/tr1998-017.pdf> 2.8
- [6] Australian Government Federal Register of Legislation, *Income Tax Assessment Act 1936*, url: <https://www.legislation.gov.au/C1936A00027/2017-07-01/text> 2.8
- [7] Australian Government Federal Register of Legislation, *Income Tax Assessment Act 1997*, url: <https://www.legislation.gov.au/C2004A05138/2013-01-22/text> 2.8
- [8] Sadanori Konishi, *Introduction to Multivariate Analysis: Linear and Nonlinear Modelling*, CRC Press, English Ed. 2014, p102/309 5.2
- [9] Tobin, N. P. (1987). American Economist. In J.Tobin, *Essays in Economics: Macroeconomics*, Volume 1, p 26/552. MIT Press. 4.5
- [10] Willi Semmler, Subsection Author: Edmund Phelps "Monetary Policy and Unemployment" 3. Some notes on monetary policy and unemployment, Conferene in honour James Tobin, 2002. Tobin's Q: 14/288, Figure 5.4 *Loglabourshare*, p29/288 5
- [11] Taxation Ruling, Income Tax: residency status of individuals entering Australia. Retrieved from Taxation Ruling TR98/18. url: <https://www.ato.gov.au/law/view/pdf/pbr/tr1998-017.pdf> 6.2
- [12] Young Kim, California's 40th District "Oil, gold, trade: Congress is looking for options to punish Russia for invading Ukraine" National Security & Foreign Affairs, Mar 10, 2022. 6.3.1
- [13] Financial Accountability Regime Act 2023, No.67, 2023 Compilation date: 20 October 2023. 1.2
- [14] BIS. FSI Connect (Financial Stability Institute): Prudential treatment of cryptoasset exposure - Executive Summary, 31 May 2023. p1/3 1.2
- [15] The Australian Debit Card Market: Default Settings and Tokenisation Conclusions Paper, September 2023 Reserve Bank of Australia (RBA) 2.1
- [16] Massachusetts Institute of Technology (MIT), Ch.12 Alternating-Current Circuit, Vector: Figure 12.3.3.(a) and (b), p12-12 (p12/41). Inductive Reactance: eq. 12.2.16, p6/41. Capacitance Reactance: eq. 12.2.22, 12.2.23. Average value of current vanish: eq. 12.2.5 p5/41 2.2.1, 2.2.2, 2.2.2
- [17] Prof. James Aspnes, Yale University, Notes on Theory of Distributed System. Ch.5 , p65/586. 2.2.1
- [18] Thomas L. Floyd and David L. Buchia, *Electronics Fundamentals Circuits, Devices and Applications*, 8th ed. Pearson New International Edition, 2014. p467/1065. 2.2.2
- [19] J. David Irwin and R. Mark Nelms, *Basic Engineering Circuit Analysis*, 11th ed. WileyPlus publish 2015. Exponential damping ratio: p277/690 Repeatable root characteristic solution: p278/690 2.2.2
- [20] Edward Capriolo and Json Rutherglen, *Programming Hive: Data Warehouse and Query Language for Hadoop*, Aspect Research Associate, 2012. p75/843. 2.3
- [21] Frederic S. Mishkin, *The Economics of Money, Banking and Financial Markets*, 7th ed. Columbia University, Publisher: Pearson Addison Wesley. Ch 15. Multiple Deposit Creation and the Money Supply Process, p357/850 4.4.3, 4.4.3

- [22] Robert M. Solow, Technical Change and The Aggregate Production Function, The Review of Economics and Statistics, The MIT Press, Aug 1957 Multiplicative factor A(t): p2/10. The shares of capital and labor: p2/10. 1909 – 1949 average upward shift percentage per year: p6/10 5.2
- [23] Robert J. Gordon, The Rise and Fall of American Growth: The U.S. Standard of Living since the Civil War, p1127/1445. 5.2
- [24] Oliver Blanchard, "Monetary Policy and Unemployment: The US, Euro-area, and Japan" post the conference in honour of the 1981 Nobel Prize Winner James Tobin in Economic Science. Part I Overview: Unemployment and monetary policy in the three currency areas, 2. Monetary policy and unemployment (Speaker: Olivier Blanchard, p23/288 6.3.1
- [25] The Carlyle Group Inc. United States Securities and Exchange Commission, Form 10-K For the Fiscal Year Ended December 31, 2021 link: https://www.sec.gov/ixviewer/ix.html?doc=/Archives/edgar/data/0001527166/000152716622000007/cg-20211231.htm#if129c97cccf4504b46916189193e114_205 Performance allocation total of 8,133.0million: p185 Note 4, 10 – K2021, Global Private Equity Funds investment portfolio 96,269.1million: p166, 10 – K2021. Carlyle Group's filed investment loan assets in Geographic Region 2021: p191, Notes to the Consolidated Financial Statements, Geographic Region/Instrument Type/Industry. 1.2
- [26] The Carlyle Group Inc. United States Securities and Exchange Commission, Form 10-K For the Fiscal Year Ended December 31, 2022 link: <https://www.sec.gov/ixviewer/ix.html?doc=/Archives/edgar/data/0001527166/000152716623000063/cg-20221231.htm>, For the Fiscal Year Ended December 31, 2023 link: https://www.sec.gov/ixviewer/ix.html?doc=/Archives/edgar/data/0001527166/000152716624000019/cg-20231231.htm#i116ea56491d24c60948dfa80df6ccd33_118 1.2

List of Figures

2.1	Clearing and Settlement	12
2.2	DLT Ledger	16
2.3	Built-in layer2 replacement	19

List of Tables

2.1	Foreign Trade Income Tax	14
2.2	Ownership of GDP	14
2.3	Trade Activity: Ownership and Liability	15
2.4	IP Address in Transmission	22
2.5	Broadcasting substitute Reporting	24
4.1	Trade Counterparties P2 Cross Region	33
4.2	Cryptography Based Activities	34
6.1	Resident and Non-Resident for Tax	39